When Rachel Carson wrote *The Silent Spring* in 1962, the world began to awaken to the dangers pesticides pose to the future of the human race. Now, more than 40 years later, many laws have been enacted to protect land, air, and water. Yet we are still continuously exposed to a chemical soup originating from industrial pollution, from so-called safe additives to food, and from our very homes. These toxins have had long-range effects on our health, and they will continue to do so as long as we live in an industrialized society.

A frightening new British study shows that the blood of virtually every person tested contained a cocktail of potentially deadly chemicals. In one of the most comprehensive studies of long-term effects of toxic chemicals to date, the study looked at 77 chemicals known to be “very persistent” in the environment and to accumulate in the human body. The most alarming finding was that 99 percent of those tested had residues of the pesticide DDT in their blood, despite the fact that it was banned decades ago.

As a result of this study, the European Parliament is considering legislation that would for the first time require registration, safety evaluation, and authorization of thousands of everyday chemicals. Unfortunately, the United States lags far behind this sort of thinking.

We’ve all heard of the “epidemic” proportions of breast cancer among women in San Francisco’s suburban Marin County. There was a similar epidemic of leukemia among children in northern Nevada. Then there’s the now-famous tale of the real-life Erin Brockovich and the multitude of illnesses suffered by the residents of Hinckley, California, because of contamination by the nearby Pacific Gas and Electric power plant.

Every day, every single one of us is bombarded by chemicals. Even if you live in a pristine mountain wilderness, toxins drift on the air currents from factories hundreds of miles away. Even if you filter all your drinking water, you can absorb toxins through your bathing water. Even if you eat exclusively organic food, the soil where it is grown could be contaminated by pesticides applied there decades ago.

If you live in an older house, you may have lead pipes contaminating your water and layers of lead paint under the newer latex. You may have asbestos insulation and mold problems. If you live in a newer house, carpet and furniture will release toxic gasses for some months after installation, as will glue from fiberboard laminates. Naturally occurring radon gas could also be making you and your family sick.

Regardless of where you live, you’re being exposed to flame-retardant chemicals used in everyday products like televisions and cars. You may also be subject to carbon monoxide fumes if your house is too well insulated and you use an unvented open-flame heating system such as gas logs (they need a good chimney). You’re almost certainly getting pesticide residues on fruits and vegetables you buy unless you grow your own or you can afford to buy organic products.

Then, of course, if you really love fish, especially the fatty fish we recommend for those crucial essential fatty acids, you’re increasing your risk of toxic metal overload because fatty fish are known to concentrate these toxins in their tissues.

This isn’t meant to scare you. It’s meant to alert you to the
dangers that are around and the measures you can take to keep yourself safe. It's a wake-up call to us all, and together we can navigate the minefield of toxins that surround us every day so we can recover our health.

The human body has an amazing ability to handle these types of attacks. When our immune systems are healthy, we are usually capable of neutralizing and rejecting bad guys, whether they come in the form of viruses, bacteria, yeasts, industrial chemicals, pesticides, or even heavy metals.

However, if the body absorbs small amounts of these toxins over a period of years, the toxins can actually impair the immune system and symptoms can erupt, seemingly out of nowhere.

Even a low-level exposure to toxins can make some people sick because of a genetic malfunction that interferes with neutralizing enzymes. Others are simply sensitive to toxins, perhaps because they are very young or very old or because of health factors including smoking, drinking, diet, exercise, and any health problems.

Toxic chemicals can get into your body through inhalation, through penetration of skin, or through your digestive tract. If you're pregnant or nursing, some can even cross the placenta, affecting unborn babies, and others can contaminate breast milk.

Once the toxins enter your body, they can act in a number of ways. Several types of toxins target the liver and kidneys, the organs that filter impurities from the body. Some chemicals and minerals migrate to fat and bone tissue where they can be released later. For example, lead is stored in bones and can be released when a woman becomes pregnant and begins drawing on bone tissue for the extra calcium she needs.

