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MIND & BODY

We need to step outside ourselves and evaluate if we are allowing unhealthy habits to take root in our lives.



A Loving Nudge Toward Healthier Habits

The pandemic has led us to overeat, over-drink, and over-watch, but we can change that **3**



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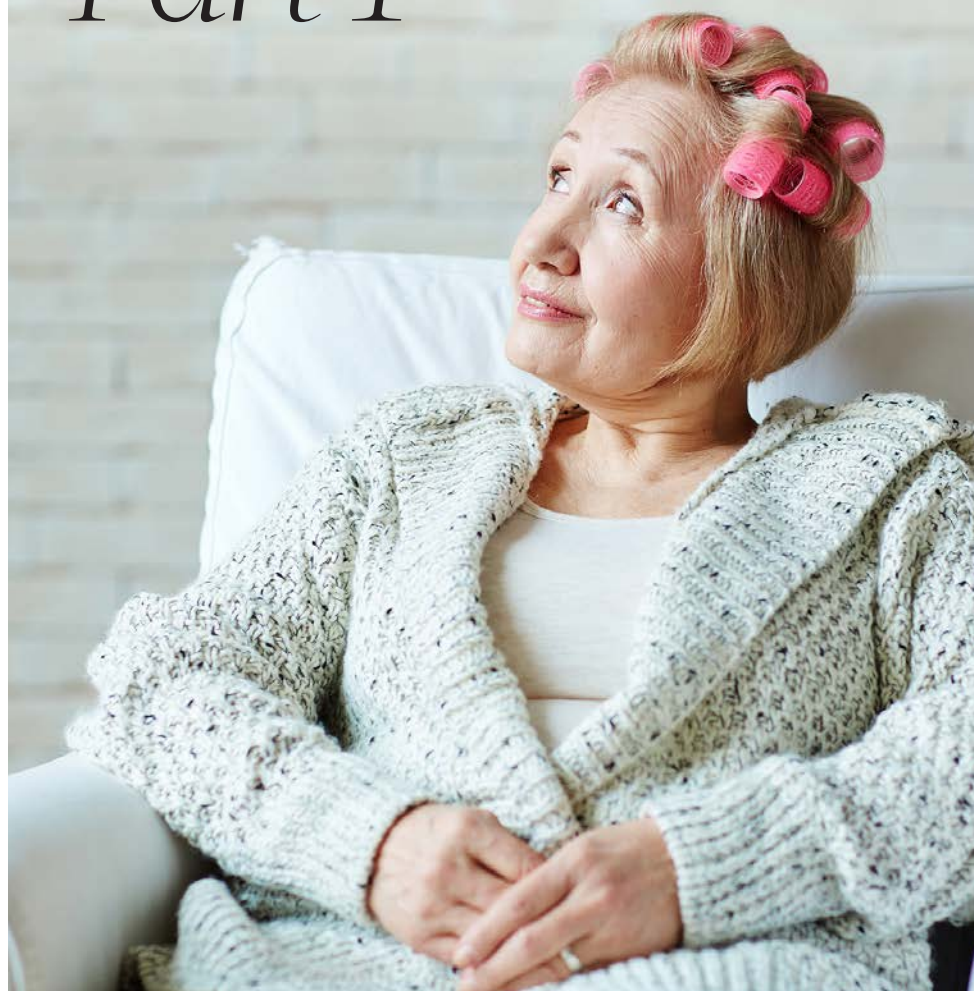
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POSITIVE AGING

Vanity Isn't Just for the Young: Part 1



Cosmetic surgery is on the rise among seniors hoping to look as young as they feel

MARILYN MURRAY WILLISON

There are plenty of cynical and clueless amateur social theorists who believe that after a certain age seniors no longer pay attention to or are invested in their appearance.

According to these out-of-touch observers (maybe they're millennials), the middle-aged and elderly actively avoid gazing in mirrors. Instead, they prefer to focus their time and energy on larger social and political issues like pollution, debt, terrorism, and racial strife.

But all you have to do is investigate the current statistics, which show a dramatic increase in cosmetic surgery for those of us in our golden years, to quickly understand that vanity will always be with us, no matter how old we are.

Did you know that the number of plastic surgery procedures has consistently grown for septuagenarian, octogenarian, and even nonagenarian patients? According to many doctors, this "down-aging" trend is currently in full swing and sure to grow as more and more baby boomers turn 65.

One of the things that motivates them to undergo cosmetic surgery is the desire to look as young as they feel. While cosmetic procedures used to be considered "too risky" for seniors, plastic surgeons' rosters of elderly patients have increased dramatically.

There's no doubt that older Americans in particular have become more and more anxious to look their best. Additionally, this is a growing demographic of people that have the financial resources to fix things they don't like.

New York Times writer Abby Ellin explored the trend of vanity and senior cosmetic procedures in a 2011 article aptly titled "The Golden Years, Polished With Surgery." One of her discoveries was that the nip-and-tuck movement among the elderly is definitely not gender-specific. Dr. Jacob Steiger, a Boca Raton, Florida, facial plastic surgeon, performed an eyelift and neck lift on Gilbert Meyer, a retired film producer, who only revealed his age as "over 75." When asked why he was undergoing the procedure, he responded: "I was looking at myself in the mirror and didn't like what I was starting to see and did something about it. Why not look as good as you can when you can?"

In 2014, the cosmetic surgery industry was worth \$11 billion, which is a clear indication of how reluctant we all are to show our age. And in South Florida, where I have lived for the past 25 years, plastic surgeons report that procedures performed on "post-retirement patients" account for about 20 percent

of their total workload. According to a variety of experienced plastic surgeons, it's important for older patients to take into account their preexisting medical conditions and prescribed medications when considering a cosmetic procedure. And perhaps the biggest caveat of all is the need for them to remember that the older they are, the longer the healing process will be.

Not surprisingly, I know a number of men and women in their 70s and 80s who have enthusiastically embraced the benefits of cosmetic surgery. On my street alone, one male neighbor had his upper and lower eyelids "fixed" at 83, and a 76-year-old former New Yorker, who used to work in the fashion industry, recently underwent her second full facelift. She had gotten her first one 20 years earlier and had recently noticed "a lot of sagging skin," so she decided to do something about it. They are both delighted with their "new and improved" faces.

Cosmetic procedures used to be considered 'too risky' for seniors, but those days are long gone.

I have been hearing cosmetic-procedure confessions from seniors on a regular and almost predictable basis. The fact that these retirees are willing to endure discomfort and possible complications and happily bid adieu to a chunk of cash has convinced me that, where I live at least, cosmetic surgery for seniors is considered well worth it.

Whatever their age, my wish for them is that they find and use whatever it takes—mentally, physically or surgically—to look and feel forever young.

