ISSUE #6

Conquering Cancer™ Digest

BY NATHAN CRANE

How to Do a Heavy Metal Detox for Cancer Prevention & Healing

BY **NATHAN CRANE** WITH **DR. DANA FLAVIN**

When Dr. Dana Flavin (MD and Naturopath) works with cancer patients, one of the first things she does is help patients detox from heavy metals.

According to Dr. Flavin, almost everyone who's had cancer or who has cancer is showing toxins – particularly of heavy metals. Eliminating heavy metals from the body makes it possible to restructure the fluid inside tumor cells and turn it into a normal fluid that can actually stop the DNA from replicating.

Aluminum and mercury are especially problematic with destructuring the fluid inside of the tumor cells so that the DNA is no longer stable. When the DNA is unstable, it starts to divide and fluctuate.

> Cancer cells have uncontrolled growth that involves errors in DNA replication, whereas a healthy cell only reproduces to replace a dead or damaged cell.

WHAT'S INSIDE

Herbs & Supple-ments for Detoxing From Heavy Metals

Dr. Flavin has a few herbs and supplements that she recommends for removing heavy metals from the body. Her favorite is zeolite, which is a porous three-dimensional crystalline mineral that will "grab on" on heavy metals in the body so they can be excreted.

Because zeolite is so effective at binding with things, it needs to be taken just before bed at least 60-90 minutes away from any other food, supplements, or medication.

One idea is to take your bedtime supplements 60-90 minutes before going to bed and then taking the zeolite last thing before going to sleep. If you're someone who is always up in the middle of the night to go to the bathroom, you could also take your zeolite then.

"Detoxing is probably one of the most important things in the world because your tumors, if they're detoxed, they can't survive anymore. They're not needed. They're needed to be there to wall everything off and once you're getting rid of all of these toxins, the tumors start to leave."

- DR. DANA FLAVIN

Common sources of heavy metal toxicity include drinking water (more on that on page 17), cookware, silver amalgam fillings, and deodorant with aluminum. Make sure you're eliminating the sources of heavy metals toxicity so you're not replenishing them as you're detoxing.

When using zeolite, it's important to replenish lost minerals in your body by taking a trace mineral supplement such as shilajit or humic and fulvic acid. Dr. Flavin also recommends magnesium supplementation as most people are already deficient, and the zeolite can remove magnesium from the body.

A common toxin that zeolite will NOT remove is fluoride. **Dr. Flavin recommends a pinch a boron every morning to eliminate fluoride.** "That will help to pull the fluoride out of our pineal gland because fluoride and aluminum will bind up in our pineal gland and that will mess up our melatonin. When our melatonin is messed up, we don't sleep properly, and our immune systems are suppressed," explains Dr. Flavin.

Another good heavy metal detoxifier is spirulina. Some people find it effective to alternate spirulina and zeolite. For example, you might take zeolite one night, and the next night take spirulina.

If you prefer to go the plant route, a third option is a **combination of coriander (cilantro) and chlorella**. You can take coriander in the afternoon and then chlorella later on in the day. The coriander will pull out the heavy metals and move them into hepatic circulation. From there, in order to get the metals out of the body, you need to have the chlorella.

For the coriander you can use an extract or take the actual fresh herb. Chlorella is readily available in powder and tablet form.

How Long & How Often Do You Need to Detox From Heavy Metals?

Dr. Flavin recommends doing your protocol at least five days a week for several weeks, as just detoxing once a week isn't sufficient to have much benefit.

You can take a break (e.g., a few days to a couple of weeks) and then go back on your protocol again. The break shouldn't last too long as we're constantly being exposed to heavy metals in our environment.

In Issue 4 you learned about the dangers of silver amalgam fillings, which contain mercury. If you are having fillings removed, Dr. Flavin recommends supplementing with sodium selenite which will bind onto the metals and help to get them out of the body. If you are working with a biological dentist for filling removal (as you should), they will likely recommend this.

Getting Started With Detoxing

As with many things in life, it's a good idea to ease into a heavy metal detox. Once you have your supplements gathered, start with half the recommended dosage the first week.

In week 2, move up to three-quarters, and then move to the full dosage in week 3. Going slowly will help you avoid or minimize any Herxheimer reaction, which is when you experience unpleasant flu-like symptoms in response to detoxing. Common symptoms can include headache, body aches, nausea, sore throat, and fatigue.

Dr. Flavin recommends taking selenium, nicotinamide (vitamin B3), and NAC, to avoid a Herxheimer reaction from even happening.

What Dr. Flavin Says About Detoxing From Heavy Metals When You're on Chemo

It's going to depend on which chemo drug(s) you're taking. If you're on a metals-based chemotherapy like cisplatin or carboplatin, it will bind to the zeolite, so you shouldn't detox during the days you're getting the chemo. Approximately 5-7 days after treatment it could be appropriate to detox until it is time for the next treatment.

Generally speaking, heavy metal detox is not a problem if you're getting a PD-1 inhibitor, or if you're getting some of the new immunotherapy drugs, PARP inhibitors, and things like that. These are substances that are not based on metals and so their mechanisms are different.

Again, if you're on anything that's cisplatin or carboplatin, you definitely have to be careful that you don't take zeolite during this type of therapy. Be sure to consult with your doctor before detoxing while getting chemotherapy treatments.

> "The more we can do to get all of this out of our body, the better off our immune system is and the better off we are in fighting cancers and reversing it."
>
> – DR. DANA FLAVIN

Nathan Recommends

There are over 40 natural zeolites and as many as 150 synthetic zeolites used today… so how do you pick which type of zeolite to use?

I've found a product called **Pure Body Extra** that uses a type of zeolite called Clinoptilolite. This particular product avoids many of the issues common with some other types of zeolite. One key advantage is that is can be taken throughout the day instead of only at night, to provide ongoing detoxification.

You can also take Pure Body Extra with food and whole food supplements, which are fully bioavailable to the body and will not be captured by the zeolite. (Synthetic and isolates may be captured.) Plus, it's formulated to exchange minerals for the heavy metals, so your body's not left depleted of minerals.

Pure Body Extra has only two ingredients: Clinoptilolite (zeolite) and pure water. It's a preservative-free, gluten-free, non-GMO liquid that you spray in your mouth 3 times a day, so it's super easy to use.

FIND OUT MORE HERE

Does Drinking Cow's Milk Increase the Risk of Breast & Prostate Cancer?

BY **NATHAN CRANE**

Prostate Cancer & Dairy

A 2019 study published in the Journal of *Osteopathic Medicine* by researchers from the Mayo Clinic evaluated 47 studies comprising more than one million participants. It was a comprehensive review of all available data since 2006 to get a broad perspective of the effects of dairy product consumption on prostate cancer.

Two recent studies add to the growing mountain of evidence that **consuming conventional dairy products increases the risk of both breast and prostate cancer.**

The researchers' conclusion? Plant foods likely lower prostate cancer risk while dairy products appear to increase prostate cancer risk.

Most studies showed that plant-based foods are associated with either decreased or unchanged risk of PCa [prostate cancer], whereas animal-based foods, particularly dairy products, are associated with either increased or unchanged risk of PCa," stated the researchers.

The Effect of Drinking Cow's Milk on Breast Cancer

A 2020 study by researchers from Loma Linda University in California concluded that higher intakes of dairy milk were associated with greater risk of breast cancer, when adjusted for soy intake.