These are the worst environmental toxins and how you can be exposed to them:

**Mercury.** This highly toxic mineral can be found in dental fillings, paints, tattoo dyes, ceramics, thermometers, and electrical relays. Miners and workers in the manufacture of fungicides, thermometers, and thermostats are at high risk of mercury toxicity. Symptoms include tremors, memory loss, loss of appetite, and weakness. The main dietary source is fish, including shellfish. As our waters become more polluted, more fish contain mercury, and the larger the fish the higher the mercury content. Note: many people have chosen to remove mercury amalgam fillings from their teeth. If you decide to do this, be sure to seek out a dentist who is skilled at this procedure. Improper removal can increase your exposure to mercury vapors.

**Lead.** One of the most common toxins, lead can be found in water, paint, cigarettes, cosmetics, some pesticides, and foods such as meats, garden fruits, and grains. At highest risk of lead toxicity are workers in factories that manufacture or recycle batteries. It's also found in printing ink, gasoline, and some types of fertilizer. Lead attaches to blood and is often deposited in bones, the brain, adrenal and thyroid glands, and the liver. Note: if you have an old house with lead paint, do not try to remove the paint. Scraping can actually create lead dust and increase the risk.

**Aluminum.** Used in the process of purifying water, aluminum is also found in large amounts in everyday household items ranging from cookware to cans. It's in antiperspirants, antacids, buffered aspirin, and even some nasal sprays and toothpastes. Some research suggests long-term exposure to aluminum may be a factor in Alzheimer's disease. Symptoms of aluminum toxicity include memory loss, learning difficulty, loss of coordination, and headaches. One of the few products that can extract aluminum is modified citrus pectin.

**Asbestos.** This fine, fiber like mineral was widely used in construction, brake pads, fireproofing materials, and chalkboards until it was proved to cause cancer and was banned in 1989. It can cause a wide variety of lung problems, lung cancer, and a type of abdominal cancer called mesothelioma. Note: do not attempt to remove asbestos-based building materials. Sometimes it is best to do nothing about asbestos that has been in place for a long time. If it needs to be removed, it must be done professionally.

**Benzene.** This chemical is used in the production of deodorant, oven cleaner, soap, and perfume. It's a component of paints, pesticides, asphalt, gasoline, and jet fuel. It can contaminate groundwater and surface-water supplies and pollute air through automobile exhaust, manufacturing processes, and cigarette smoke. Officially, benzene is considered hazardous only to the two million workers who are exposed to benzene in their jobs.

**Formaldehyde.** This chemical is used in the manufacture of many construction materials, including particle board, fiberboard, building insulation, and plywood. The formaldehyde gas can be released by these products for several years after they are manufactured and installed. While the EPA says formaldehyde is a possible carcinogen, only industrial workers are considered at risk.

**Radon.** This is a colorless, odorless gas that is naturally present in the Earth's crust and is released into the air through radioactive decay. Certain areas of the United States have higher emissions of radon than others. The only way to tell if your house has a high radon level is to test. Fortunately, a simple ventilation kit can correct the problem inexpensively. Long-term exposure to radon can cause lung cancer.

**Carbon monoxide.** This common poisonous gas is released into the air whenever fuel, wood, or tobacco products are burned. Heavy rush-hour traffic can produce high levels of carbon monoxide. Dangerous and potentially lethal levels can build up in poorly ventilated enclosed spaces because of exhaust fumes of faulty heating devices. Carbon monoxide poisoning can cause headaches, nausea, and dizziness. At high levels, it can cause respiratory failure and death. Carbon monoxide detectors are efficient, inexpensive, and easy to install in your home.

**Organophosphates.** These residues of pesticides and insecticides present hazards for casual gardeners, farm workers, pest-control workers, landscapers, and veterinarians. These toxic chemicals are usually absorbed through the skin. They can remain toxic for several days after they are applied to crops. Toxic effects can range from extreme fatigue to skin irritations, nausea, depression, breathing problems, seizures, and coma.
Symptoms of environmental toxin overload are wide and varied. You might experience something as simple as an apparent allergic reaction with sniffing, runny nose, sneezing, and watering eyes.

People who work in poorly ventilated buildings with high levels of airborne toxins recirculating through the ventilation system may develop the flu-like symptoms called sick building syndrome.