Marilyn Murray Willison has had a varied career as a six-time nonfiction author, columnist, motivational speaker, and journalist in both the U.K. and the U.S. She is the author of "The Self-Empowered Woman" blog and the award-winning memoir "One Woman, Four Decades, Eight Wishes." She can be reached at MarilynWillison.com. To find out more about Marilyn and read her past columns, please visit the Creators Syndicate webpage at Creators.com. Copyright 2020 Creators.com

A Loving Nudge Toward Healthier Habits

The pandemic has led us to overeat, overdrink, and over-watch, but we can change that

JOSHUA BECKER

I'm noticing an important trend, at least in America—an increase of unhealthy habits during this pandemic crisis. For example:

- Television viewing has increased to 14 hours/week on average (up almost 30 percent).
- Americans spend twice as much money online shopping since the pandemic began.
- For 8 consecutive weeks, beer sales have topped \$1B—the highest ever.
- Cigarette smoking has made a comeback during the pandemic.
- Video game usage has increased 50 percent.
- Unhealthy sleep patterns have emerged for 67 percent of Americans.
- And 76 percent of Americans have gained weight from mid-March—up to 16 pounds so far.

Catherine Price, author of "How to Break Up With Your Phone," and contributor to Simplify Magazine, made an important observation in a recent interview on Freedom.to.

Speaking about the current pandemic, she said, "It's hard to focus when your anxiety is high—and this is a time of high anxiety. Physiologically speaking, this stress has on our brains—namely, the part of our brain that is responsible for rational decision-making tends to be less active when we are stressed out (it sort of hides under a rock), leaving us less able to resist our impulses (for example, to check the news again and again and again when we are supposed to be working)."

Catherine was speaking, in this context, about why it's hard to focus during times of high anxiety. But the connection can also be made to healthy habits, which typically require focus and intentionality.

I've learned that when we're not intentional with our time and focus, unhealthy habits emerge. In fact, I've seen them emerge in my own life over the last several months.

This is a period of high anxiety for all of us. As a result, unhealthy habits are beginning to emerge and take root in our lives. It's wise for us to notice that and begin nudging ourselves toward healthier ones.

How then, do we keep healthy habits part of our lives? Especially as the anxiety continues to loom.

How to Keep Healthy Habits Active

Remember that your life is valuable. The crisis that surrounds us, at times, reminds us of our smallness—there is little that most of us can do to stop the anxiety on a global scale.

However, that should not detract from the inherent value of your individual life. You are unique and special and bring a joy into the world that only you can bring.

To help overcome anxiety and regain rational decision-making, control what you can.

Remind yourself how important you are to the people around you and allow that fact to motivate you to make the most of every day and every hour.

Count every day precious.

The days for you may be long or short, extra busy or extra lonely. Or maybe they all run together so that you hardly remember what day of the week it is.

Regardless, every day is still precious. Every sunrise is a gift and opportunity to make the most of your day ahead. Remind yourself to not waste any of them.

Be firm with yourself.

Do take note, on regular occasion, how you're going to be responsible with your days and energy and focus.

At some point, we need to step outside ourselves and evaluate if we are allowing unhealthy habits to take root in our lives. If so, we must be firm with ourselves in identifying those unhealthy habits and committing to be intentional in removing them.

Be patient with yourself.

The times, indeed, are new. And as Catherine points out above, there are

Every sunrise is a gift and opportunity to make the most of your day ahead.



very real physiological changes taking place in our body because of the increased stress levels. So it's smart to be patient with ourselves as we seek to remove any unhealthy habits that have emerged in our lives.

Embrace a 3-item to-do list for healthy habits.

I discovered the 3-Item To-Do List several years ago and have loved it ever since. In a workplace, the 3-item to-do list seeks to recognize the 3 most important tasks to complete each day. The 3 tasks, when completed, allow you to feel accomplished about your day.

In the same way, trending toward healthy habits can be encouraged by applying the 3-item to-do list approach. What are the three actions (or non-actions) you most want to incorporate into your day?

For example: 1) Read 30 minutes; 2) Call one friend; 3) Eat two servings of vegetables. Three items, three habits, to incorporate each day to keep your life trending toward healthy habits.

I recommend a daily routine that includes a physical habit (exercise), a mental habit (reading, mind puzzles), and a social habit.

Look for opportunities to control what you can.

When the world feels out of control is when it is most important to take back control wherever you can.

You have little control over a virus outbreak on the other side of the world, but you do have control over what time you go to bed, what time you wake up, and whether you take a shower in the morning.

To help overcome anxiety and regain rational decision-making, control what you can. You may discover that it's more than you think.

Ask for help.

Community and accountability are important, especially in a time of increased isolation. Many of your friends are struggling to keep healthy habits as well, so include them in your nudge.

Challenge your friend to exercise when you do, become your pen pal, or trade some healthy recipe ideas. When you share your journey and plans with others, you become more accountable to accomplish those plans. You end up encouraging others to live their best life too.

I am noticing in my life, the longer the abnormal nature of life persists, the more difficult it is to stay healthy and focused on my habits.

However, despite the pandemic, tomorrow is no less valuable than a day last year. And your one life is no less important to the world than it was before. So keep living your best.

Consider this just a loving nudge toward healthy habits in your life.

Joshua Becker is an author, public speaker and the founder and editor of "Becoming Minimalist" where he inspires others to live more by owning less. Visit BecomingMinimalist.com

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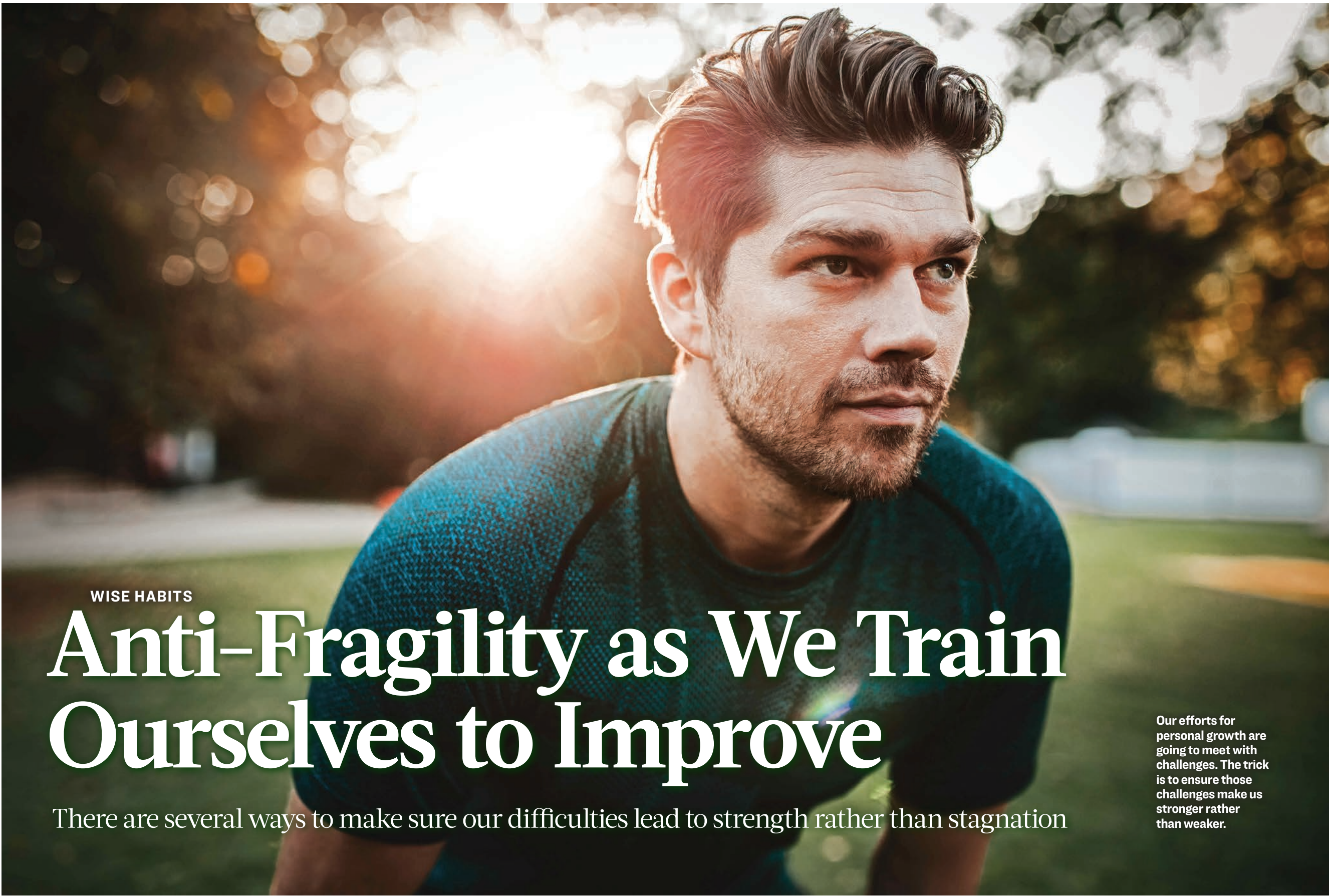