This study cohort contained 52,795 North American women with high average soy consumption, who were initially free of cancer. The women were followed for 7.9 years.

Current U.S. Dietary Guidelines (i.e., USDA's MyPlate) recommend that adult women consume 3 cups of milk per day. But the Loma Linda researchers found that consuming as little as 1/4 to 1/3 cup of dairy milk per day was associated with an increased risk of breast cancer of 30%.

"By drinking up to one cup per day, the associated risk went up to 50%, and for those drinking two to three cups per day, the risk increased further to 70% to 80%," reported Gary E. Fraser, MBChB, PhD, first author of the paper.

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Summary of the findings:

Higher intakes of dairy calories and dairy milk were associated with greater risk of breast cancer, independent of soy intake.

No clear associations were found between soy products and breast cancer, independent of dairy.

It made little difference whether women consumed full-fat dairy milk or reduced/non-fat milks.

No important associations were noted with cheese and yogurt.

There was a marked reduction in risk when substituting soy milk for an approximately equivalent quantity of dairy milk.

Key Takeaway

When it comes from a cow instead of a plant… milk does NOT do a body good.

If you haven't already, it's time to ditch your conventional dairy for plant-based milks to reduce your chances of breast and prostate cancer, which are both hormone-driven cancers.

Chunky Blueberry Walnut Sorbet

BY **JOEL FUHRMAN, M.D.**

SERVES: 4

Directions

Chop 1 of the frozen bananas into bite-size pieces.

Blend the non-dairy milk, 2 cups of the frozen blueberries, the unchopped frozen banana, and 1/2 cup of the walnuts in a high-powered blender.

Mix in remaining blueberries, walnuts, and chopped banana. Served topped with ground flax seeds.

NOTE: Freeze bananas in advance. Peel bananas and seal in a plastic bag before freezing.

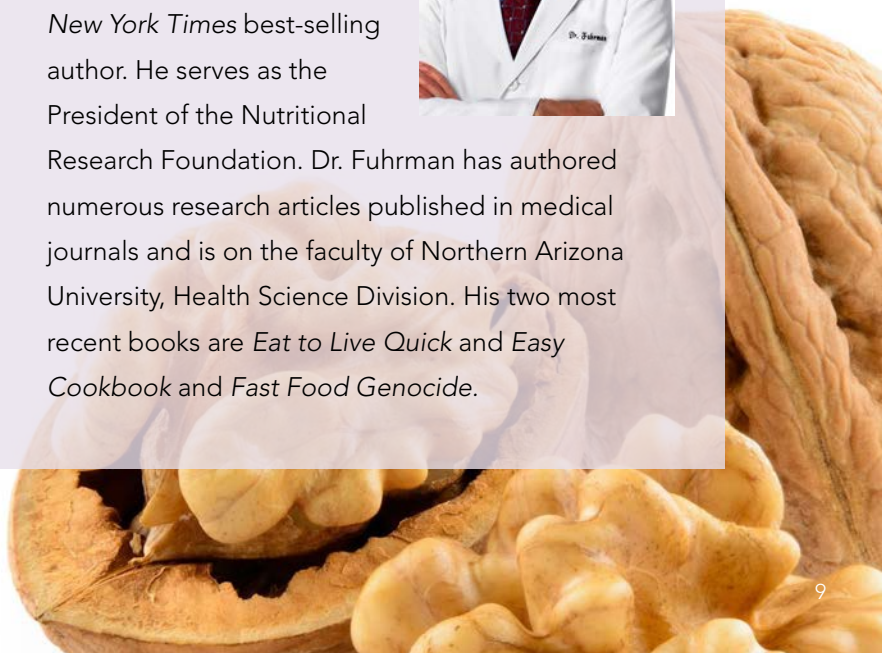
PER SERVING: Calories 277, Protein 5 g, Carbohydrates 32 g, Sugars 18 g, Total Fat 16.8 g, Saturated Fat 1.5 g, Cholesterol 0 mg, Sodium 62 mg, Fiber 6.6 g, Beta-Carotene 51 ug, Vitamin C 8 mg, Calcium 189 mg, Iron 1.3 mg, Folate 44 ug, Magnesium 69 mg, Potassium 440 mg, Zinc 1 mg, Selenium 2.2 ug

Ingredients

- 2 ripe bananas, frozen, divided (see note)
- 1 1/4 cups unsweetened soy, hemp or almond milk
- 3 cups frozen blueberries, divided
- 3/4 cup chopped walnuts, divided
- 1 tablespoon ground flax seeds

Joel Fuhrman, MD

is a board-certified family physician, nutritional researcher and seven-time *New York Times* best-selling author. He serves as the President of the Nutritional Research Foundation. Dr. Fuhrman has authored numerous research articles published in medical journals and is on the faculty of Northern Arizona University, Health Science Division. His two most recent books are *Eat to Live Quick* and *Easy Cookbook* and *Fast Food Genocide*.