Here's a list of the most common symptoms of chronic environmental poisoning:

**Symptoms**

- Cough
- Headache
- Nose and eye irritation
- Diarrhea
- Dizziness
- Blurred vision
- Loss of appetite
- Anxiety
- Memory loss
- Anemia
- Drowsiness
- Tingling in extremities
- Aching in muscles and joints
- High blood pressure
- Difficulty concentrating
- Fatigue
- Shaky hands
- Loss of coordination

These are symptoms in advanced cases:

- Depression
- Kidney failure
- Weakness
- Vertigo
- Difficulty breathing
- Learning disorders

Also note: symptoms may disappear or diminish when you're not around the toxins, for example, over the weekend when you're not at the office or when you're away from home on vacation.

Once these toxins get a foothold in your body, they can open the door to other problems, including endometriosis, infertility, birth defects, heart disease, brain damage, respiratory problems, and many types of cancer, particularly lung, breast, and skin cancers.

**Diagnosis**

As you may have already discovered, it's difficult for a doctor to diagnose chronic environmental poisoning. The symptoms sound a lot like those of thyroid imbalance, chronic fatigue syndrome, fibromyalgia, and even sex hormone imbalance.

Doctors have also told these people that they were "stressed, tired, and just needed to take it easy."

The first thing you'll need to do is compile a detailed personal history. This means not just your medical history but an accounting of anywhere you have lived or worked or played where you might have been exposed to environmental pollutants of any kind.

Here are some questions to get you started:

Where have you lived?
Did you live near a dump?
Did you live near a paper mill or other type of factory?
Did you live in an old house?
Did you restore or renovate properties?

Where have you worked?
Did you work in a factory that manufactured anything from fabrics to batteries to chemicals of any kind?
Have you worked as a gardener, landscaper, or greenkeeper?
Are you a dentist, or have you worked in a dental office?
Have you worked in construction?
Have you worked in a bar or in a place where you were exposed to large amounts of tobacco smoke?
Do you have a long commute in heavy traffic?
Do you eat a lot of larger fish such as swordfish and tuna?

While the answers to these questions may not give you an absolute diagnosis, they may begin to point the way to the source of your problem.

**Tests**

To start, get a good mineral toxicity testing kit. This test on a piece of your hair should reveal levels of toxic minerals including aluminum, antimony, arsenic, bismuth, cadmium, lead, mercury, nickel, and tin. If you find toxic levels of any of these metals, we recommend you work with your doctor to further explore the problem. Your doctor will probably want to get laboratory analyses of your blood, urine, and fatty tissues.

**Standard Medical Treatment**

Your treatment will depend on what toxic substances are causing your problems. Treatments definitely should be individualized depending on your medical condition and the way in which you were exposed.

If you and your doctor have confirmed the diagnosis, the advice of an expert in poisoning should be enlisted. Most parts of the country have regional poison centers and medical toxicologists for added expertise.

Lead poisoning, for example, would probably be treated by chelation therapy, in which chemicals would be injected into your bloodstream to bind with the lead in the blood and be eliminated in the urine. Chelation can be given intravenously, through intramuscular injections, or orally. It is effective in treating lead, mercury, aluminum, iron, and arsenic poisoning, although a complex program of specific binding agents is used for each type of poisoning.

For many types of poisoning, intravenous fluids may be administered along with heart-stabilization measures, exchange transfusions of contaminated blood, and even dialysis. This usually requires hospitalization. Follow-up laboratory testing continues until your blood levels have returned to normal.

Clearly, a major priority in this method of treatment would be to remove you from the source of contamination and to remove the source of contamination from the place where you were exposed. This can be extremely difficult in some cases and fairly simple in others.

**Natural Approaches**

If you have been diagnosed with chronic environmental toxin poisoning, you must undergo medical treatment. However, there are many natural approaches that will assist in the detoxification process and promote your body's natural ability to detoxify.
Detoxifying Agents
These natural substances are clinically proved to assist with your detoxification.
Chlorella. Chlorella helps with detoxification by binding with heavy metals in the colon. It’s also been shown to be helpful in detoxifying from lead and mercury.
MSM (methylsulfonylmethane). MSM is considered to be helpful in heavy metal detoxification.
Modified Citrus Pectin (MCP). Made from specially processed citrus peel, MCP binds to heavy metals in your system and helps remove them along with other toxins.
Rutin. Rutin is able to chelate excess iron.