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HOW THE SPECTER OF COMMUNISM IS RULING OUR WORLD

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Our efforts for personal growth are going to meet with challenges. The trick is to ensure those challenges make us stronger rather than weaker.

WISE HABITS

Anti-Fragility as We Train Ourselves to Improve

There are several ways to make sure our difficulties lead to strength rather than stagnation

LEO BABAUTA

As I've been diving into my Fearless Mastery mastermind program, with some of the most amazing people, I've been introducing some key ideas for training ourselves.

These are ideas I've been developing in my Sea Change and Fearless Training programs, as I've trained thousands of people to shift their habits as well as the patterns that get in the way of our meaningful work.

Here's the problem when we try to train ourselves to change:

1. We set out to do something regularly—exercise, meditate, write, create something, etc.
2. We fail at it.
3. Then we fall apart. We might beat ourselves up, get discouraged, and give up.

This is a fragile, non-resilient approach. Maybe we try this half a dozen times, and eventually, we think something is wrong with us.

There's nothing wrong with us. The problem is with the fragile approach of falling apart when we fail.

Instead, I've been training people with the idea of anti-fragility built into our training system.

Anti-Fragility, in Short

The idea of anti-fragility comes from Nassim Nicholas Taleb's book "Black Swan". The basic idea is that many human-made systems are fragile. Something comes to stress the system, and it falls apart. Some systems are robust or resilient, which is much better than fragile.

But even better is the idea of being anti-fragile: stress makes the system stronger. Human systems are anti-fragile—when we exercise, we're stressing the system, and after we recover, we're stronger and better able to handle that stress. Bones get denser with impact. Lots of natural systems have anti-fragile mechanisms built-in.

We can make human-made systems more anti-fragile by designing ways that stress will make the system better able to handle stress. Failure helps the system get stronger. Let's look at how to apply this idea into our training—any kind of learning, habit formation, physical or mental training, anything where we're trying to improve something.

Key Ideas for Anti-Fragility

Before we get into specifics for training systems, let's look at some key ideas I've found to be useful:

1. Expect stress, failures, crashes.
2. Design the training system to not only be resilient but to get stronger with stresses and failure.
3. Remove fragility from the system. Examples: smoking, debt, having too many possessions, or being super hurt or mad when you meet with criticism or failure.
4. Take small risks often; small experiments designed to help us learn from failure. Example: Every day, I try to get better at doing hard work, with each day being a mini-experiment. I fail often, which means I learn often.
5. Embrace uncertainty, risk, failure, discomfort. These become things to help you grow, rather than things to be avoided, complained about, or collapsed over. Embrace variability, noise, tension.
6. The attitude is to always learn and get better from failure. Don't bemoan it, embrace it and learn, improve, and grow stronger. Love error. When your system gets stressed, how will it respond in order to get stronger?
7. Intentionally inject stress into your life—do sprints, lift heavy weights, fast, take cold showers, take on challenges, experiments, and adventures.

Now let's apply this to our training systems.

The problem is with the fragile approach of falling apart when we fail.

Anti-Fragile Training Systems

Some ideas to use in training:

Do small experiments designed to help you learn from failure.

Small is good. Big and bulky leads to failure when big stressors happen. Instead, small means you're lean, easily adaptable and can shift easily. For training, this will mainly apply to how we practice—we can intentionally do small experiments, small training sessions, instead of massive projects or very long sessions. Experiment with small exercise sessions, limited changes to diet, or short bursts of activity in a project you've been procrastinating on.

Adopt the attitude of embracing uncertainty, risk, failure, and discomfort.

Instead of being afraid of these and avoiding them, push into them and get better

and better at dealing with them each time. In this way, every failure, every moment of uncertainty or discomfort becomes a wonderful opportunity to practice and get better. This turns these difficult moments into something to celebrate.

Do weekly reviews—use them to learn, adjust, and continually improve.

Each daily experiment should be logged—how did you do that day, what went well, what got in the way, and what can you learn and adjust going forward? Then take a little time to review each week, and use the data to learn and adjust. This is the kind of structure we need to use the stress in our lives to grow.

Use accountability and support.

Report every day or every week to people so that they can support you, hold your feet to the fire, and help you see your patterns that are getting in the way. Reporting to other people helps us to learn from our mistakes and failures. Having a group support you also gives you a net that you can fall back on when you fall, so that you don't have to completely collapse.

Build in redundancy.

If you have a single point of failure, it's easy to collapse when things go wrong. For training, I recommend having multiple ways to be held accountable, multiple reminders and check-ins/reviews. These might seem a little tedious until we realize they are making us more likely to stick to our training.

Reduce things that make you more fragile.

Smoking makes you more fragile, as does unhealthy eating. What makes our training more fragile? Complaining, resentment, and similar negative thinking habits. While we might not be able to avoid these completely, we're going to try to reduce them, to improve our overall resilience and anti-fragility.

Intentionally inject stress into your life.

We don't want to constantly seek comfort because it trains us to be fragile. But too much stress and pain can destroy us with burnout and depression. So we want to give ourselves just enough stress that we can handle and grow from it. Regularly. So training ourselves to accept uncertainty and discomfort regularly, when we have the capacity to handle it, can help us grow. Stress, recover, grow.

Be kind to yourself—but overcome your tendencies.

Beating yourself up doesn't help. It only makes you more fragile. It is tremendously helpful to learn to be compassionate with yourself. That said, it's easy to let yourself off the hook. So it helps to bind yourself, when you're in your best frame of mind, in a commitment contract. Tell people, "If I don't meditate every day this week, I owe you \$100." Or something like that; it doesn't have to be money. Don't let yourself make the training or challenge easier for anything in the coming week—you can only change your training for days that are further than a week.