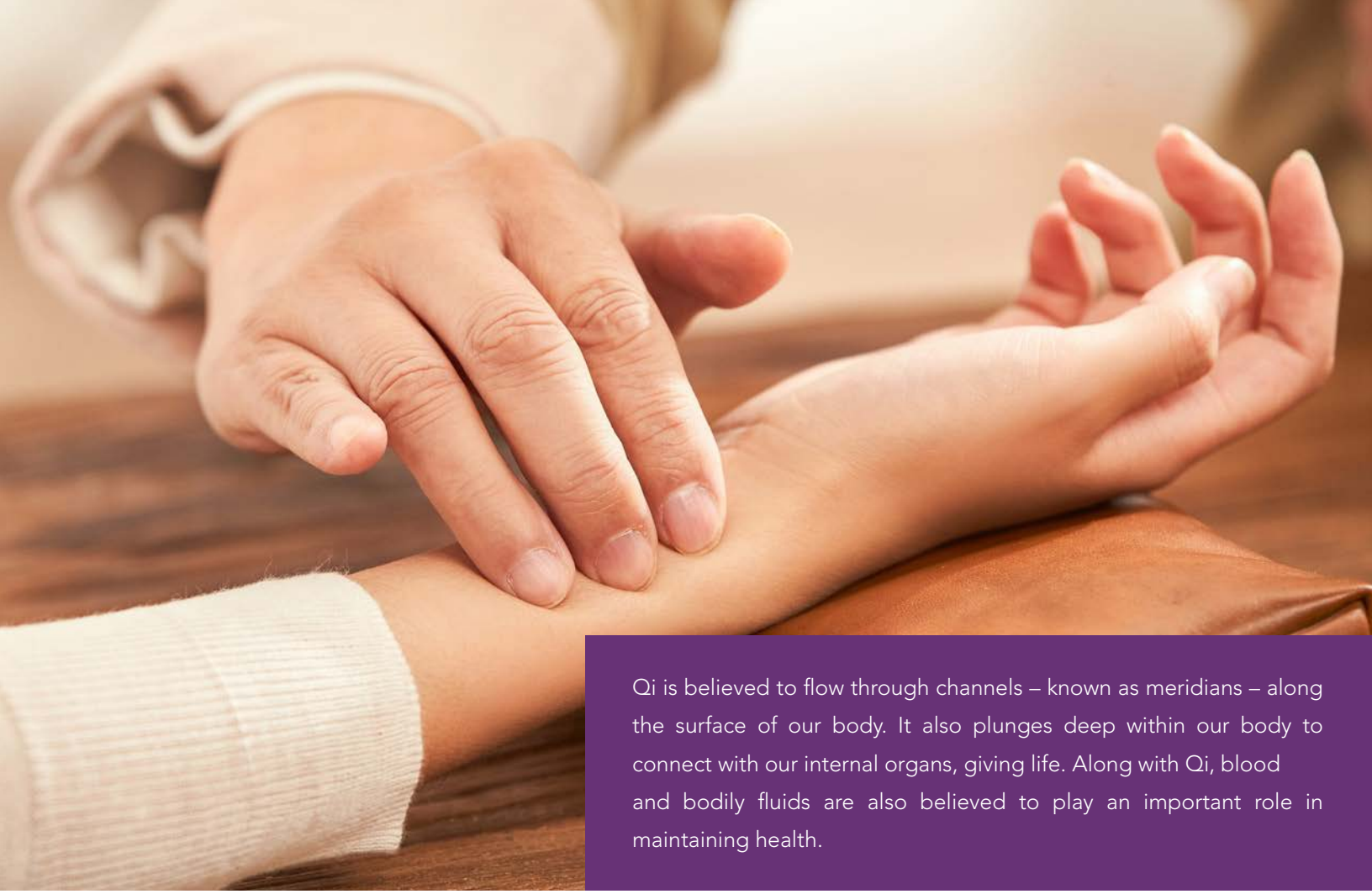


3 Powerful Herbs Used in Traditional Chinese Medicine for Cancer Treatment

In Issue 5 of the Conquering Cancer Digest, we reviewed some of the complementary and alternative healing modalities (CAM)[1] that cancer patients may look to during their healing journey. One ancient alternative to the conventional medical model is Traditional Chinese medicine (TCM).

TCM is a holistic system believed to have originated in China several thousand years ago. **TCM has a unique view of every individual as an energetic network of interconnecting channels and organs**.[2]

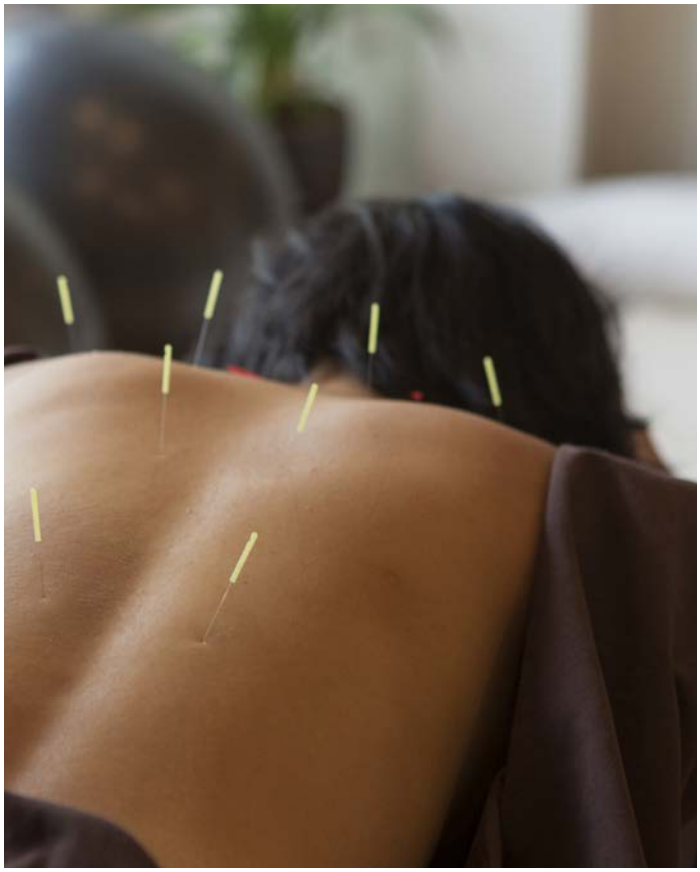
The fundamental underlying principle of TCM is Qi (pronounced as "chi"), loosely translated as "energy" or "life-force". Qi is present throughout our body and in our surrounding environment.



Qi is believed to flow through channels – known as meridians – along the surface of our body. It also plunges deep within our body to connect with our internal organs, giving life. Along with Qi, blood and bodily fluids are also believed to play an important role in maintaining health.

We enjoy good health when Qi and blood flow is balanced throughout our body, channels, and internal organs. **Disease occurs when Qi and blood flow becomes disordered**.

The preferred approach in TCM is to customize treatment to the needs and inclinations of every individual patient. Sometimes a simple adjustment to the diet and activity levels is enough. If not, more powerful methods such as acupuncture and herbal medicine are used.



Traditional Chinese Medicine (TCM) in Cancer Therapy

According to TCM, tumors form because of a deficiency of Qi and blood, usually along with invasion of an "external evil", emotional abnormality, overeating, etc. This is believed to lead to Qi stagnation, blood stasis, and heat- and dampness-induced toxicity.

The herbs used to treat cancer patients in TCM are classified as either health strengthening (Fu-Zheng) herbs or pathogen eliminating (Qu-Xie). Both these categories have been shown to target immune-related and anticancer pathways, with the pathogen-eliminating herbs displaying more powerful anticancer effects.[3]

In TCM, these herbs are believed to:

- Mobilize Qi and blood
- Promote blood circulation and remove blood stasis, and / or
- Clear heat and detoxify the body

Let's take a closer look at three such herbs commonly used in TCM to treat cancer.

Asian Ginseng

(PANAX GINSENG C.A. MEYER)

Panax or Asian ginseng, also known as Chinese ginseng, Korean ginseng, and red ginseng, is widely used to improve athletic performance, strength, and stamina. It is known to boost the activity of the immune system.[4]

Ginsenosides, the main naturally occurring bioactive compounds in ginseng, have been shown to have multiple anticancer properties.[5-7] Similarly, ginseng polysaccharides from ginseng berry and leaves also possess anti-cancer activity, by boosting immune system activity.[6] In fact, ginseng has been shown to enhance immune functioning in various populations, including cancer patients.[8-10]

Promisingly, **breast cancer patients who consumed ginseng regularly showed significantly better survival rates and quality of life (QoL)**.[11] In a small group of patients with epithelial ovarian cancer, ginseng consumption significantly improved QoL, but without affecting survival rates.[12] Similarly, cancer survivors treated with American ginseng (Panax quinquefolius) reported significantly less cancer-related fatigue.[13,14]

Most promising of all, ginseng consumption has been shown to reduce the risk of multiple types of cancer.[15,16] For instance, ginseng consumption reduced the risk of endometrial cancer in breast cancer survivors.[17] Ginseng has also been shown to suppress metastatic liver cancer, again by enhancing immune activity.[18]

Astragalus

(ASTRAGALUS MEMBRANACEUS)

Astragalus root, also known as Radix astragali and Huang-Qi in Chinese, has been used as a therapy for various ailments for over 2000 years in TCM.[19]

Astragalus is typically combined with other TCM herbs as a tonic to increase stamina, strength, and vitality. Astragalus and its constituents have been shown to have immune-enhancing,[20] antioxidant,[21] anti-inflammatory,[22] and antiviral[23] activities.

