FISH IS HEALTHY...SO WHAT'S THE CATCH?

CONFUSION ABOUT MERCURY HAS SOME SEAFOOD LOVERS WONDERING IF THEIR FAVORITE MEAL MAY BE MAKING THEM ILL. FEELING FLUMMOXED? READ ON—WE TOOK A DEEP DIVE INTO THE RESEARCH TO FIND OUT WHAT'S SAFE AND WHAT'S NOT.

BY JENNIFER ABBASI

One fish, two fish.... Find out how much seafood you can safely eat, and which to pick (page 55).

Hard as it may be to imagine Dr. Oz as a patient—sitting in the waiting room, donning the crinkly paper gown—doctors also need doctors, of course. And nearly two years ago, his personal physician, Becky Kurth, M.D., announced that it was time for him to get tested for mercury poisoning. She'd seen elevated levels in other patients and knew that Dr. Oz ate a lot of seafood, which often contains the heavy metal. A self-proclaimed fish fanatic, Dr. Oz had to admit he was feeling less energetic, a vague symptom that could be related to mercury toxicity. "I wasn't moving quite as quickly but had chalked it up to fatigue," he says. He agreed to get tested, and a few weeks later a startling letter arrived from the New York State Department of Health (DOH). Exactly as Kurth had suspected, Dr. Oz's mercury level was high, and not just by a little. The DOH is required to inform patients if their levels exceed 5 nanograms per milliliter of blood. His was at 19.

It wasn't an emergency, just cause for concern, but a friend's experience made him take the letter seriously. "Her mercury level was in the 30s, and she absolutely had signs of toxicity—lethargy and difficulty remembering the basics, as if she were in a fog all the time. I was worried about that happening to me." Kurth instructed him to switch his diet from five servings of fish a week (it was his lunch staple) to no fish at all—zilch, zero—for about four months. He lasted three. "I missed seafood too much, so I started reintroducing salmon, sardines, and other varieties that are lower in mercury," he says. He also cut his serving size in half, making fish more of a side dish than the centerpiece of his meals. "While I'm not necessarily eating seafood less often, I consume smaller amounts when I do have it," he says. Six months after Dr. Oz received the letter, a follow-up test showed that his mercury number was down to 15—not ideal, but a step in the right direction.

Dr. Oz isn't the only one struggling to figure out how to include fish in a healthy diet. Even experts who study the risks of mercury continue to turn to seafood for its heart-health benefits, waistline-friendly calorie count, and general deliciousness. Floundering around (ouch, sorry) to make sense of it all? We've got answers to your top questions and a plan that lets you enjoy your favorite catch without hurting your health.

WHAT'S THE PROBLEM WITH MERCURY ANYWAY?

Methylmercury, the organic form that's found in seafood, can affect the nervous system, but exactly how it does this

isn't completely understood. Some researchers believe that after mercury leaves the digestive tract and enters the bloodstream, it may cross into the brain and bind onto proteins on nerve cells. The result: The systems controlled by those neurons, such as learning, memory, and coordination, can go a little haywire. The majority of the research on mercury's neurotoxic effects has been done on the most vulnerable: fetuses and young children. That's because their still-developing brains and nervous systems are especially sensitive to mercury, and high levels can lead to brain damage as well as hearing and vision problems. But recently it's become clear that adults can suffer from similar effects, says Jane Hightower, M.D., an internist at California Pacific Medical Center and author of *Diagnosis: Mercury*.

Over time, these elevated levels may cause a number of issues, such as tingling of the mouth, hands, or feet, coordination problems, memory loss, difficulty concentrating, headaches, fatigue, poor sleep, vision problems, and even depression. While some people, like Dr. Oz, may not be very noticeably affected, for others, high levels can truly disrupt their lives. Michael Gochfeld, M.D., Ph.D., a physician and an environmental medicine researcher at Rutgers Robert Wood Johnson Medical School in New Brunswick, NJ, specializes in treating adults with exposure to environmental toxins like mercury, lead, and asbestos. One of his patients came to him complaining of a pins-and-needles feeling in her fingers and around her face; another, a guitarist, noticed that strumming had become difficult. A third told the doc with alarm that he had recently started tripping over himself while jogging. All had one thing in common: They were eating seafood every single day.

