



## The backyard chore linked to hearing loss, asthma... even increased cancer risk!

*How keeping your lawn perfectly manicured is contributing to a public health crisis*

This month, as lawns start to come back to life after a long winter, we're being inundated with "advice" from so-called landscaping experts.

Americans have an obsession with perfectly manicured lawns and landscapes. And that obsession is wreaking havoc on our health.

I've written before about the dangers of chemical lawn fertilizers and weed-killers. But those toxic chemicals aren't the only hazards you'll find in your own backyard...

All across the country and around the world, gas-powered leaf blowers (GLBs) have become so common that it's not unusual to hear them year-round. Owners blast away at leaves in the fall, and dirt, debris, and grass clippings in the spring and summer. All at an earsplitting, hurricane-force wind speed of 200 mph.

You may find these blowers terribly annoying, as I do. Or maybe you partake in the treacherous yardwork. Either way, you should know that our growing obsession with GLBs is actually polluting our world—and harming our health and hearing in the process.

### **Blown away by a public health crisis**

You know I'm a big proponent of green spaces. Spending time outdoors in Nature is one of my

top recommended ways to preserve your health—mentally, emotionally, spiritually, and physically.

But I'm talking about *natural* green spaces. Not the artificially emerald-colored lawns and golf courses that seem to be popping up everywhere. Often, these "landscapes" are maintained by dangerous chemical fertilizers, pesticides, and herbicides. Not to mention noisy, polluting gas-powered mowers and blowers.

You'd think that with all of the environmental regulations for the auto industry, the energy industry, and public utilities, there would be similar regulations for the multibillion-dollar lawn and gardening industry. And yet, the problem with GLBs somehow passes under the radar.

Not only are leaf blowers a public nuisance, but they're rapidly becoming a public health crisis. In fact, back in 2015, one survey estimated there were a whopping 11 million GLBs in the U.S.—and that number has only gone up since.<sup>1</sup>

Fortunately, I've been able to collaborate with Ms. Jill Bellenger, a brilliant environmental advocate who is a dear, long-time family friend, to bring attention to this growing problem.

In fact, she even created her own website to inform and inspire us about this problem: [LeafBlowerNoisePollution.com](http://LeafBlowerNoisePollution.com).

And I'd like to share some of the information Jill and I have collected with you here.

### **Now hear this**

Gas-powered lawn and garden equipment—like mowers and leaf blowers—operate at noise levels as high as 112 decibels.<sup>2</sup> That's louder than a live rock concert or a jet taking off! And it far exceeds the safe levels established by the World Health Organization (WHO), U.S. Environmental Protection Agency (EPA), U.S. Occupational Safety and Health Administration (OSHA), and the National Institute of Occupational Safety and Health (NIOSH) for the

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prevention of hearing loss and other adverse health effects.

In fact, the Centers for Disease Control and Prevention (CDC) note that being exposed to 100 decibels for just 15 minutes a day can result in permanent hearing loss.<sup>3</sup> And if all of your neighbors are firing up their GLBs every weekend, you could suffer from *hours* of high-decibel exposure.

So it's no wonder that, according to the CDC, "Hearing loss is the third most common chronic health condition in the U.S. Almost twice as many people report hearing loss as they do diabetes or cancer."<sup>4</sup>

Research also shows that noise from GLBs has a low-frequency component that travels farther and penetrates structures, thereby increasing the risk of adverse health effects. Plus, the EPA states that *even after a loud noise has stopped*, people still have a degraded quality of life. After all, noise impairs communication and social interaction, and makes us less accurate in completing complex tasks.<sup>5</sup>

The EPA also notes that noise creates stress—particularly frustration and aggravation. And we all know that stress is one of the main factors behind many chronic illnesses.

Children, older people, the sick, and people who work overnight shifts are particularly vulnerable to these effects.

Of course, noise is all around us in our increasingly chaotic world. But the difference with loud lawn care equipment is that we have *no choice* but to be exposed.

### **Carcinogens swirling all around us**

Hearing loss is bad enough, but it's only one way leaf blowers damage our health. In fact, the American Lung Association encourages people to avoid leaf blowers due to the toxic dust they create, which includes known carcinogens.<sup>5</sup>

The exhaust from GLBs can include benzene, formaldehyde, and hydrocarbons—not to mention the blowers' capability to aerosolize anything lying on the ground, such as pesticides, herbicides, animal feces, and heavy metals. All of which inevitably become part of the air we breathe. All in the name of unnaturally and uselessly "cleaning up" our lawns, parks, and landscapes.