A beverage containing astragalus reduced fatigue in athletes.[24] Similarly, other astragalus preparations were shown to help manage fatigue better in cancer[25] and stroke patients.[26]

Astragalus has been shown to have anticancer effects against multiple types of cancer, including stomach,[27] colon,[28, 29] liver,[30] and ovarian[31] cancers. Astragalus, in combination with other TCM herbs, has been associated with greater survival times in patients with acute myeloid leukemia.[32] It may also help reverse immunosuppression associated with cancer chemotherapy and reduce other side effects. Astragalus also appears to improve clinical outcomes in liver cancer patients,[33] along with alleviating cancer symptoms and improving quality of life in patients with advanced[34,35] and metastatic cancers.[36,37]

Scutellaria Barbata

Scutelleraria barbata, known as Ban Zhi Lian in China and Banziryun in Korea, is a perennial herb that is widely distributed throughout Korea and southern China, where it is routinely used in folk medicines against multiple ailments.[38]

Promisingly, S. barbata has been shown to have anticancer activity in laboratory experiments, both in tumor cell lines[39-41] and animal models of cancer.[42,43]

A large long-term population study of over 21,000 Taiwanese patients with chronic hepatitis B identified S. barbata among the single herbs used in TCM that reduce the risk of developing liver carcinoma.[44] Small preliminary clinical trials also indicate that this herb is safe and may benefit patients with advanced and metastatic breast cancer,[45,46] although larger studies are needed to confirm these early results.

If you wish to explore using these herbs therapeutically, be sure to consult with a qualified Traditional Chinese Medicine practitioner.

Key Takeaway

Asian ginseng, Astragalus, and Scutellaria barbata have been used extensively in Traditional Chinese Medicine for centuries and are commonly used to treat cancer in Asian countries today.

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Cancer-Causing Contaminants in Your Water and What to Do About Them

BY **NATHAN CRANE**

In Issue 4 of the *Conquering Cancer Digest*, we covered the importance of avoiding genetically modified foods with a special focus on the dangers of glyphosate – the ubiquitous, cancer-causing weedkiller that's now in our soil, food, air, and water supply.

While glyphosate is a truly terrible substance that's finding its way into our drinking water… it's certainly not the only health-harming hazard that could be present when you turn on the tap.

When you consider how essential water is for our overall health and wellbeing, **water quality is an area that we need to be paying just as close attention to as we do our food** – especially if your body is in a weakened state due to cancer or other disease.

Not only can toxins in drinking water inhibit your immune system's capacity to fight cancer cells, the diffent types of water toxins all have their own special way they can damage your health. This can range from gastrointestinal illness to kidney, liver, and nerve damage, to reproductive problems to increased risk of cancer.

According to a 2019 study by the Environmental Working Group (EWG), millions of Americans are drinking contaminated water that may be responsible for over 100,000 cancer cases each year! [1]

If you want to be healthier and prevent cancer, you must drink clean, non-toxic water.

The 10 Most Common Contaminants in Drinking Water

01.

LEAD is a toxic metal that can reach tap water due to natural break-down or through household plumbing systems that contain lead-based components or service connections.

Lead can damage almost every system in your body, including the immune system.

It doesn't appear to induce direct genetic harm, but it could do so indirectly through oxidative stress and interactions with tumor-suppressor proteins. A study of orally administered lead in 2009 showed that this metal disrupted the functions of the gut immune system. [2]

02.

CHLORINE is a powerful oxidant added to large-scale water treatments to kill microbes, as it remains the most popular and cost-effective option.

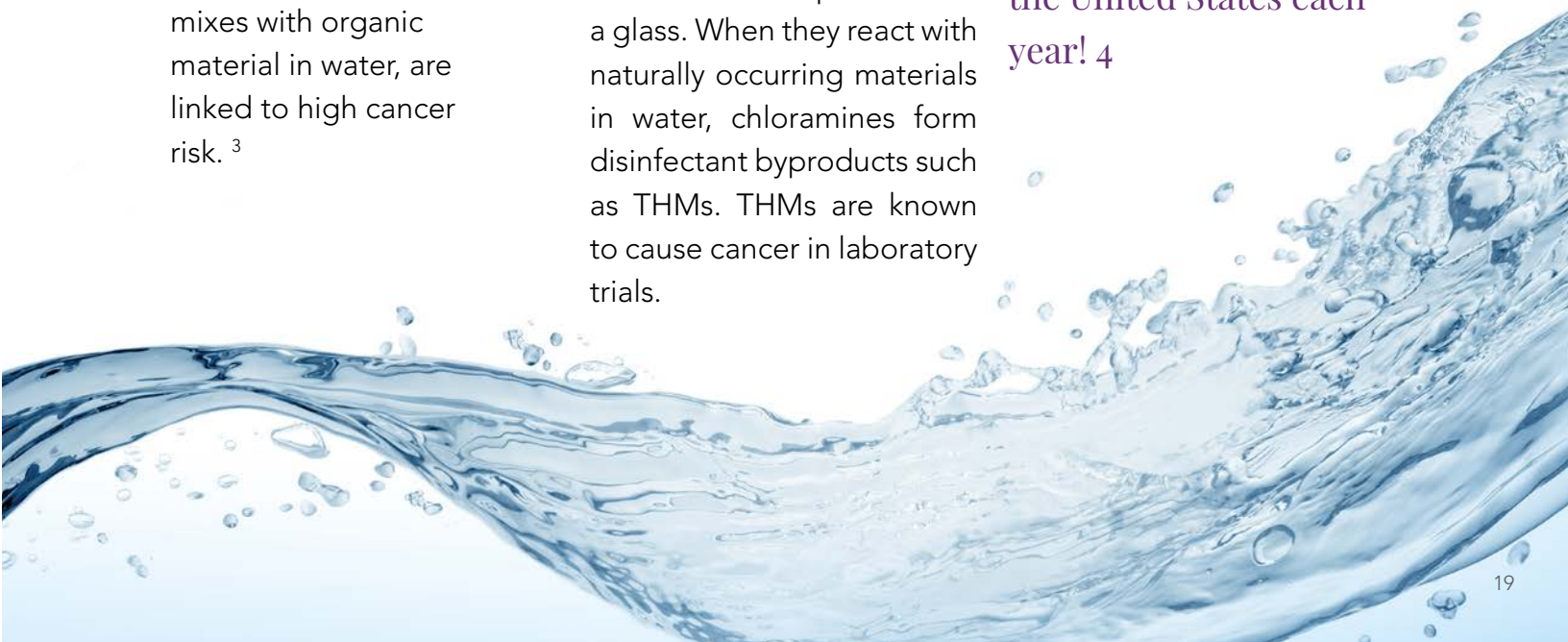
However, diluted chlorine forms trihalomethanes (THMs), which can **harm the immune system and cause a variety of cancers**. It also kills healthy microorganisms in your gut, compromising your immune system functions.

A study by the National Cancer Institute revealed that disinfection byproducts (DBP), which are compounds created when chlorine mixes with organic material in water, are linked to high cancer risk. [3]

03.