DR. OZ SAYS...
Fish oil supplements can be a good way to get your dose of omega-3s without eating seafood. And here's some good news: There's little need to worry about mercury in the pills. Most testing has found the levels to be below detectable limits.

SO I SHOULD CUT OUT FISH?

Cases like the ones that landed in Gochfeld's office, coupled with mercury warnings from health agencies and environmental groups, might make you think you should swear off seafood. Doctors say that's the wrong move. In fact, most of us should consider bumping *up* our intake. Here's why: Most experts agree that the benefits—especially the cardiovascular ones—outweigh the risks of consuming seafood, as long as you don't go overboard. More than half of Americans aren't eating enough fish to get the heart benefits.

Fish earned its health halo back in the early 1980s, when doctors started to notice that there was something special about this protein. Unlike, say, beef or pork, it actually seemed to protect the heart. Decades later, major studies revealed that eating one to two servings of fish a week, especially species chock-full of the omega-3 fatty acids EPA and DHA (like salmon, herring, and sardines), reduced the risk of dying from cardiovascular disease by 36%. Experts think that omega-3s help lower the risk of abnormal heart rhythms, called arrhythmias, the most common cause of sudden cardiac deaths in the U.S.

It's not just your ticker that loves omega-3s: Research suggests that they may help people with autoimmune disorders like lupus and rheumatoid arthritis. But perhaps the ultimate argument for a salmon dinner is that it's a smarter sub-in for other meats. Fish is lower in calories and saturated fat than most types of animal protein, so it's hard to say how much of the health boost comes from eating the fish or from not eating, for instance, the double cheeseburger, says Gochfeld. "The bottom line is that in almost all cases, people who eat fish have better health than those who never eat it."

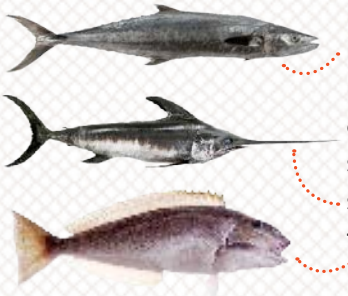
The USDA Dietary Guidelines advise that we eat at least 8 ounces (or about two to three servings) of fish a week, choosing mainly seafood that's low in mercury along with some that's high in omega-3 fatty acids, which appear to protect the heart. Seems clear enough, but when you're standing at the seafood counter or staring at a restaurant menu, it can feel like a toss-up between tuna, trout, and tilapia. Our guide to the safest fish, opposite page, comes to the rescue. And always remember the most important rule: Limit big predator fish like bigeye tuna and swordfish, says Nicholas Fisher, Ph.D., a professor of marine science and head of the Gelfond Fund for Mercury Research and Outreach at Stony Brook University. "Many people consider these the most delicious," he says, "but mercury concentrations increase as you go up the food chain."

UH-OH, I EAT *A LOT* OF SEAFOOD

Relax—you're likely fine, and there's no need to jump to conclusions and blame last week's nasty headache on your favorite sushi. "Most of the symptoms associated with mercury poisoning are relatively common and can point to other conditions, as well," says Gochfeld. "It's only when they show up in a person who eats a lot of fish that a doctor will move mercury toward the top of the diagnostic pile." Plus, people with sky-high levels aren't falling ill because of an occasional sushi habit. To accumulate the level of mercury that causes noticeable problems, you have to be eating seafood practically every day—and especially fish that tend to contain large concentrations of the heavy metal, explains

PREVIOUS SPREAD, FROM LEFT: SAM KAPLAN/TRUNK ARCHIVE; MARC DIMOV/OFFSET. THIS PAGE: DR. OZ ILLUSTRATION BY LUKE WILSON. OPPOSITE PAGE, CLOCKWISE FROM TOP RIGHT: SHUTTERSTOCK; ISTOCK; GETTY IMAGES (5); SHUTTERSTOCK; ISTOCK; MARC DIMOV/OFFSET; PETER REES/STOCKFOOD; GETTY IMAGES

HIGH MERCURY RISK



bigeye tuna, king mackerel, marlin, orange roughy, shark, swordfish, tilefish

MODERATE TO HIGH MERCURY RISK

albacore tuna (fresh or canned), bluefish, Chilean sea bass, grouper, halibut, sablefish, Spanish mackerel, striped sea bass, yellowfin tuna

SEAFOOD SCALE

Pocket this guide to stay safe while ordering.