And this is certainly not a new problem. Ten years ago, Mount Sinai Children's Environmental Health Center went so far as to write a letter to the Eastchester Town Board in New York, voicing their support for limiting the use of GLBs during summer months in the interest of improving the health of Eastchester residents—particularly their children.<sup>6</sup>

The letter explained how GLBs and other internal-combustion power tools pose a serious health threat to children "because they breathe more air per pound of body weight per day than adults and thus inhale more of any pollutants that are thrown into the air by this equipment."

That alone should be enough to make any homeowner or landscape contractor think long and hard about using this equipment near others... especially children!

It's also hard not to draw a correlation between rising asthma rates and the increasing use of GLBs. The CDC and Asthma and Allergy Foundation of America note that *more than 25 million* Americans have asthma, and this number has been steadily increasing since the early 1980s.<sup>7</sup>

### **The huge environmental impact of manicured lawns**

Of course, this amount of pollution is just as damaging for the planet's health as it is for human health.

According to the California Air Resources Board, using a GLB for just

one hour emits as much smog-forming pollution as driving a 2017 Toyota Camry about 1,100 miles.<sup>8</sup>

They estimate that, over the next few years, as passenger car emissions continue to decrease, total smog-forming emissions from small engines (like GLBs) will actually exceed those from passenger cars.<sup>9</sup>

### Why the feds aren't coming to our rescue

The fact is, smaller engines, like those found in GLBs, lack the expensive exhaust-treatment systems like catalytic converters or particulate filters that vehicles have. Meaning all of the nasty contaminants flow right through GLBs, unfiltered, and out into the air.

So where is the EPA—not to mention other federal agencies—in all of this madness?

To answer that question, we need to go back to a quieter time, at least with regards to lawn and garden care. Because in 1972, the Nixon administration passed the Noise Control Act, which set emission standards for virtually every source of noise, including lawn-care equipment.<sup>10</sup>

But the act was short-lived. In 1981, it was dismantled, ending further development of noise regulations on a national level. After that, it was up to local governments to fend for themselves—and some of the biggest offenders, like small engines in GLBs, were essentially off the hook (in the garage, and with the feds).

With every state and municipality in the U.S. forced to do their own research

and decide on their own regulations one at a time, the lawn care industry was able to ramp up its production of more and more gas guzzlers. And it wasn't until 1997 that the EPA even started regulating leaf blowers!

Today, the EPA handles all emissions standards for vehicles and engines in America. But given the vast scope of machinery the agency is regulating, GLBs are low on the priority list. And the bottom line is that motor vehicles are held to a much higher standard than small engines.

### 5 steps you can take to protect yourself—starting today

The research here is well documented. And the impacts have also been documented by the medical and scientific communities. Yet, government regulation is sorely lacking.

So we, as informed citizens, need to take matters into our own hands. Start questioning why these devices are still permitted to be sold around the country and the world. Is there any real benefit?

But beyond that, there are a few things you can do, both in your own home and in your community, to impart change. Here are my top five recommendations:


**1.) Talk to your HOA.** If you belong to a homeowners association (HOA), see if there's anything that can be done about switching your lawn and garden practices to more sustainable methods. For instance, encourage a "leave the leaves" policy!

**2.) De-lawn.** Reduce the size of your own lawn by planting native species that will not only save you time and water for lawn maintenance, but will also encourage much-needed visits from pollinators.

**3.) Lobby the locals.** Talk to your elected officials about your town or county's noise ordinance. While many municipalities have no noise ordinances or use vague language, others are getting more serious about cracking down on noise violators that routinely expose the community to a certain decibel level they've deemed unacceptable—typically around 65 decibels.

**4.) Change your own practices.** Remember, change starts at home. If you own a GLB, consider at least swapping it out for a battery-powered or electric model.

**5.) Pick up a rake.** This "old-fashioned" form of caring for your lawn is actually my preferred method. It may take a little extra time, but it sure weighs less than a 25-pound backpack full of gasoline. Plus, it can actually be an enjoyable (and quiet!) experience. And gardening by hand is one of the healthiest and most enjoyable activities for the mind and body.