See opportunities in everything.

It's an anti-fragile idea to take advantage of opportunities. When good opportunities arise, be able to take advantage of them. For training, it's good to learn to see opportunities to practice in everything, and then take advantage of those practice opportunities as much as we can.

Questions to Ask Ourselves

With those things built into the system, it's good to ask ourselves questions such as:

1. What are the things that are making me (or my business) fragile? Some examples might be smoking, unhealthy foods, negative thinking, inability to receive feedback, too much debt, too many possessions, etc.
2. What is mission-critical that would cause me to fail if it failed? How can I create redundancy there. Do I have two of an essential item or safeguard? Can I create a Plan A, B, and C?
3. What kind of support network can I create (or do I have) that can help me recover quickly when a stressful event or failure happens?
4. How can I optimize for the worst-case instead of the best? How can I support my effort to resist seeking comfort all the time?
5. How can I see an opportunity in every difficulty?

I highly encourage you to build these ideas into whatever training and self-improvement efforts you're taking on.

And I strongly encourage you to check out my Sea Change and Fearless Training programs, and of course, the Fearless Mastery mastermind when it opens up again.

Leo Babauta is the author of six books, the writer of "Zen Habits," a blog with over 2 million subscribers, and the creator of several online programs to help you master your habits. Visit ZenHabits.net

JACOB LUND/SHUTTERSTOCK

TRADITIONAL CHINESE MEDICINE

What's Really Causing Your Fatigue?

A look at patterns of fatigue according to Chinese medicine

LYNN JAFFEE

During this time of pandemic-induced hunkering down, I find myself feeling tired despite having not done much all day. My friends tell me the same thing is happening to them. Like Newton's law that a body in motion stays in motion, and a body in rest stays at rest, it seems like the less I do, the more I want to nap. I realize that this faux fatigue is just the byproduct of staying at home, a recent surgery for a broken arm, and getting used to life at a different pace.

Real fatigue however can affect the quality of your life, and may manifest in a number of different ways. Some people are so completely exhausted that they have difficulty getting through their day. Others manage to get things done, but struggle with motivation—it all just seems so hard. Many people are tired only at certain times—late in the day, after eating, or mid-afternoon.

In western medicine, fatigue can be caused by anemia, thyroid issues, blood sugar problems, or the Epstein Barr virus that causes chronic fatigue syndrome. In addition, fatigue can be the side effect of certain medications. However, after those diagnoses have been ruled out, a Western doctor may have a hard time getting to the bottom of why you're so tired.

In Chinese medicine however, there are many patterns that are associated with some element of fatigue, and the nature of your fatigue is often a clue to its source. In general, fatigue is caused by either a depletion of some body substance (Energy, Blood, Yin, or Yang) or there is some kind of blockage or impaired flow.

Here are some common patterns in Chinese medicine that can be a source of fatigue:

Energy (Qi) Depletion. Energy, called Qi, powers your body and comes from the food you eat and the air you breathe. This kind of fatigue can arise if you're not eating well, have funky digestion, or suffer from lung issues. If your digestion is poor, you may feel tired right after meals, because your body is diverting all your energy into digesting what you've eaten. You may also feel exhausted or short of breath after any kind of exertion, but feel better after resting.

Blood Depletion. This pattern is a little like being anemic, and can be brought on by a loss of blood, a chronic illness, or poor diet. It's a common problem among people who have had surgery recently and new mothers. The fatigue associated with this pattern is also worse with any kind of activity or exertion. Sufferers may appear pale and experience eye problems, dizziness, or feeling light-headed, and have dry skin, hair, or nails.

Yang Depletion. In your body, yang is energy that works a little bit like a pilot light, which warms everything up and keeps things moving. People with depleted yang feel a deep and disabling fatigue; and some can't even get out



Fatigue can be a complex condition with different causes and cures.

of bed. Because their pilot light is low, yang deficient people also feel cold at their core, especially in the winter, have a hard time warming up, and may retain water. Fatigue associated with this pattern is aggravated by any kind of activity. This is a common pattern for people with hypothyroidism.

Yin Depletion. This is a pattern frequently seen in the clinic, especially among women going through menopause. In contrast to yang's pilot light, yin acts like a nourishing coolant, keeping your body moist and keeping the warmth of yang in check. Yin depletion is kind of an odd pattern in that sufferers may feel fatigued, yet feel jittery at the same time. It is associated with symptoms such as night sweats, waking or restless sleep, dry skin, and a dry or sore throat on waking. Often symptoms are worse with overwork and stress.

Liver Energy Stagnation. This pattern is considered both a blockage and a depletion. Your Chinese liver is responsible for the smooth flow of everything in your body. However when there is a blockage of the liver, your digestion usually is also affected. The result is that your ability to convert food into energy is hampered. The fatigue you feel with this pattern is intermittent, you may feel tired in the morning, and actually feel a little better with movement or as the day goes on. Symptoms are usually aggravated by stress or emotional upsets, and can cause PMS. Many people with liver stagnation would describe themselves as irritable or depressed. This pattern is likely on the upswing during the COVID-19 pandemic, as it's usually a psychological response to things not going well in your job, relationships, finances, or life.

Accumulation of Phlegm or Dampness. OK,

this sounds really gross, but it's a pattern that I have frequently seen in the clinic. Dampness occurs when your body doesn't metabolize fluids or moisture very well. It's a little bit like a farmer's field that doesn't drain after a heavy rain, where the water sits around and becomes muddy. When dampness sits around for a while in your body, it congeals and becomes phlegm. People who have phlegm and dampness feel heavy or weighed down. They also tend to have poor digestion or are overweight. They may also have visible phlegm, like sinus problems, a chronic cough, or asthma.

Pain. Chronic pain can really wipe you out. This is also a pattern of both blockage and depletion. Basically, pain acts like a dam in your body, in which the pain is blocking your overall circulation, movement, and flow of energy. Because your energy is caught up in the stagnation, you feel tired. Also, dealing with the pain psychologically wipes out your energy.

Over time, the pain may become secondary to the fatigue it has caused.

While there are a number of underlying causes of fatigue, the good news is that you don't have to go through life tired. Fatigue associated with any of the patterns above can be treated effectively within the framework of Chinese medicine. A practitioner can create a plan for you based on your specific pattern and needs. Treatments for fatigue may include acupuncture sessions, an herbal formula, food therapy, and other healing methods to help you regain your vitality.

Lynn Jaffee is a licensed acupuncturist and the author of "Simple Steps: The Chinese Way to Better Health." This article was originally published on AcupunctureTwinCities.com

Human systems are anti-fragile—when we exercise, we're stressing the system, and after we recover, we're stronger and better able to handle that stress.

Eating More Plants and Less Meat Lowers Blood Pressure, Study Finds

Changing to a complete vegetarian diet isn't necessary to heart health benefits, discover researchers

MAT LECOMPTÉ

New research finds that a plant-based diet can lower blood pressure even if small amounts of meat and dairy are also consumed. The study from the University of Warwick suggests that any effort to eat more plant-based foods can benefit blood pressure and reduce the risk of heart attacks.