CHLORAMINES are formed when ammonia combines with water that contains chlorine. They remain in the water for a long time, even after the water's poured into a glass. When they react with naturally occurring materials in water, chloramines form disinfectant byproducts such as THMs. THMs are known to cause cancer in laboratory trials.

THMs in drinking water are responsible for as many as 2–17% of bladder cancer cases in the United States each year! 4



04.

MERCURY is a liquid metal found in a variety of natural deposits. It can seep into water systems from natural resources, factory waste, and farmland runoff from mercury-based pesticides, just to name a few sources.

The toxicity of mercury depends on its chemical form and the type of exposure.

Mercury impairs the immune system through autoimmune responses and harms the nervous system, which may affect your coordination and the senses of taste, touch, and sight. In animal studies, **very high doses of mercury caused several types of cancers and immune system abnormalities in rats and mice**.[5]

05.

ARSENIC is a natural element used commercially in business and agriculture. Natural deposits, industrial waste, and overuse of fertilizers and herbicides can all cause it to infiltrate water systems.

Inorganic arsenic is quickly absorbed by the gastrointestinal tract and spreads throughout the body's tissues and fluids. It can result in endocrine and immune system disruption, **which may eventually lead to cancers of the skin, bladder, lungs, kidneys, liver, and prostate**.

A study published by Environmental Health Perspectives showed that arsenic in water supplies caused liver, lung, kidney, and bladder cancer, where risks may be equal to those from environmental cigarette smoke and radon in homes. [6]

06.

VOLATILE ORGANIC COMPOUNDS (VOCs) are chemicals found in many agricultural, commercial, and household items like cleansers, dyes, and insecticides. VOCs persist in groundwater, resulting from human activities such as a spill or improper disposal, and can move to water supplies.

Exposure to low levels of VOCs is known to cause oxidative stress or imbalance between free radicals and antioxidants. Exposure also leads to reduced lung function and airway inflammation, which can lead to cancer over time.

A study by the American Chemical Society detected many VOCs, including benzene and chloroform, in public drinking water sources across the country. **These chemicals can pose the highest relative cancer risk**.[7]

An EWG report published in 2019 also linked VOCs to leukemia, lymphoma, and bladder, liver, kidney, and blood cancers.[8]

07.

PHARMACEUTICALS are synthetic compounds used in medicinal and veterinary drugs.

They enter the water supply through poorly managed manufacturing facilities, human excretion, and incorrect disposal, such as when people flush medication down the toilet.

A 2020 study of aquatic organisms published by the *European Journal of Pharmacology* found that **anticancer drugs can cause chronic toxicity, which can lead to lung cancer over time**.[9]

Pharmaceutical pollution does not necessarily appear to be causing widespread harm among humans currently. However, a troubling study demonstrating inflammation of the kidneys and immune system in brown trout suggests that now is the time to take precautions.[10]

08.

HERBICIDES accumulate in public soil and water sources and may reach the drinking water system through rainfall and irrigation.

Dioxins, a group of highly toxic chemical compounds found in herbicides, can cause problems in the immune system, disrupt hormones, and lead to cancer. According to Cancer Research UK, people exposed to the highest quantities of pesticides, such as when farming, may have a small risk of certain forms of cancer.[11]

09.

PESTICIDES enter treatment plants through sewers that flow from household and road drains that collect the runoff from fields and yards that have been sprayed with pesticides.

Pesticides are known to decrease immunological responses to bacteria, viruses, parasites, and tumors, rendering people more susceptible to disease, including cancer. An Indian study in 2020 showed that pesticides raised the risk of breast cancer by stimulating the effect of estrogen in breast tissues.[12]

10.

Cysts are microbial parasites found in rivers and lakes that can travel water systems via sewage, leaking septic tanks, and feedlot runoff.

The three most common water-borne cysts are *Cryptosporidium*, *Giardia*, and *Cyclosporiasis*. Ingesting as few as ten cysts can cause illness in someone with a weakened immune system, although healthier immune systems can endure a considerably larger quantity before experiencing symptoms.

A 1994 study of a massive Milwaukee outbreak of *Cryptosporidium* found 403,000 residents infected with symptoms, including watery diarrhea, stomach pains, fever, and vomiting.[13]

Drinking Water Contaminants

There are far more than just 10 pollutants which can make your drinking water unsafe. The EPA sets limits for all of these impurities in public water systems.

Microorganisms

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Cryptosporidium	Gastrointestinal illness (such as diarrhea, vomiting, and cramps)	Human and animal fecal waste
Giardia Lamblia	Gastrointestinal illness (such as diarrhea, vomiting, and cramps)	Human and animal fecal waste
Legionella	Legionnaire's Disease, a type of pneumonia	Found naturally in water; multiplies in heating systems
Fecal coliform and E. Coli	Fecal coliform and *E. coli* indicate water may be contaminated with human or animal wastes which contains pathogens that can cause diarrhea, cramps, nausea, headaches, or other symptoms	Coliforms are naturally present in the environment; fecal coliforms and *E. coli* only come from human and animal fecal waste
Viruses (enteric)	Gastrointestinal illness (such as diarrhea, vomiting, and cramps)	Human and animal fecal waste

Disinfection byproducts

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Bromate	Increased risk of cancer	Byproduct of drinking water disinfection
Chlorite	Anemia; nervous system effects in infacts and young children	Byproducts of drinking water disinfection
Haloacetic acids (HAA5)	Increased risk of cancer	Byproducts of drinking water disinfection
Total Trihalomethanes (TTHMs)	Liver, kidney or central nervous system problems; increased risk of cancer	Byproducts of drinking water disinfection

Disinfectants

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Chloramines (as Cl2)	Eye/nose irritation; stomach discomfort, anemia	Water additive used to control microbes
Chlorine (as Cl2)	Eye/nose irritation; stomach discomfort	Water additive used to control microbes
Chlorine dioxide (as ClO2)	Anemia; infants and young children: nervous system effects	Water additive used to control microbes

Inorganic Chemicals

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Antimony	Increase in blood cholesterol; decrease in blood sugar	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Asbestos (fiber > 10 micrometers)	Increased risk of developing benign intestinal polyps	Decay of asbestos cement in water mains; erosion of natural deposits
Barium	Increase in blood pressure	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	Intestinal lesions	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	Kidney damage	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (total)	Allergic dermatitis	Discharge from steel and pulp mills; erosion of natural deposits
Copper	Short term exposure: Gastrointestinal distress. Long term exposure: Liver or kidney damage	Corrosion of household plumbing systems; erosion of natural deposits

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Cyanide (as free cyanide)	Nerve damage or thyroid problems	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	Bone disease (pain and tenderness of the bones); Children may get mottled teeth	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Lead	Infants and children: Delays in physical or mental development; children could show slight deficits in attention span and learning abilities Adults: Kidney problems; high blood pressure	Corrosion of household plumbing systems; erosion of natural deposits
Mercury (inorganic)	Kidney damage	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and croplands
Nitrate (measured as Nitrogen)	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
Selenium	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	Discharge from petroleum refineries; erosion of natural deposits; discharge from mines
Thallium	Hair loss; changes in blood; kidney, intestine, or liver problems	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Organic Chemicals

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Acrylamide	Nervous system or blood problems; increased risk of cancer	Added to water during sewage/ wastewater treatment
Alachlor	Eye, liver, kidney or spleen problems; anemia; increased risk of cancer	Runoff from herbicide used on row crops
Atrazine	Cardiovascular system or reproductive problems	Runoff from herbicide used on row crops