Bottom line, there's so much we can do for the sake of our health, the health of our communities, and our environment by getting rid of GLBs. So I hope you'll join me in a noise-free and pollution-free gardening season this year—and every year. 

## The most deceptive headlines of the past year

### Don't be fooled by bad science

We've all seen the headlines trumpeting how a new study has

found that some food or nutrient is either going to kill you or cure you.

Followed by headlines stating the exact opposite.

It's tempting to call this whiplash effect "fake news"—and sometimes, that's certainly the case. But it can also be due to "bad science." Which is actually more common than you may think.

Studies can have flaws in connections, logic, or conclusions. And, as my friend and colleague, Nobel laureate Baruch Blumberg, always counseled, biological plausibility should always come into play.

For instance, a study may be accurate, but may reach certain conclusions that contradict other scientific findings. This outcome could be caused by inappropriate sample sizing, or a flawed design. But readers—and even many licensed doctors—don't know all of this, and that's where the confusion begins.

That's why it's important that "controversial" studies be dissected by experts, who can analyze the mechanisms and conclusions and put them in context. Unfortunately, that rarely happens before the headlines have done their damage.

And with so much information floating around in today's hyper-communicative world, it can be easy to forget what's real and what's not when it comes to the latest research. But as an *Insiders' Cures* reader, you know it's my mission to sift through all the science and expose the *real* truth.

That's why I'm recapping some of the worst headlines and conclusions of 2019.

### **My top four "bad science" studies of the last year**

#### Bad Science Claim #1

#### **Fish oil supplements don't reduce risk of cardiovascular disease.**

*Scientific American* is a popular publication for a general audience that, for some reason, published an article in August 2019 claiming that fish oil supplements are not effective against

cardiovascular disease.<sup>1</sup>

The author claimed, "After decades of promises that they 'may work' to reduce cardiovascular disease, the lack of a demonstrated benefit leads me to conclude that consumers are wasting their money."

But, as you can see by the editor's note added five days after the article was published, the author "erroneously" failed to reveal that he was a paid researcher on 10 studies underwritten by the makers of a prescription fish oil that directly competes with over-the-counter fish oil supplements!

I'm not going to question who was at fault here. But I will tackle the faulty science...

I've studied the fish oil debate from actual scientific studies, and have concluded that most studies use doses that are much too low. But when you supplement with even barely adequate doses, let alone *optimal* doses of fish oil, the health benefits become clear.

In fact, over a year before this article appeared, I published dosing guidelines based on the real science, as well as what to look for in a quality fish-oil supplement. (Check out the June 2018 issue of *Insiders' Cures*.)

Most people need 5 to 6 grams of fish oil daily. That's a far higher dosage than the vast majority of studies use—particularly the ones that erroneously report that omega-3 fatty acids from fish oil don't help prevent cardiovascular disease. And you must always check the label of your fish oil supplement to ensure you are getting high enough concentrations of the omega-3 fatty acids EPA and DHA.

#### Bad Science Claim #2

#### **Dietary supplements won't prolong your life.**

In May 2019, a team of scientists from Tufts University in Boston published a study in the *Annals of*

*Internal Medicine* concluding that all supplements are essentially worthless.<sup>2</sup>

The researchers based their findings on an analysis of survey data gathered from more than 27,000 people over a six-year period. They said their analysis showed that the people who took supplements had about the same risk of dying as those who got their nutrients from food sources alone.

But this kind of data is unstable methodologically. Findings were not drawn from a strong study, like a clinical trial. And they looked at doses that, again, were simply way too low, according to the real science.

In fact, this study actually confirms the science showing that the correct, optimal doses of dietary supplements *do* work, and doses that are too low *don't* work.

Not to mention, the vague "dietary supplements" category includes a dominant, huge number of multivitamin supplements that really *are* worthless, or nearly so, according to real science. They typically contain the wrong ingredients, in the wrong doses, in the wrong combinations. And they can typically be low-quality to boot.

But, even in this mishmash of a study that lumps supplement users of any and all kinds together as one, the vitamin takers were *still* found to do better on the whole.

The researchers couldn't let that stand, though. So they performed statistical manipulations to make their own findings of the supplement benefits seemingly disappear.

And they concluded that people who took supplements were healthier not because of the supplements, but because they actually also had a better diet and lifestyle. But what about the researchers' *other* claim that people who *don't* take supplements supposedly get adequate "nutrients from food alone?" There was no evidence

regarding that conclusion at all!