Researchers reviewed 41 studies involving 8,416 participants, which included the effects of seven different plant-based diets on blood pressure. These included the DASH diet, Mediterranean, Vegetarian, Vegan, Nordic, high fiber, and high fruit and vegetables. The clinical trials offered a systematic review which concluded that most of these diets were able to reduce blood pressure. Overall, the DASH diet had the most significant effect, lowering blood pressure by 5.53/3.79 mmHg compared to a control diet,

and by 8.74/6.05 mmHg when compared to a "usual" diet.

Lead author Joshua Gibbs said, "A blood pressure reduction of the scale caused by higher consumption of plant-based diets, even with limited animal products would result in a 14 percent reduction in strokes, a 9 percent reduction in heart attacks and a 7 percent reduction in overall mortality." "This is a significant finding as it highlights that complete eradication of animal products is not necessary to produce reductions and improvements in blood pressure. Essentially, any shift towards a plant-based diet is a good one."

Researchers noted that the adoption of a plant-based diet could not only improve health but could also play a role in global food sustainability and security. If more people ate more plant-based foods and less meat, it would reduce land use for food production, reduce

global greenhouse gas emissions, and contribute to global water conservation.

The Leading Risk Factor

Hypertension, or high blood pressure, is a common condition in which the long-term force of the blood against the artery walls is high enough to eventually cause health problems, such as heart disease. It is currently the leading risk factor for heart attacks, strokes, and other cardiovascular diseases. An unhealthy diet can contribute to high blood pressure and is responsible for more deaths and disabilities globally than tobacco use, high alcohol intake, and drug use put together.

This study helps to outline the health benefits of following a plant-based diet. A plant-based diet is based around the consumption of fruits, vegetables, whole grains, legumes, nuts, and seeds and lim-



Researchers have found that eating more plants and less meat confers significant heart health benefits.

its the consumption of most or all animal products including meat and dairy. Previous research has shown that increased consumption of whole grains, vegetables, nuts and seeds, and fruit could avert up to 4.9 million deaths globally respectively every year.

Vegetarian and vegan diets with a complete absence of animal products have previously been shown to lower blood pressure compared to omnivorous diets. However, until now, it has not been known whether a complete

absence of animal products is necessary for plant-based dietary patterns to gain a significant beneficial effect on blood pressure.

Overall, researchers suggest following a plant-based diet with small amounts of animal products. This can offer maximum health benefits and help to lower the risk of high blood pressure.

Mat Lecompté is a freelance health and wellness journalist. This article was first published on Bel Marra Health.

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FOOD AS MEDICINE

The Spice That Protects Your Brain From Too Much Fluoride

New research adds to over 200 peer-reviewed studies of curcumin's neuroprotective ability

Fluoride is found everywhere today, from antibiotics to drinking water, nonstick pans to toothpaste, making exposure inevitable. Fluoride's neurotoxicity has been the subject of academic debate for decades, and now a matter of increasingly impassioned controversy among the general public, as well.

Fluoride has been the subject of "conspiracy theories" about it being first used in drinking water in Russian and Nazi concentration camps to chemically lobotomize captives, as well as actual research that discovered its now well-known IQ lowering properties. Fluoride also exacerbates the calcification of the pineal gland—the traditional "seat of the soul"—raising concerns about other less-understood side effects. The controversy surrounding this ubiquitous toxicant has many people around the world, and increasingly in the heavily fluoridated regions of the United States, organizing at the local and statewide level to get fluoride removed from municipal drinking water.

A compelling study was published in the Pharmacognosy Magazine titled, "Curcumin attenuates neurotoxicity induced by fluoride: An in vivo evidence." The study adds experimental support to the suspicion that fluoride is indeed a brain-damaging substance, also revealing that a natural agent derived from turmeric can protect against health effects associated with this compound is available.

The study was authored by researchers from the Department of Zoology, University College of Science, M.L. Sukhadia University, Udaipur, India, who have spent the past decade investigating the mechanisms through which fluoride induces severe neurodegenerative changes in the mammalian brain, particularly in cells of the hippocampus and cerebral cortex.

While the study focuses on negative effects of fluoride, it

also cites evidence from other studies that point to benefits of fluoride use in appropriate amounts, including benefits for teeth and bones. To achieve these benefits, it is important fluoride isn't over-ingested. Otherwise it can damage teeth and make bones more brittle.

The current study focused on fluoride-induced neurotoxicity and a process that leads to neuron death called excitotoxicity, which happens when overactive neurotransmitters damage or neurons (brain cells). The study identifies excitotoxicity and oxidative stress as the two main drivers of neurodegeneration, or the damage and death of our neurons.

From the perspective of the primary research alone, there are more than 200 peer-reviewed published studies indicating that curcumin is a neuroprotective agent.

People with the condition known as fluorosis, a mottling of tooth enamel caused by excessive exposure to fluoride during tooth development, have been found to also have neurodegenerative changes associated with a form of oxidative stress known as lipid peroxidation (rancidity). Lipids are one of the main components of cells. Lipid peroxidation is oxidative damage. It happens when free radicals take electrons from certain lipids called phospholipids that make up cell membranes. This process damages the cell.

Excess lipid peroxidation in the brain can lead to a decrease in total brain phospholipid content. Owing to these well-known mechanisms of fluoride-associated neurotoxicity and neurodegeneration, the researchers identified the primary polyphenol in the spice turmeric—known as curcumin—as an ideal agent worth testing as a neuroprotective substance. In short, they wanted to know if curcumin could protect our brains from damage that happens due to excessive levels of fluoride.

Previous research on curcumin indicates that it is capable of acting as an antioxidant in three distinct ways by protecting against 1) singlet oxygen, 2) hydroxyl radicals, and 3) superoxide radical damage. Also, curcumin appears to raise endogenous glutathione production in the brain, a major antioxidant defense system.

In order to assess the neurotoxic effects of fluoride and prove curcumin's protective role against it, researchers randomly divided up mice into four groups for 30 days:

1. Control (no fluoride).
2. Fluoride (120 ppm): fluoride was given in distilled water drinking water without restriction.
3. Fluoride (120 ppm/30 mg/kg body weight) plus Curcumin: Oral dose of curcumin dissolved in olive oil along with fluoride in drinking water.
4. Curcumin: (30 mg/kg body weight).

In order to ascertain the effect of treatment, the researchers measured the malondialdehyde (MDA) content in the brains of the different treated mice. MDA is a well-known marker of oxidative stress/damage. As was expected, the fluoride (F) only treatment group showed significantly elevated MDA levels vs. the non-fluoride treated control. The fluoride plus curcumin group saw reduced MDA levels versus the fluoride-only group, demonstrating curcumin's neuroprotective activity against fluoride associated neurotoxicity.

The researchers concluded, "Our study thus demonstrate that daily single dose of 120 ppm fluoride resulted in highly significant increases in the LPO [lipid peroxidation, i.e. brain rancidity] as well as neurodegenerative changes in neuron cell bodies of selected hippocampal regions. Supplementation with curcumin significantly reduced the toxic effect of fluoride to near normal level by augmenting the antioxidant defense through its scavenging property and provides evidence of having a therapeutic role against oxidative stress mediated neurodegeneration."