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Benzene	Anemia; decrease in blood platelets; increased risk of cancer	Discharge from factories; leaching from gas storage tanks and landfills
Benzo(a)pyrene (PAHs)	Reproductive difficulties; increased risk of cancer	Leaching from linings of water storage tanks and distribution lines
Carbofuran	Problems with blood, nervous system, or reproductive system	Leaching of soil fumigant used on rice and alfalfa
Carbon tetrachloride	Liver problems; increased risk of cancer	Discharge from chemical plants and other industrial activities
Chlordane	Liver or nervous system problems; increased risk of cancer	Residue of banned termiticide
Chlorobenzene	Liver or kidney problems	Discharge from chemical and agricultural chemical factories
2,4-D	Kidney, liver, or adrenal gland problems	Runoff from herbicide used on row crops
Dalapon	Minor kidney changes	Runoff from herbicide used on rights of way
1,2-Dibromo-3-chloropropane (DBCP)	Reproductive difficulties; increased risk of cancer	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
o-Dichlorobenzene	Liver, kidney, or circulatory system problems	Discharge from industrial chemical factories
p-Dichlorobenzene	Anemia; liver, kidney or spleen damage; changes in blood	Discharge from industrial chemical factories
1,2-Dichloroethane	Increased risk of cancer	Discharge from industrial chemical factories
1,1-Dichloroethylene	Liver problems	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene	Liver problems	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene	Liver problems	Discharge from industrial chemical factories
Dichloromethane	Liver problems; increased risk of cancer	Discharge from drug and chemical factories
1,2-Dichloropropane	Increased risk of cancer	Discharge from industrial chemical factories

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Di(2-ethylhexyl) adipate	Weight loss, liver problems, or possible reproductive difficulties.	Discharge from chemical factories
Di(2-ethylhexyl) phthalate	Reproductive difficulties; liver problems; increased risk of cancer	Discharge from rubber and chemical factories
Dinoseb	Reproductive difficulties	Runoff from herbicide used on soybeans and vegetables
Dioxin (2,3,7,8-TCDD)	Reproductive difficulties; increased risk of cancer	Emissions from waste incineration and other combustion; discharge from chemical factories
Diquat	Cataracts	Runoff from herbicide use
Endothall	Stomach and intestinal problems	Runoff from herbicide use
Endrin	Liver problems	Residue of banned insecticide
Epichlorohydrin	Increased cancer risk, and over a long period of time, stomach problems	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylbenzene	Liver or kidneys problems	Discharge from petroleum refineries
Ethylene dibromide	Problems with liver, stomach, reproductive system, or kidneys; increased risk of cancer	Discharge from petroleum refineries
Glyphosate	Kidney problems; reproductive difficulties	Runoff from herbicide use
Heptachlor	Liver damage; increased risk of cancer	Residue of banned termiticide
Heptachlor epoxide	Liver damage; increased risk of cancer	Breakdown of heptachlor
Hexachlorobenzene	Liver or kidney problems; reproductive difficulties; increased risk of cancer	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopen-tadiene	Kidney or stomach problems	Discharge from chemical factories
Lindane	Liver or kidney problems	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	Reproductive difficulties	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl (Vydate)	Slight nervous system effects	Runoff/leaching from insecticide used on apples, potatoes, and tomatoes
Polychlorinated biphenyls (PCBs)	Skin changes; thymus gland problems; immune deficiencies; reproductive or nervous system difficulties; increased risk of cancer	Runoff from landfills; discharge of waste chemicals

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Pentachlorophenol	Liver or kidney problems; increased cancer risk	Discharge from wood preserving factories
Picloram	Liver problems	Herbicide runoff
Simazine	Problems with blood	Herbicide runoff
Styrene	Liver, kidney, or circulatory system problems	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	Liver problems; increased risk of cancer	Discharge from factories and dry cleaners
Toluene	Nervous system, kidney, or liver problems	Discharge from petroleum factories
Toxaphene	Kidney, liver, or thyroid problems; increased risk of cancer	Runoff/leaching from insecticide used on cotton and cattle
2,4,5-TP (Silvex)	Liver problems	Residue of banned herbicide
1,2,4-Trichloroben-zene	Changes in adrenal glands	Discharge from textile finishing factories
1,1,1-Trichloroethane	Liver, nervous system, or circulatory problems	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane	Liver, kidney, or immune system problems	Discharge from industrial chemical factories
Trichloroethylene	Liver problems; increased risk of cancer	Discharge from metal degreasing sites and other factories
Vinyl chloride	Increased risk of cancer	Leaching from PVC pipes; discharge from plastic factories
Xylenes (total)	Nervous system damage	Discharge from petroleum factories; discharge from chemical factories

Radionuclides

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Alpha particles	Increased risk of cancer	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation
Beta particles and photon emitters	Increased risk of cancer	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation

Contaminant	Potential Effects from Long-Term Exposure	Sources of Contaminant in Drinking Water
Radium 226 and Radium 228 (combined)	Increased risk of cancer	Erosion of natural deposits
Uranium	Increased risk of cancer, kidney toxicity	Erosion of natural deposits

Source: epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

Which Type of Water Is Safest to Drink?

If tap water potentially contains a lot of contaminants, how about other types of drinking water? Let's take a closer look.

Bottled Water

Bottled water is generally marketed as cleaner and safer than tap water. However, just because water is sealed and more expensive doesn't necessarily mean it's safer or better for you.

In fact, dozens of companies simply filter municipal tap water, enhance it in some way, and bottle it. So, it may be just as contaminated as regular old tap water.

No wonder a **European study on 16 of the top brands found 24,500 harmful chemicals in a single bottle of water**. These chemicals cause sterility and lower androgenic and estrogenic receptor activities.

In other words, just drinking 0.1 ounces of a 16.9-ounce bottle could slow down the way your body manages hormone reception by 60 to 90%!

Surprisingly, the packaging process itself produces toxins in your water. Most bottled water contains microplastics. These are plastic particles or fragments that are smaller than 0.2 inches (5mm) in length.

A 2018 study of 11 globally sourced brands of bottled water from 9 different countries found that 93% of the bottles showed some signs of microplastic contamination and that they contained more than 50% of the microplastics present in tap water.[14]

Microplastics disrupt endocrine functions, induce inflammation, and accumulate in organs such as the liver, kidneys, and intestines over time, potentially leading to cancer.

Microplastics fall under obesogens – a category of endocrine-disrupting chemicals. These artificial chemicals have been linked to oxidative stress. One example of obesogens is bisphenol-A (BPA), the most well-known toxic chemical in plastics.

BPA is soluble, meaning that when it mixes with liquids, the bond it forms with the plastic can break down, allowing BPA to leach into the water. One study published by the National Center of Biotechnology Information (NCBI) discovered that BPA could mimic estrogen and other hormones and interact with cell receptors to trigger the development of breast, ovary, and prostate cancer.[15]

Another report by Environmental Health Perspectives showed that **BPA could reduce the effectiveness of chemotherapy in breast cancer patients**.[16]

Due to mounting health concerns, manufacturers replaced BPA with other synthesized chemicals such as bisphenol-S (BPS) and bisphenol-F (BPF) to stay in business. These plastics are now labeled as "BPA-free."