Unfortunately, this illogical, weak study's bad-faith claim about supplements being worthless was broadcast high and low. When in reality, this "finding" is directly contradicted by thousands of much better studies demonstrating the benefits of supplementation for prevention and reversal of a host of health conditions.

Bottom line? Smart supplementation is perfectly healthy for anyone, and absolutely necessary for many. And as an *Insiders' Cures* reader, you can search all of my past articles for specific supplement recommendations.

### Bad Science Claim #3 **Vitamin D supplements aren't necessary.**

Over the years, I've shared hundreds of studies showing that vitamin D (in the right doses) can help prevent infection, inflammation, pain, osteoporosis, autoimmune and neurodegenerative disorders (like dementia, Alzheimer's disease, multiple sclerosis, and Parkinson's disease), depression and other mood issues, cardiovascular disease, cancer, diabetes, and metabolic syndrome.

That's quite an impressive list. But an April 2019 *WebMD* article titled "Is Vitamin D Hype 'Wishful Thinking'?" reviewed studies that appeared to question D's benefits. A doctor quoted in the article concluded that for people with "normal" levels of vitamin D, supplementation is not necessary.

But this is problematic for a variety of reasons. First of all, what's considered to be "normal," according to old standards, is certainly not "optimal" according to current science. In fact, as I've reported before, researchers have found that as many as *80 percent* of American adults are deficient or insufficient in vitamin D (defined as blood levels between 50 nmol/L and 75 nmol/L).

Secondly, the article said that the best way to get vitamin D is "to go outside and get some sun." Which is a great suggestion, unless you live north of the latitude of Atlanta or San Diego—where, from October to March, the sun's ultraviolet rays don't penetrate the atmosphere enough to allow your body to produce its own vitamin D.

Not to mention, if you're 65 or older, your skin may have diminishing capacity to synthesize vitamin D through sun exposure. Plus, some people still require more vitamin D than sun exposure allows, and there are drugs and medical conditions that can deplete levels.

The truth is, many people who try to get some sun, eat right, and take supplements at the woefully low government-recommended dosages *still* have suboptimal levels of D when their blood is tested.

So don't believe the "wishful thinking" in this article. Ask your doctor to test your vitamin D levels. Again, your levels should be between 50 nmol/L and 75 nmol/L. And start supplementing with 10,000 IU of D daily to truly achieve and maintain these "optimal" levels year-round.

### Bad Science Claim #4 **Eat fake meats.**

Early in 2019, the clueless United Nations, in conjunction with global scientists and the *Lancet* medical journal in the U.K., launched the EAT-Lancet Commission's "planetary health diet."<sup>4</sup>

This plant-based diet is supposedly a solution for the skyrocketing rates of chronic diseases and obesity, in addition to "saving the planet" from the chimera of "climate change."

But none of this is based on any real science. For instance, we now know our modern health problems are primarily related to refined sugars, carbs, and ultra-processed food. And

we can combat them by substituting these unhealthy foods for healthy, fresh, whole foods.


The truth is, people consuming the EAT-Lancet diet miss out on healthy animal proteins and fats found in meat, fish, and dairy. And the plant-based "fake meats" they're supposed to eat instead often contain artificial and processed ingredients.

Of course, when you follow the money, it's crony-corporatist big-food conglomerates that are supporting this global dietary misinformation campaign. They see that people are finally catching onto the problems of refined sugars and carbs, so they're promoting profitable, refined, ultra-processed fake foods instead.

Big food predicts continued profits from these pseudo-"virtuous" foods, made from their cheap "plant-based" ingredients (which would be better composted than consumed). And although these fake foods taste terrible and ruin your health, you're supposed to "sacrifice" and eat them anyway, because they're supposedly good for the environment.

But I'm here to tell you...don't waste your time and money with this garbage. Instead, consume a balanced diet that includes plenty of *real* fruits and vegetables, along with full-fat dairy, fish, and, yes...nutritious and delicious meat.

Now, you may find your doctor citing the studies we discussed here today. But even the best doctors are sometimes influenced by the crony-corporatist medical industry, which has become better at PR than at real science.

Which is why I'll continue to keep you in the know and bring you the *real*, good science in these pages—and in my *Daily Dispatches*—throughout the year...and for years to come. 