LOW TO MODERATE MERCURY RISK

carp, chunk light canned tuna, cod, mahi mahi, monkfish, snapper

LOW MERCURY RISK

anchovies,* catfish, clams, crawfish, crab, flounder, herring,* mackerel (North Atlantic),* oysters,* pollock, salmon (canned or fresh),* sardines,* scallops, shrimp, sole, tilapia, trout (freshwater)*

*TRY TO INCLUDE AT LEAST SOME OF THESE HEART-HEALTHY CHOICES IN YOUR DIET

Be a Sushi Sleuth

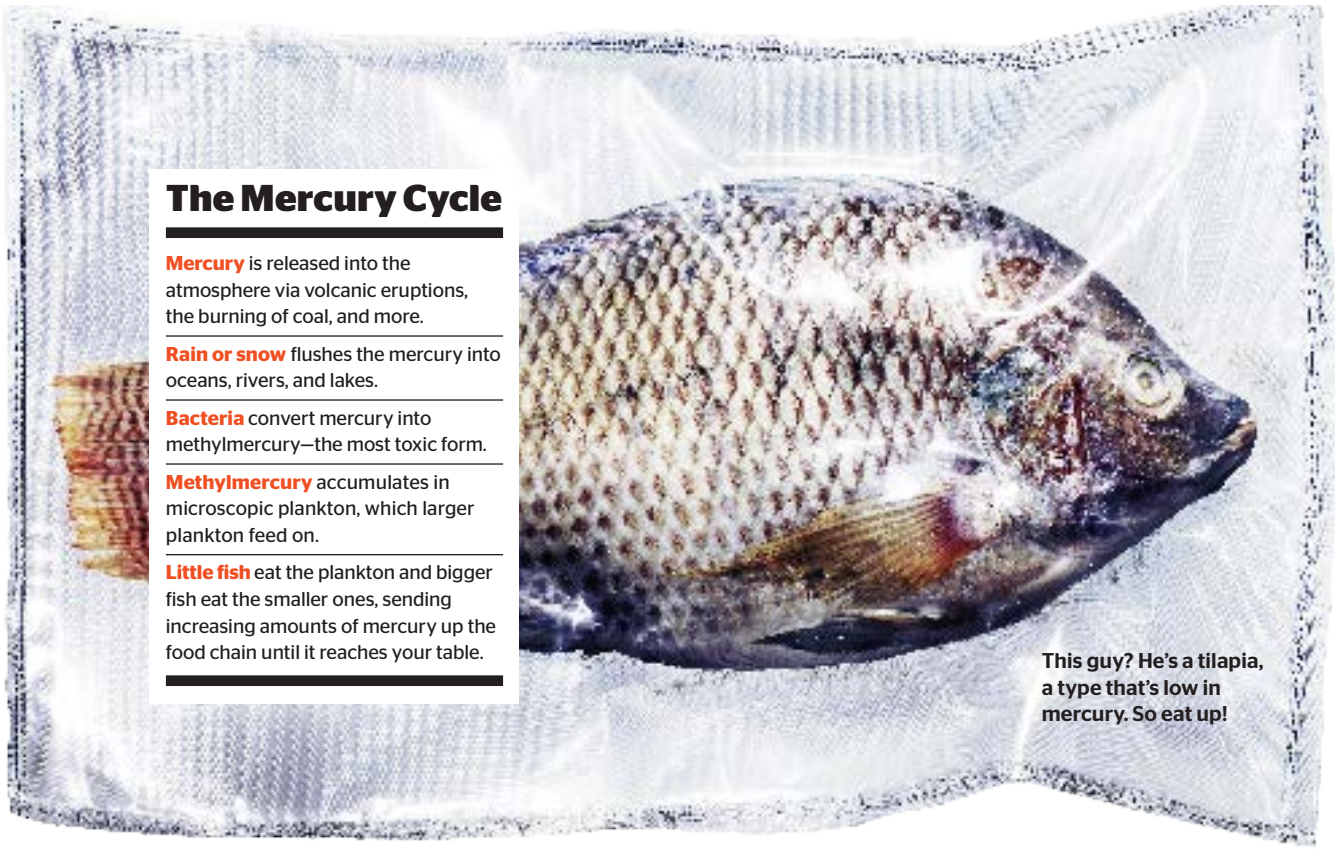
Tuna sushi is a major source of mercury—and a sneaky one at that, because it goes by many names at restaurants, such as the five below. Limit how much you eat (or order the salmon roll instead).