Is "BPA-Free" Plastic Really Safe?

One aquatic study found that BPS had the same adverse effects as BPA on zebrafish, including negative effects on estrogen and the thyroid hormone system. Worse, the combination of these substances harms much more than that.[17]

A study by the University of Texas Medical Branch also showed that the combination of these BPA-related compounds induced cell mutation and significant damage to genes.[18]

This means BPA-Free alternatives cannot be considered safe.

Another inorganic substance found in plastic packaging is phthalates. These are plastic softeners used to make bottles less brittle. However, they can migrate to the water because they are not strongly bound to the other molecules in the plastic.

Phthalates are endocrine disruptors associated with:

- Reproductive abnormalities in children
- Decreased fertility
- Developmental issues
- Asthma
- Increased allergy reactions

Unfortunately, phthalates are still widely used in the United States. A 2004 study found that 99% of people tested have these chemicals in their urine.[19] Similarly, a 2018 study published in the journal Water Research linked phthalates to an increased risk of cancer, and proved that these chemicals multiply ten times more the longer water is stored.[20]

With all this in mind, there's no reason to believe that bottled water is any safer than tap water – especially since you have no idea how long it's been sitting around a warehouse or store shelf.

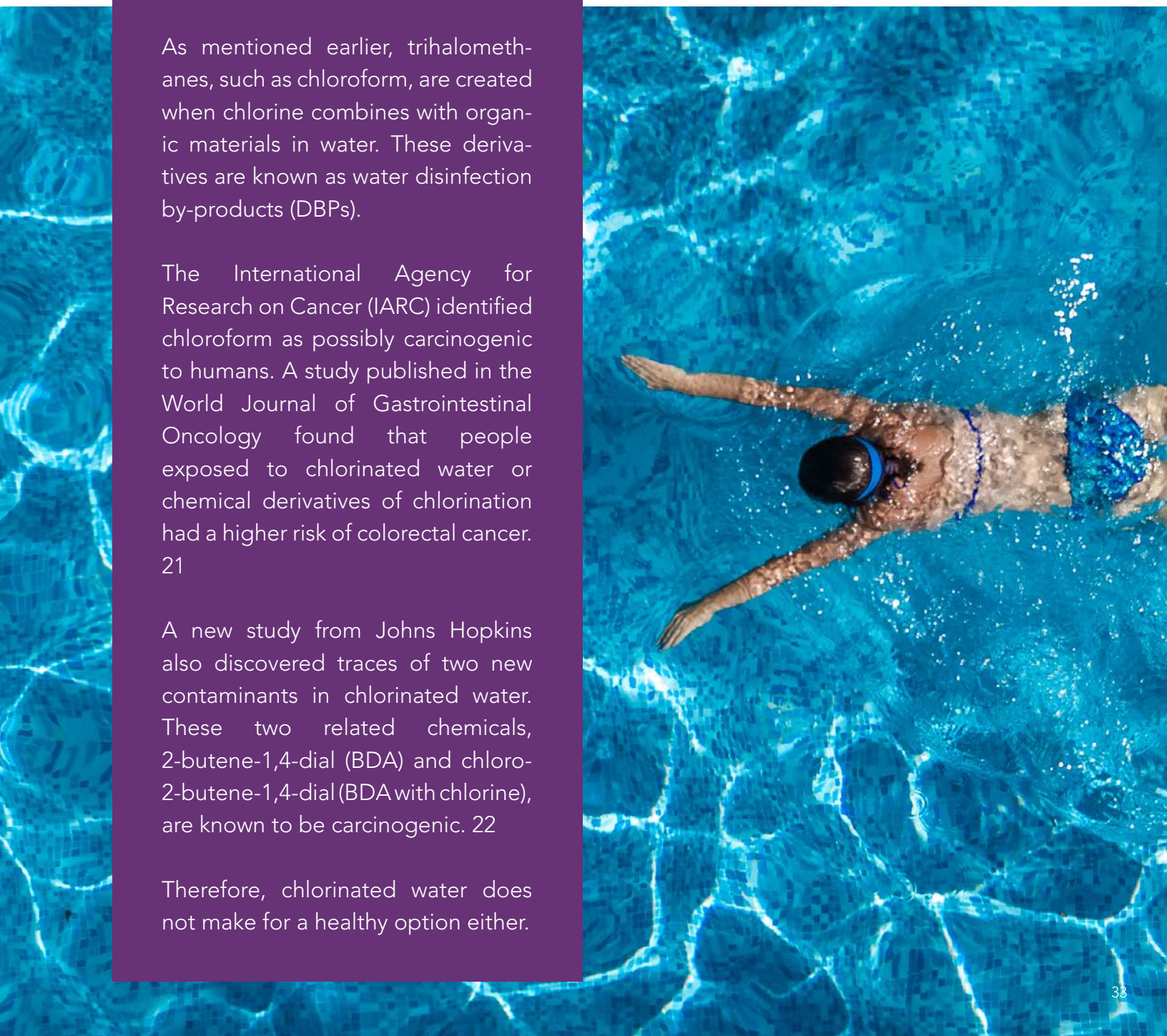
Chlorinated Water

As mentioned earlier, trihalomethanes, such as chloroform, are created when chlorine combines with organic materials in water. These derivatives are known as water disinfection by-products (DBPs).

The International Agency for Research on Cancer (IARC) identified chloroform as possibly carcinogenic to humans. A study published in the World Journal of Gastrointestinal Oncology found that people exposed to chlorinated water or chemical derivatives of chlorination had a higher risk of colorectal cancer. 21

A new study from Johns Hopkins also discovered traces of two new contaminants in chlorinated water. These two related chemicals, 2-butene-1,4-dial (BDA) and chloro-2-butene-1,4-dial (BDA with chlorine), are known to be carcinogenic. 22

Therefore, chlorinated water does not make for a healthy option either.



Filtered Water

Water filtration is a technique for removing suspended particles, unwanted chemicals, organic and inorganic pollutants, and biological contaminants from water.

Four primary water filtration methods

There are four main types of water filtration systems available on the market:

1. Activated carbon filter: Typically used in pitcher-type filters, activated carbon bonds to contaminants and traps them in the filter to prevent them from flowing through and into your cup. This removes visible sediment and certain metals, but it may not remove salts, minerals, germs, or inorganic compounds.

2. Ion exchange: This type of filtration may remove dissolved impurities, or ions, from water, but it's usually unsuccessful when it comes to organic pollutants.

3. Distillation: This method requires boiling water into steam, which is then allowed to condense back into a liquid in a separate container. However, contaminants are trapped in the original container, so bacteria can sometimes recolonize as the water cools.

4. Reverse osmosis (RO): This filtration method uses carbon to eliminate contaminants at the molecular level. RO can remove bacteria, viruses, and common chemical contaminants. It is one of the best options for clean, safe drinking water.

There is a wide range of water filtration technology on the market, and not all of them are effective at eliminate contaminants. Most filtered or bottled water is just labeled "purified" instead, meaning it's gone through some type of purification process.

A 2017 study of typical water filter pitchers aimed to determine their effectiveness in removing arsenic. Unfortunately, results showed that most of them failed to lower the arsenic concentration below the maximum contaminant levels (MCM).[23]

Therefore, if bottled, chlorinated, and filtered water cannot guarantee clean, non-toxic water, what could be a safer and healthier option?