*Citations for all articles available online at  
www.DrMicozzi.com*

# Six flowers that can combat everything from obesity to anxiety

Every spring, garden clubs and municipal organizations around the country put on flower shows. The oldest, largest, and best (in my opinion) is the Philadelphia Flower Show, which dates back to the 1820s and is held the first full-week of March.

However, this show has always focused on highly cultivated, decorative plants and flowers. With no emphasis on medicinal plants (most of which are flowering herbs), or edible plants known for their beneficial nutrient content.

But modern science shows there are more than a dozen types of flowers that are both ornamental and edible. Let's take a look at six of my favorites...

## Enhance your well-being with these six flowers

**1.) Chamomile** is a floral herb that's been used for centuries in cooking and as a medicine. The flowers look like small daisies, and impart a slightly sweet and musky taste to foods.

**Medicinal uses:** Chamomile is an anti-inflammatory, antioxidant, and mild astringent. There is scientific—and traditional—evidence that it can help reduce inflammation and infections of the skin, mucus membranes, mouth, and respiratory tract. It's also used for gastrointestinal (GI) issues like diarrhea, gas, indigestion, and nausea.<sup>1</sup>

Chamomile tea has been shown in studies to reduce anxiety and induce sleep. Indeed, my mother often made it for me before bedtime.

**How to consume:** You can use fresh chamomile blossoms in smoothies or fruit salads. Or you can dry the flowers and use them in infusions, syrups, baked goods, and teas.

**2.) Chrysanthemum** typically blooms in the late summer and fall, with big, multi-petaled flowers in a variety of colors. These are also known as mums and can vary in flavor from plant to plant—everything from sweet to peppery to tangy. Which is why I recommend tasting the individual flowers before cooking with them or making them into a tea, to ensure you prefer the flavor.

**Medicinal uses:** Chrysanthemum is a potent medicine. It's been used for centuries in traditional Chinese and Japanese healing traditions to treat respiratory problems, high blood pressure, hyperthyroidism, and anxiety. Modern studies show the flowers have strong antioxidant and anti-inflammatory properties<sup>2</sup>, and may even help fight osteoporosis.<sup>3</sup>

**How to consume:** Lighter-colored blossoms, like white and yellow, are used to make tea. To make chrysanthemum tea, remove the bitter base of the flower and use only the petals (fresh or dried).

In addition, young leaves and stems from the Garland variety of chrysanthemums, also known as “chop suey greens” or *shingiku* in Japan, are widely used in stir-fries and as salad seasoning.

**3.) Dandelion** (from the French *dent de lion*, or “lion's tooth,” from the serrated edge of the leaf) is indeed a flower, too—not a weed. The bright and beautiful blossoms are better left alone to thrive in your lawn—and to attract pollinators.

You can actually consume every part of a dandelion. The flowers are sweet and crunchy, and the greens are slightly bitter, like arugula.

**Medicinal uses:** Dandelions are loaded with vitamins A, B, and C—

along with the hard-to-find, natural form of vitamin K. They're also high in calcium, copper, iron, manganese, magnesium, phosphorus, and potassium.

Dandelions have been used since ancient times for GI, liver, and kidney health. Recent research has also revealed that dandelions may fight angiogenesis, the process in the body that allows cancerous tumors to survive and grow.<sup>4</sup> Plus, dandelions can improve heart health by reducing the risk of atherosclerosis, lowering cholesterol, and combatting obesity.<sup>5</sup>

**How to consume:** You can eat the flowers and greens raw in salads. Or you may choose to sauté the greens in a little olive oil and add them to casseroles, stews, or any dish calling for “hearty greens.” You can also make a tasty dandelion tea, wine, or jelly from the flowers.

**4.) Hibiscus** is a member of the rose family, and it's traditionally known as Chinese rose. There are hundreds of varieties of hibiscus in tropical and subtropical regions worldwide. And there are even hearty hibiscus species that grow in colder, northern regions.

These large, showy blossoms come in a variety of colors. The petals are somewhat firm, with a smooth, fleshy texture and a subtle, savory taste. In fact, I often munch on some fresh petals from our very own Florida garden.

**Medicinal uses:** Hibiscus has a wide and almost astonishing array of health benefits. Research shows hibiscus is a potent antioxidant that can lower blood pressure<sup>6</sup>, fight breast cancer<sup>7</sup>, reduce obesity<sup>8</sup>, prevent kidney stones<sup>9</sup>, alleviate urinary tract infections<sup>10</sup>, and even prolong lifespan.<sup>11</sup>

**How to consume:** The flower can be eaten fresh from the plant, and is often used in hot or cold teas, salads, relishes, or jellies. The tea is a brilliant red color, and has a tart, tangy, slightly sour flavor.