Antioxidants
It is very important that you keep your antioxidant levels high to keep out all sorts of toxins.
Vitamin C. Research shows Vitamin C can help reduce harmful effects of aluminum, lead, copper, and radiation.
Vitamin E. Vitamin E helps strengthen lungs against inhaled pollutants.
Alpha Lipoic Acid (ALA). Alpha lipoic acid has been shown to detoxify minerals and help revitalize the strength of other antioxidants.
Glutathione. Glutathione has been used to combat lead, mercury, arsenic, and cadmium poisoning.
Lactoferrin. Lactoferrin can be helpful in iron overloading.
Selenium and Zinc. Insufficient amounts of selenium and zinc lead to compromised immune system function.

Protective Agents
SAM-e (S-Adenosylmethionine). SAM-e has been shown to be effective in protecting against damage from toxic chemicals, cadmium, and lead.
Milk Thistle (Silybum Marianum) or Silymarin. The active ingredient in milk thistle prevents toxic liver damage and protects kidneys, pancreas, and other organs during a detoxification process.

Prevention
Unquestionably, the best means of dealing with environmental toxins is to avoid them whenever possible.

Here are some preventive steps:
Talk to your state environmental department to determine if your house is located in an area known for radon contamination. Have a radon test conducted if you are at risk.
If you are removing paint from the inside or outside of your house, have it tested for lead content. Painting over old lead-based paint may be better than removing it. Sanding can release lead particles into the air.
When you’re using hazardous products, particularly insecticides and pesticides, follow the directions meticulously. Wear protective clothing and eye protection.
Keep children and pets off lawns or gardens that have been treated with pesticides or herbicides. Stay indoors with windows closed when trees are being sprayed in your neighborhood. It’s a good idea to leave outdoor shoes at the door and wear only specific indoor shoes to avoid tracking toxic substances inside.

Use nontoxic cleaning products and insecticides in your house.
Never use chemical pesticides on your plants.
In buildings, be alert to chemical odors that may be emitted by paints, pesticides, new carpets, or office machines.
Check ventilation in your office to be sure it meets standards.
Certain houseplants can remove impurities from the air.
Check with your local cooperative extension office to find out which ones might be helpful.
Avoid walking, running, or bicycling on streets where there is heavy traffic. Your higher breathing rate when you exercise will increase your intake of carbon monoxide and other toxins.
Install a carbon monoxide detector in your home.
If you are on a weight-management program, be aware that your body metabolizes fat for energy, and if toxins have accumulated in fat tissue, toxins can be released as weight comes off. Your weight-management program should target gradual reduction so that your system does not becomes flooded with a sudden release of toxins stored in fat.
Peel produce, and consider buying organic whenever possible.
Wash all fruits and vegetables with a mixture of hydrogen peroxide and vinegar to help cut toxic residues.

Here’s a useful tip from both Nan Fuchs, Ph. D. and Ann Louise Gittleman, Ph. D. for removing pesticide residue from produce:
Soak produce in a bath of 1 teaspoon of Clorox (no substitutes) to a gallon of water for specified length of time. Then soak in clear water for 10 minutes. Rinse and dry.
Leafy green vegetables—15 minutes
Root and fibrous vegetables—30 minutes
Thin-skinned fruits such as berries, plums, and peaches—30 minutes
Thick-skinned fruits such as citrus, bananas, and apples—20 minutes
Poultry, meat, eggs—20 minutes

The process not only kills microorganisms but keeps the produce fresh longer.

See dentists who do not use mercury amalgam and other toxic materials (holistic.med.com/dental/dental.res).
Eat fish that are low on the food chain (i.e., the smaller ones that have not accumulated as much relative mercury as the larger ones that are higher up the food chain).
Use nontoxic cosmetics because they are absorbed through the skin.

Last, but far from least, remember that a healthy diet and supplementation program will help keep your immune system strong, your liver healthy, and your body at optimal readiness to fight off toxins.

Editor’s Note: This article has been excerpted from 8 Weeks to Vibrant Health: A Woman’s Take-Charge Program to Correct Imbalances, Reclaim Energy, and Restore Well-Being. Individuals interested in learning more about this book may visit www.cassmd.com.

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