Safer and Healthier Types of Drinking Water

01.
Fresh Spring Water

The best fresh water you can drink is fresh spring water from a high mountain that you get directly from a spring out of the ground. The water is pre-purified as it passes through natural filters such as limestone, sandstone, and clay on its way to the surface through the mountain rocks.

This natural filtration also makes spring water taste better due to the abundance of naturally occurring minerals and the absence of man-made chemicals. Potassium, sodium, magnesium, and calcium are found in abundance in spring water.

This natural resource aids in toxin removal and the healthy functioning of all organs, including your brain, which is 75% water.

If you're like most people, however, it's unlikely that you have the luxury of getting enough fresh spring water for your daily needs on your own. On a related note, experts don't recommend making mineral springs your regular drinking supply, as their safety can never be assured.

02.
Structured Water

Dr. Gerald Pollack is a Bioengineering Professor at the University of Washington who has done extensive work into the "4th phase" of water – also known as structured water, EZ water (short for exclusion zone), and H3O2.[24]

Spring water, waterfalls, and glaciers are naturally structured, as is the water found in fruits and vegetables.

Dr. Pollack teaches that if we want to get our bodies into alignment with nature and health, we need to be thinking about hydration with structured water.

While research into this exciting area is ongoing, there are various types of water structuring devices available that can be used to reshape water and restore it back to its original, natural state.

03.
Hydrogen Water

Hydrogen water is plain water that has been infused with hydrogen gas.

Hydrogen is a colorless, odorless, and non-toxic gas that reacts with other elements such as oxygen, nitrogen, and carbon to generate a variety of compounds, including water.

Growing research shows that adding hydrogen to water boosts its anti-inflammatory and antioxidant properties, reducing the risk of life-threatening diseases like cancer.

If you want to stay hydrated in the safest, most non-toxic way possible, hydrogen water appears to be the best option.

We'll explore the benefits of hydrogen water next.

What Happens When You Drink Hydrogen Water?

The human body cannot absorb hydrogen in plain water because it is bound to oxygen. However, if you add more hydrogen, these hydrogen molecules are "free" and easily absorbed by your body, leading to improved immune function.

Hydrogen protects organs and cells by acting as an antioxidant. It fights free radicals or unstable molecules that contribute to oxidative stress, reducing inflammation, which causes chronic diseases like cancer.

In some cases, it also minimizes the adverse effects of chemotherapy.

A Chinese study in 2017 revealed that oral intake of hydrogen-rich water reduced radiation-induced oxidative stress. The study concluded with an appeal for hydrogen to have a crucial role in the prevention and treatment of global health issues, including cancer.[25]

A six-week study of 49 liver cancer patients receiving radiation therapy found that those who consumed hydrogen water had lower amounts of hydroperoxide, an oxidative stress marker. They also had higher antioxidant activity after the treatment.[26]

Remember that your gut houses 60 to 80% of your immune system. If you consume toxic water, contaminants can reduce the functionality of your gut by nearly 20%.

However, the good news is that hydrogen can help repair and restore your gut, allowing it to deliver signals to your immune system.

A study published by *BMC Complementary Medicine and Therapies* found that hydrogen-rich water relieved gastric injury since it directly targets damaged tissues. It can also protect healthy people from gastric damage caused by oxidative stress.[27]

Another study published in the *Annals of Medicine*[28] reviewed several clinical studies and found that hydrogen is beneficial when addressing a number of conditions including:

- metabolic illnesses
- chronic systemic inflammatory disorders
- cancer

So, the question now is how to make hydrogen water?

Without a doubt, drinking hydrogen-rich water will keep you hydrated in a non-toxic manner. This helps your immune system eliminate free radicals from your body, prevent cellular damage, and therefore reduce your cancer risk.

How Can You Make Hydrogen Water?

If you want to stay healthy and protected from the risk of getting cancer through drinking toxic, contaminated water, it's necessary to invest in a proven filtration system and filter your tap water. **Reverse osmosis is a good option. But if you want to take it one step further, you can drink safe, hydrogen-rich water**.

To make this possible, you need a system that puts extra hydrogen in your water. This helps repair your gut while increasing mitochondrial and brain functions, and reducing oxidative stress and inflammation to protect against cancer.

A reliable hydration water filtration system can help you keep hydrated all day long without the worry of health-harming and cancer-causing contaminants in your water.

Nathan Recommends

What if you could hook up a device to your kitchen sink that not only structures your water and brings it back to life... but also adds in important health-enhancing minerals, antioxidants, and essential hydrogen so you can halt aging and reduce chronic disease from your body?

Spring Aqua filters turn regular tap water into water that is clean, hydrating, and life promoting.

LEARN MORE HERE

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Red Cabbage Coleslaw

BY JOEL FUHRMAN, M.D.

Directions

In a large bowl, combine the red cabbage, carrots, cilantro and scallions. In a small bowl, combine the remaining ingredients, mix until smooth, then add to the red cabbage and carrots.

NOTE: To make apricot puree, place 1/4 cup of dried unsulfured apricots in a glass bowl and add 1/4 cup boiling water. Let stand for 15 minutes or until apricots are soft. Transfer to a mini food processor and blend the apricots and the soak water until smooth. Leftovers can be stored in the refrigerator for up to one month.

PER SERVING: Calories 74, Protein 3 g, Carbohydrates 11 g, Sugars 6 g, Total Fat 2.9 g, Saturated Fat 0.4 g, Cholesterol 0 mg, Sodium 68 mg, Fiber 3 g, Beta-Carotene 2945 ug, Vitamin C 35 mg, Calcium 55 mg, Iron 1 mg, Folate 26 ug, Magnesium 27 mg, Potassium 328 mg, Zinc 0.5 mg, Selenium 1.2 ug

Ingredients

- 3 cups shredded red cabbage
- 1 cup shredded carrots
- 1 tablespoon chopped cilantro
- 2 tablespoons sliced scallions
- 1 tablespoon Dr. Fuhrman's Pear Vinegar or other fruity vinegar
- 3 tablespoons apricot puree (see note)
- 1 tablespoon unsalted natural peanut butter OR almond butter
- 1 teaspoon coconut aminos
- 2 teaspoons lightly toasted sesame seeds

Nathan Crane

Nathan Crane is a natural health researcher and holistic cancer coach. He is an award-winning author, inspirational speaker, Amazon #1 bestselling and 20x award-winning documentary filmmaker.

Nathan is the Director of the Health and Healing Club, President of the Holistic Leadership Council, Producer of the Conquering Cancer Summit, Host of the Conquering Cancer Documentary Series, and Director and Producer of the award-winning documentary film, Cancer; The Integrative Perspective.

Nathan discovered powerful holistic solutions to overcome years of trauma, homelessness, depression, and suicide attempts to find a life of meaning, purpose, health, and fulfillment.

He has received numerous awards including the Accolade 2020 Outstanding Achievement Humanitarian Award, and the Outstanding Community Service Award from the California Senate for his work in education and empowerment with natural and integrative methods for healing cancer.

With more than 15 years in the health and wellness field as a researcher and advocate, Nathan has reached millions of people around the world with his inspiring messages of hope and healing.

His website is NathanCrane.com