Discussion

This is far from the first study to demonstrate curcumin's remarkable brain-saving properties. From the perspective of the primary research alone, there are more than 200 peer-reviewed published studies indicating that curcumin is a neuroprotective agent. On GreenMedInfo's turmeric database there are 115 articles proving turmeric protects the brain. There are also two featured studies on turmeric's ability to protect and restore the brain: How Turmeric Can Save the Aging Brain From Dementia and Premature Death, and Turmeric Produces 'Remarkable' Recovery in Alzheimer's Patients.

Considering the many chemical insults we face on a daily basis in the post-industrial world, turmeric may very well be the world's most important herb, with more than 800 evidence-based health applications. Visit GreenMedInfo's Turmeric Research database—the world's largest, open access turmeric resource of its kind—to view the first hand published research on the topic.

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COVID-19

America's Obesity Epidemic Threatens Effectiveness of Any COVID Vaccine

Fat tissue seems to affect the immune system in multiple ways, including triggering ongoing, low-grade inflammation

SARAH VARNEY

In the United States, where at least 4.6 million people have been infected and nearly 155,000 have died, the promise of a vaccine is hampered by a vexing epidemic that long preceded COVID-19: obesity.

Scientists know that vaccines engineered to protect the public from influenza, hepatitis B, tetanus and rabies can be less effective in obese adults than in the general population, leaving them more vulnerable to infection and illness. There is little reason to believe, obesity researchers say, that COVID-19 vaccines will be any different.

"Will we have a COVID vaccine next year tailored to the obese? No way," said Raz Shaikh, an associate professor of nutrition at the University of North Carolina-Chapel Hill.

More than 107 million American adults are obese, and their ability to return safely to work, care for their families, and resume daily life could be curtailed if they are relying on a coronavirus vaccine that delivers weak immunity for them.

In March, still early in the global pandemic, a little-noticed study from China found that heavier Chinese patients afflicted with COVID-19 were more likely to die than leaner ones, suggesting a perilous future awaited the U.S., whose population is among the heaviest in the world.

And then that future arrived. As intensive care units in New York, New Jersey and elsewhere filled with patients, the federal Centers for Disease Control and Prevention warned that obese people with a body mass index of 40 or more—known as morbid obesity or about 100 pounds overweight—were among the groups at highest risk of becoming severely ill with COVID-19. About 9 percent of American adults are in that category.

As weeks passed and a clearer picture of who was being hospitalized came into focus, federal health officials expanded their warning to include people with a body mass index of 30 or more. That vastly expanded the ranks of those considered vulnerable to the most severe cases of infection, to 42.4 percent of American adults.

Scientists know that vaccines can be less effective in obese adults than in the general population.

Obesity has long been known to be a significant risk factor for death from cardiovascular disease and cancer. But scientists in the emerging field of immunometabolism are finding obesity also interferes with the body's immune response, putting obese people at greater risk of infection from pathogens such as influenza and the novel coronavirus. In the case of influenza, obesity has emerged as a factor making it more difficult to vaccinate adults against infection. The question is whether that will hold true for COVID-19.

A healthy immune system turns inflammation on and off as needed, calling on white blood cells and sending out proteins to fight infection. Vaccines harness that inflammatory response. But blood tests show that obese people and people with related metabolic risk factors such as high blood pressure and elevated blood sugar levels experience a state of chronic mild inflammation; the inflammation turns on and stays on.

Adipose tissue—or fat—in the belly,

the liver and other organs is not inert; it contains specialized cells that send out molecules, like the hormone leptin, that scientists suspect induces this chronic state of inflammation. While the exact biological mechanisms are still being investigated, chronic inflammation seems to interfere with the immune response to vaccines, possibly subjecting obese people to preventable illnesses even after vaccination.

An effective vaccine fuels a controlled burn inside the body, searing into cellular memory a mock invasion that never truly happened. Evidence that obese people have a blunted response to common vaccines was first observed in 1985 when obese hospital employees who received the hepatitis B vaccine showed a significant decline in protection 11 months later that was not observed in non-obese employees. The finding was replicated in a follow-up study that used longer needles to ensure the vaccine was injected into muscle and not fat.

Researchers found similar problems with the hepatitis A vaccine, and other studies have found significant declines in the antibody protection induced by tetanus and rabies vaccines in obese people.

"Obesity is a serious global problem, and the suboptimal vaccine-induced immune responses observed in the obese population cannot be ignored," pleaded researchers from the Mayo Clinic's Vaccine Research Group in a 2015 study published in the journal *Vaccine*.

Vaccines also are known to be less effective in older adults, which is why those 65 and older receive a supercharged annual influenza vaccine that contains far more flu virus antigens to help juice up their immune response.

By contrast, the diminished protection of the obese population—

Adipose tissue—or fat—contains specialized cells that send out molecules, like the hormone leptin, that scientists suspect induces chronic inflammation.



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both adults and children—has been largely ignored.

"I'm not entirely sure why vaccine efficacy in this population hasn't been more well reported," said Catherine Andersen, an assistant professor of biology at Fairfield University who studies obesity and metabolic diseases. "It's a missed opportunity for greater public health intervention."

In 2017, scientists at UNC-Chapel Hill provided a critical clue about the limitations of the influenza vaccine. In a paper published in the *International Journal of Obesity*, they showed for the first time that vaccinated obese adults were twice as likely as adults of a healthy weight to develop influenza or flu-like illness.

Curiously, they found that adults with obesity did produce a protective level of antibodies to the influenza vaccine, but they still responded poorly.

"That was the mystery," said Chad Pettit, an influenza virologist at the University of Alabama.

One hypothesis, Pettit said, is that obesity may trigger a metabolic dysregulation of T cells, white blood cells critical to the immune response. "It's not insurmountable," said Pettit, who is researching CO-

VID-19 in obese patients. "We can design better vaccines that might overcome this discrepancy."

Historically, people with high BMIs often have been excluded from drug trials because they frequently have related chronic conditions that might mask the results. The clinical trials underway to test the safety and efficacy of a coronavirus vaccine do not have a BMI exclusion and will include people with obesity, said Dr. Larry Corey, of the Fred Hutchinson Cancer Research Center, who is overseeing the phase 3 trials sponsored by the National Institutes of Health.

Although trial coordinators are not specifically focused on obesity as a potential complication, Corey said, participants' BMI will be documented and results evaluated.

Sarah Varney is a senior correspondent for Kaiser Health News, which first published this article. KHN's coverage of these topics is supported by John A. Hartford Foundation, Gordon and Betty Moore Foundation, and The SCAN Foundation. KHN is a national health policy news service. It is an editorially independent program of the Henry J. Kaiser Family Foundation which is not affiliated with Kaiser Permanente.

COVID-19

Open Windows to Help Stop the Spread of COVID-19, Advises Architectural Engineer

Natural ventilation offers a pleasant way to increase the efficiency and safety of buildings for now and the future

SUSAN ROAF

Over 200 scientists, including myself, signed a letter that was published in the journal *Clinical Infectious Diseases* on July 6, 2020, saying that COVID is not only spread by touch and droplets sprayed from the mouth and nose but, importantly, via a third route too.