**5.) Rose** is a classic ornamental plant, and the petals of all 150 varieties are edible. But not all roses taste the same. A good guide for choosing a flavorful rose is this: If it smells pleasant and sweet, it probably tastes good as well.

**Medicinal uses:** As I explained in last month's issue, plenty of studies show that roses have antioxidant, anti-inflammatory, and antibacterial properties.

So it's no surprise that researchers have found that roses can help prevent type II diabetes, regulate blood pressure, support brain cell growth, and even act as a powerful cough suppressant. Plus, some studies have found that roses promote relaxation and reduce stress.

**How to consume:** Fresh rose petals

can be eaten raw, added into fresh fruit and green salads, or dried and added to granola or mixed herbs. They can also be "muddled" and added to any liquid to make rose-infused drinks and teas, or jams and jellies. Chopped rose petals can be added to butter or olive oil to make them zestier.

**6.) Squash blossoms** are the flowering parts of one of the Native American staples known as the "three sisters" (corn, beans, and squash).


Squash gourds are quite tasty—and so are the blossoms. One of the most popular squash blossoms are zucchini's bright yellow, long, bell-shaped flowers. These blossoms have a delicate, squash-like taste and a soft, velvety texture.

**Medicinal uses:** The yellow and orange colors of squash (and its blossoms) are due to the high content of carotenoids, which act as antioxidants and vitamin A precursors. While there are few studies on squash

blossoms themselves, other research shows zucchini is rich in vitamin A, vitamin C, manganese, potassium, and magnesium.

There's some evidence that zucchini has anti-cancer benefits as well.<sup>2</sup> It's also loaded with soluble and insoluble fiber, which aids in digestion, supports gut health, and helps with blood-sugar management.

**How to consume:** Squash blossoms can be eaten raw or sliced in fresh green salads. They can also be sautéed in herbed batter, or stuffed with herbed cheeses and baked until crispy.

And there you have it. Six edible, flavorful, healthful flowers to add to your garden—and to your plates! Indeed, my grandmother in France always kept little candied flowers in a bowl on the dining room table for ornamentation *and* consumption. I like to follow her lead and make flowering plants the centerpiece of my table—and my diet. 

## The simplest way to reduce stress, lower blood pressure, and ward off cancer—*naturally*

Spring is quickly approaching and you may be eager to make a trek to a nearby forest—especially if you've been hearing about a "new" trend called "forest bathing."

But like many natural healing concepts, forest bathing is simply an old idea that's been rediscovered in our modern, over-urbanized era. During the past two years, it's been featured in *Time* and *People* magazines, and in the *New York Times* and *USA Today*.

Perhaps the idea of "bathing" in the forest sounds a little risqué or "wild and crazy"—and that may be partially true. But dozens of studies show that forest bathing actually has remarkable health benefits.

In fact, it's a simple, effective way to lower your stress and blood pressure...and it may even help prevent cancer. Let's dive right in...

### What is forest bathing?

The concept behind forest bathing can be traced back to the mid-1800s, during Japan's Meiji Restoration period. But the Japanese "forest tradition," or nature worship, goes all the way back to the debut of Shintoism in 6<sup>th</sup> century Japan.

The Japanese call forest bathing *shinrin-yoku*, or "bathing yourself in the atmosphere of the forest."

In Europe and the United States, 19<sup>th</sup> century naturopathic physicians talked

about taking all kinds of "baths" in nature. Bathing in hot, cold, mineral, or bubbling waters was a foundation of many famous natural health spas in the old and new worlds. And so was forest bathing.

In essence, forest bathing consists of ambling through the forest, letting your body and your senses be your guide. The overall goal is to expose your body to the sun, air, and wind, savoring the sounds, smells, and sights of your surroundings. Some even enjoy naked forest bathing, assuming you're on private property.

Forest bathing is different from taking a "walk in the woods" (with apologies to author Bill Bryson). There's no

particular destination in mind, at least in terms of topography, geography, or physical space. In fact, you may walk or hike less than a mile per “bathing” session.