Ahi | **Maguro** | **Meji** | **Shiro** | **Toro**

Emily Oken, M.D., a professor at Harvard Medical School.

And get this: There's a chance you might actually have some natural mercury protection built into your DNA. "In recent years, we've been able to identify genes that make you less susceptible to pollutants like mercury," says Niladri Basu, Ph.D., the Canada Research Chair in environmental health sciences at McGill University in Montreal. "It's clear that genetics help determine how much mercury you absorb and how quickly you can eliminate it." This may explain why some of us could chow down on a tuna salad a few times a week and remain unharmed, while for others, that quantity could cause symptoms. It's still too early to find out where you fall, says Basu, and besides, he adds, "even the best collection of genes isn't going to protect you if you're exposed to too much."

So if you're a huge fan of fish, mercury should absolutely be on your radar, and it's smart to be a guideline follower. Try to avoid seafood known for the maximum levels of mercury, and cap the moderate-to-high-level stuff, like canned white albacore tuna, at once a week (eat canned light tuna instead). If you often dine on locally caught fish and shellfish, keep an eye on mercury advisories. (You can find links to local alerts at epa.gov/ost/fish.) Aim to eat a variety of different fish, says Roger Clemens, a University



The Mercury Cycle

Mercury is released into the atmosphere via volcanic eruptions, the burning of coal, and more.

Rain or snow flushes the mercury into oceans, rivers, and lakes.

Bacteria convert mercury into methylmercury—the most toxic form.

Methylmercury accumulates in microscopic plankton, which larger plankton feed on.

Little fish eat the plankton and bigger fish eat the smaller ones, sending increasing amounts of mercury up the food chain until it reaches your table.

This guy? He's a tilapia, a type that's low in mercury. So eat up!

of Southern California pharmacology adjunct professor who served on the USDA Dietary Guidelines advisory committee. "Mixing things up helps reduce the chance that you'll take in an unsafe amount of mercury or other toxins and organic chemicals from a single species."

There's no reason to panic if you find a slab of swordfish on your plate at the next dinner party. Dig in—just don't make it a habit. "It's the constant exposure to these fish that could possibly lead to health problems," says Clemens. (The exception: The EPA recommends that if you're pregnant, planning on becoming pregnant, or breast-feeding, you should not eat swordfish, king mackerel, or anything else found in the high mercury risk column of the chart on page 55.)

Something else to ease your mind with beach-bound spring vacations around the corner: Eating multiple meals at the local crab shack probably won't lead to dangerous toxicity, either. Rather, it's about keeping your average mercury consumption low. Had a mammoth amount of high-mercury seafood this week? Simply ease off those types of fish—or even better, take a break from them—for the rest of the month.

WHEN TO GET TESTED FOR MERCURY

If you've been eating lots of fish that's high or moderately high in mercury and are experiencing issues such as coordination trouble or memory loss, it's worth scheduling an appointment to get checked out. Your primary care physician can order a test, but you'll have to ask for it because it's not part of the regular workup. Fortunately, if you are diagnosed with mercury toxicity, treatment is easy (and free): You'll be asked to stop eating fish while you wait for your body to naturally flush out the toxin with every trip to the bathroom. How long it takes to eliminate it depends on how much has accumulated in your body. But once your level drops back to normal, you can most likely start eating seafood again (safer kinds this time, please).

Today, Dr. Oz feels back to his old self, but his fish tale highlights the fact that elevated mercury levels don't always come matched with scary symptoms. When in doubt about how much fish you eat, get tested—just keep in mind that for the vast majority of us, seafood makes sense on our plate. "When you focus on low-mercury fish," Clemens says, "the good will almost always outweigh the bad." ■

JAMIE CHUNG/TRUNK ARCHIVE