The third infection pathway is in very tiny airborne particles of liquid and material, known as aerosols, that stay suspended in the air for a long time. If the virus attaches to these tiny particles, it can float on the air and spread much further. An effective way to reduce this spread is to purge the air containing those aerosols from rooms by simply opening the windows, as shown below.

By opening a window to let the virus escape, the amount of virus particles in a room can be reduced, leading to a lower risk of infection.

Building designers have been cheated by not being taught how to ventilate buildings naturally.



SEVASAVES/SHUTTERSTOCK

Three days after our letter was published in *Clinical Infectious Diseases*, the World Health Organization admitted that aerosol transmission can't be ruled out, given the growing evidence of disease spread in poorly ventilated venues such as restaurants, nightclubs and places of worship.

Aerosol spread was shown in late January in Guangzhou, China, where ten people fell ill with the novel coronavirus after eating lunch in a fifth-floor restaurant without windows. The virus had probably been spread in aerosol form by an air conditioner, although the study has yet to be peer-reviewed.

To prevent COVID from spreading medical experts promote handwashing, protective clothing, cleaning surfaces, spatial distancing, fewer people in lifts, and the wearing of face masks—all practical and effective actions.

Meanwhile, heating, ventilating, and cooling (HVAC) engineers recommend limiting the spread of the virus with expensive, high-efficiency particulate air and ul-

traviolet filters for climate-control systems in buildings for those who can afford them.

Architects, when looking at the impacts of COVID on buildings often deal with issues of social and physical distancing within buildings, and toy with the idea of the "end of tall buildings," or the effect of the shift to home-working on the energy efficiency of our homes.

Very few of the above groups even mention the importance of simply opening windows, which has the added benefits of the thermal, emotional, and sensual delight of a cooling breeze on the skin on a warm day. Or the relief of clean, fresh air pouring into a stuffy room.

Building designers today often don't understand that they have been cheated by not being taught how to ventilate buildings naturally. Modern, fast, cheap design has three key drivers. One, the architectural fantasy that their main professional contribution to society is in sculptural art. Two, what the building regulations require. And three, the limits imposed on de-

signers by the almost universal use of flawed building simulation models that steer designers away from naturally ventilating buildings.

Conflict of Interests

Building regulations are overly influenced by HVAC engineers, which has affected building codes and led to ever more machinery being installed in buildings—and ever less natural ventilation. The future will have to be about buildings that are naturally ventilated for as much of the year and the day as possible, for many excellent reasons, including energy costs, carbon emissions, and the basic health and safety of occupants.

Windows must be a life-saving feature of safer, better buildings in a less predictable future—never more so than during a pandemic when the power grid fails.

Susan Roaf is an emeritus professor of architectural engineering at Heriot-Watt University in the U.K. This article was first published on The Conversation.

Modern building design too often relies on complex HVAC systems to circulate air rather than the simple and uplifting option of a window that opens.

Healthy Alternatives to Processed Foods You Can Make at Home

Processed foods are full of unhealthy ingredients that you can avoid by making your own

CARLY HARRILL

As a culture that is always on the go, it's hard to imagine where our lives would be without ready-made processed foods. They save us money, headaches, and make it possible to schlep from work to picking the kids up from school to soccer practice without starving.

They're called "convenience foods" for a reason. But as convenient as they may be, healthy they are not. Store-bought, processed foods are packed with empty calories, added sugars, sodium, artificial preservatives, and plenty of other ingredients disguised under fancy scientific names. And while the "all-natural" pre-packaged foods you find at natural health retailers often use much healthier, safer ingredients, even they call on preservatives to maintain shelf life and ingredients to woo your taste buds.

Does this mean you should completely give up processed foods? No, that seems unlikely. In fact, you would probably be setting yourself up for failure. But, you can start to limit your consumption of processed foods by making them from scratch.

That might sound unfeasible but read on. There are a number of commonly consumed processed foods that can easily be whipped up using healthier ingredients in your pantry. Not only will you know exactly what ingredients are in the resulting product, but it's also a culinary adventure. Imagine the amusement when you tell dinner guests that the ketchup they are pouring over their potatoes is a homemade concoction.

Here are a few processed foods you can make healthier versions of at home.

1. Pasta Sauce

Many canned or jarred pasta sauces are high in sodium and contain added sugar. Skip the processed version and make your own. Chop or purée fresh, organic tomatoes in a food processor or blender and sauté in a pan with minced garlic, olive oil, pepper, sea salt, and whatever other vegetables or herbs tickle your taste buds. You can store any leftover sauce in a glass jar in the refrigerator or put it in a plastic bag or plastic container in the freezer if you plan to use it at a later date.

2. Salad Dressing

During your next journey to the grocery store, make a point to review the label of some of your favorite salad dressings. Maltodextrin, modified food starch, corn syrup solids, autolyzed yeast extract, sodium chloride—these are just a few of the processed ingredients that you will find on the label of dressings marketed as "all-natural" at major grocers. Healthier dressings don't always fare better. While some ingredients aren't so bad, you can make a healthier, simple version. Shake up some extra-virgin olive oil (or whichever oil you

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Some condiments and snack foods are easy to make yourself—and much, much healthier.

prefer) and red wine vinegar with ingredients such as minced garlic, honey, shallots, lime or lemon juice, Dijon mustard, and dry herbs. Then put in a glass bottle with a spout. Voilà! There are thousands of recipes on websites and Pinterest!

3. Ketchup

Kids love to drizzle ketchup on almost anything. While this Americanized condiment isn't technically high in fat or calories, that bottle of sweet red stuff is often loaded with artificial sugar and sodium. A homemade version is quick and easy with ingredients such as puréed tomatoes, honey, brown sugar, salt, cinnamon, cayenne, garlic, onion, and cider vinegar. Pinterest is again

your savior here with plenty of fresh, gourmet ketchup recipes.

4. Tortilla Chips

Chuck the Tostitos! Make crunchy, healthier tortilla chips in less than an hour with just a few ingredients. You can find a slew of recipes for homemade tortilla chip recipe online. A simple recipe just calls for sea salt, grapeseed oil (or oil of choice), limes and masa harina (fine-ground corn flour available at Mexican grocers). If making tortillas from scratch is a bit too much work, you can also purchase corn tortillas from your local health food grocer.

5. Cereal

Breakfast cereals are a dime a dozen. They are also conventionally packed with artificial sugar and dyes, sodium, and partially hydrogenated oils. Butylated hydroxyanisole (BHT), an ingredient also found in embalming fluid and antifreeze, is commonly used to preserve freshness. (Yes, the response is: Gross.) You can easily make your own cereal mix with granola, steel-cut oats, millet, or quinoa. Not only will it make tasty breakfast cereal, but you can also use the mix as an on-the-go snack or as a topping on yogurt or ice cream. Get some make-your-own ideas from Naturally Savvy online.

6. Nutella

You can find 100-plus processed foods that you can make at home online, but this one deserves special recognition. As proof to its popularity, one jar of Nutella is sold every 2.5 seconds across the world. This smooth, rich, chocolate-hazelnut hybrid seems like a gift born from the heavens, but do you know what's in it? The top two ingredients on the label are sugar and modified palm oil. Indulge in a much healthier, less processed version with mostly hazelnuts (or hazelnut butter), and some cocoa powder, vanilla extract, coconut oil, sugar, and salt.