### A different twist on meditation

While focusing on the sensations of the forest naturally clears your mind and allows you to be present in the moment, forest bathing is not just another form of meditation. Instead, it's about connecting with Nature. Either alone, or with a group.

You might choose to close your eyes, turn your palms outward, and “feel” the forest all around you. Sometimes the forest air is silent, and you can consider the metaphysical concept of the “sounds of silence.” In a gentle snowfall, the silence is more profound, as the snowflakes absorb any sound waves that may be floating in the air.

You may also simply enjoy feeling the cool, crisp air, and then stepping back into the warmth of the sun filtering through the trees. Or you might lie on your back, watching the sun and clouds move above the tree canopy.

### The healthful aspects of forest bathing

If all of this sounds like it will lower your stress and boost your mood, you're absolutely right. But that's not all forest bathing can do for your health. In fact, Japanese and Chinese researchers have conducted a surprising amount of recent studies on forest bathing.

One 2017 review of 64 studies found that forest bathing can reduce stress and “technostress”—or burnout.<sup>1</sup> And a 2019 review and meta-analysis of 30 studies found that forest bathing can substantially reduce the stress biomarker cortisol on a short-term basis.<sup>2</sup>

Another 2017 review of 20 studies found that forest bathing significantly lowers blood pressure.<sup>3</sup> And a

2019 literature review reported that forest bathers had reduced anxiety, depression, anger, fatigue, and confusion—and increased vigor.

In fact, the review authors were so impressed by all of the health benefits of forest bathing that they suggested establishing “a new medical science called Forest Medicine.”<sup>4</sup>


Finally, several studies have found that forest bathing can increase the number of cancer-fighting white blood cells (known as “natural killer” or NK cells, discovered by my friend and colleague Dr. Jerry Thornthwaite).

In one study, Japanese adults spent three days and two nights in a forest. Their blood and urine samples were taken on the second and third day of the

trip, and then on days seven and 30.

The participants' NK cells were elevated at each blood measurement, leading the researchers to conclude that forest bathing just once a month can enable people to maintain a consistent level of higher NK activity—which helps them naturally fight cancer.

This NK increase is likely due to phytoncides, which are organic, antimicrobial fluids that boost the human immune system. Plants emit phytoncides, and forest bathing can expose you to them.

So if your health journey ends up taking you right through the forest... *embrace it.* After all, you may end up bolstering your health—and truly finding yourself. 

## How to take advantage of forest bathing

**Choose your forest.** Forest bathing should be done in an area without much traffic from other hikers. Find a small, local forest or a remote part of a big national park like the Everglades, Yellowstone, Grand Canyon, or one of my favorites—Adirondack Park in upstate New York.

**Be prepared.** Depending on the season, dress in layers (opt for “wicking” fabrics to carry away moisture). Wear comfortable walking shoes and a hat or visor to shade your face from harmful UV rays. But leave the rest of your skin as exposed as possible to help naturally generate vitamin D from the sun that gently filters through the trees.

Carry plenty of drinking water and insect spray made from natural plant oils, like citrus or eucalyptus. I also encourage you to take along some hot water in a thermos.

**Stop, look, and listen.** As you walk or rest, watch what's in motion—a breeze in the tree leaves, the swishing of cattails or tall grasses in a marsh, the tinkling of a creek, small forest animals running on the ground and through the trees, birds hopping around...

Identify the sounds of forest dwellers: the staccato of a pileated, red-headed

woodpecker, the high-frequency purring of a squirrel. But also note the extended intervals of silence and stillness.

**Smell the forest.** Note the aroma of the damp soil. Take in the fresh scent of evergreens. Look for berries on bushes and note the scents. Find moss on a tree (a sign of clean air in the forest) and lean in for an earthy whiff.

**Feel the forest.** Grab a handful of fresh and fallen leaves, pine needles, and cones. Touch the barks of trees and note the differences among common species like oak, aspen, maple, or pine.

If you find some white-brown curls of birch bark on the ground, pick it up—for something that looks so fine and delicate, it's quite sturdy.

**Taste the forest.** Gather some balsam, pine, wintergreen, or wood sorrel needles or leaves directly from the tree or plant. Pour out a cup of your hot water in a thermos, and let the ingredients gently infuse.

Then, strain out the plant material and take a sip. You'll find that your tea is naturally sweet, without any need for sugar or honey. And you'll be drinking in, as well as breathing in, all of the health benefits of the natural plant oils.