Carly Harrill is a social impact strategist with a 15-year career focused on corporate partnerships, development and fundraising, marketing and integrated communications, community mobilization, and content/campaign curation. This article was originally published on Naturally Savvy.com

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Masks can be counterproductive unless wearers avoid touching their face and adopt other management measures.

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The Major Scientific Controversies Over COVID-19

3 debates rage on over wearing masks, immunity to COVID-19, and actual infection rates

While many scientists believe antibodies are the key to immunity, others argue that other immune cells called T-cells are involved, too.

MANAL MOHAMMED

Although political leaders have closed borders in response to COVID-19, scientists are collaborating like never before. But the coronavirus (SARS-CoV-2) is novel—and we don't yet have all the facts about it. As a result, we may have to change our approach as new scientific data comes in.

That doesn't mean the science isn't trustworthy—we will get the full picture over time. And there is already great research that can help inform political decisions. Here are three topics that scientists disagree on.

Face Masks

COVID-19 spreads by droplets from coughs, sneezes, and speaking. To halt the spread of the virus, face masks have become compulsory in many countries.

But there has been much debate among scientists over the effectiveness of face masks on reducing the spread of COVID-19. A report from a multi-disciplinary group convened by the Royal Society has come out in favor of the public wearing face masks. These documents, which haven't been peer reviewed, argue that face coverings can contribute to reducing the transmission of COVID-19 if widely used in situations where physical distancing isn't possible.

One relatively small clinical study also showed that infected children who wore masks didn't pass on the virus to family contacts.

But the science is complex. Face masks won't stop the wearer from inhaling small airborne particles of COVID-19, which can cause infection.

Continued on Page 10

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The Major Scientific Controversies Over COVID-19

3 debates rage on over wearing masks, immunity to COVID-19, and actual infection rates

Continued from Page 9

A recent study reported that wearing a mask may also give a false sense of security, meaning wearers may ignore other important infection control measures.

Research has also shown that when people wear masks, the exhaled air goes into the eyes. This generates an impulse to touch the eyes. And if your hands are contaminated, you may infect yourself. Indeed, WHO warns that masks can be counterproductive unless wearers avoid touching their face and adopt other management measures.

We also know that face masks can make us breathe more often and more deeply—potentiality spreading more contaminated air.

Many scientists, therefore, disagree with the Royal Society report, requesting more evidence on the efficacy of masks. Ideally, we need randomized controlled trials involving many people from an entire population to trace how masks affect infection numbers.

That said, other scientists argue that we should use face masks even though perfectly reliable evidence is lacking—to be on the safe side. Ultimately though, the strongest weapons we have are basic preventive measures such as regular hand washing and social distancing.

Immunity

Immunologists are working hard to determine what immunity to COVID-19 looks like. Many of the studies have focused on “neutralizing antibodies,” produced by so-called B-cells, which bind to viral proteins and directly prevent infection.

Studies have found that levels of neutralizing antibodies remain high for a few weeks after infection, but then typically begin to wane. A peer-reviewed study from China showed that infected people had steep declines in levels of antibodies within 2 to 3 months of infection. This has created doubt over whether people get long-term protection against subsequent exposure to the virus. If this study turns out to be accurate—with the results backed up by other studies—it could have implications for whether it is possible to produce vaccines with long-lasting immunity.

Immune response to COVID-19 is complex, with the full picture likely to extend beyond antibodies.

While many scientists believe antibodies are the key to immunity, others argue that other immune cells called T-cells—produced when the body encounters the molecules known as antigens that trigger an immune response—are involved, too. These can become programmed to fight the same or similar viruses in the future. And studies suggest that T-cells are at work in many patients fighting COVID-19. People never infected may also harbor protective T-cells because they've been exposed

to similar coronaviruses.

A recent study from Karolinska Institute in Sweden, which hasn't yet been peer reviewed, found that many people who suffered mild or asymptomatic COVID-19 have T-cell-mediated immunity—even when antibodies can't be detected. The authors believe this can prevent or limit reinfection, estimating that one-third of people with symptomless COVID-19 could have this kind of immunity. But it isn't clear yet how it works and how long it lasts.

If this is the case, it is very good news because it means public immunity to COVID-19 is probably significantly higher than antibody tests have suggested. Some have argued it could create “herd immunity”—whereby enough people have been infected to become immune to the virus—with an infection rate as low as 20 percent, rather than the widely accepted 60–70 percent. This claim, however, is still controversial.

Immune response to COVID-19 is complex, with the full picture likely to extend beyond antibodies. Larger studies over longer periods of time must now be done on both T-cells and antibodies to understand how long-lasting the immunity is and how these different components of COVID-19 immunity are related.

Number of Cases

The reporting of COVID-19 cases varies drastically around the world. Some regions are reporting that less than 1 percent of people have been infected, and others that more than half the population has had COVID-19. One study, which has been peer reviewed, estimated that only 35 percent of symptomatic cases have been reported in the United States and that the figure is even lower for some other countries.

When it comes to estimating true prevalence, scientists use just one of two main approaches. They either test a sample of people in a population for antibodies and directly report those numbers, or predict how the virus has affected a population using mathematical models. Such models have given very different estimates.

Research led by the University of Toronto in Canada, which hasn't been peer reviewed yet, assessed blood test data from people across the world and discovered that the proportion who have had the virus varies widely across countries.

We don't know why. There could be real differences due to the age, health, or spread of each population—or in policies to control virus transmission. But very likely it's down to differences in the methodology, such as antibody tests (serological testing). Different tests have different sensitivity.

Antibody studies suggest that only 14 percent of people in the United Kingdom have had COVID-19, compared with 19 percent in Sweden and 3 percent in Yemen. But that excludes T-cells. If they provide a reliable guide to infection, the number may be much higher—potentially close to herd immunity in some regions—but this is hugely debated.

Manal Mohammed is a lecturer in medical microbiology at the University of Westminster in England. This article was originally published on The Conversation.

Statistical reporting of COVID-19 cases varies drastically around the world.

Immunologists are working hard to determine what immunity to COVID-19 looks like.

Top Foods for Eye Health

The 5 best foods to maintain your eyes also offer other healthful benefits

Nutrition is your best defense against degeneration associated with aging—and eye health is no exception. Below are five of the best foods for eye health. Eating these foods and the vital nutrients they contain can help you maintain good overall health, which is essential to keeping your eyes strong and your vision clear well into your golden years.

Ginkgo Biloba

Extracted from one of the oldest species of tree in the world, ginkgo is a nutritional supplement that has been used as traditional herbal medicine in China for hundreds of years. Derived from the leaves of the Ginkgo biloba tree, some of which are believed to be more than 2,500 years old, ginkgo is available as a tea, capsule, tablet, or tincture and has gained acclaim for a wide array of health benefits.

Ginkgo leaves contain natural flavonoids imbued with antioxidants that are believed to improve eye health by boosting circulation and protecting against damaging free radicals. Studies have shown ginkgo may help reduce age-related macular degeneration and may be useful in the treatment of peripheral vascular disease.

Ginkgo has been shown to increase ocular blood, making it potentially effective in treating glaucoma and other eye diseases. Adding this potent supplement to your regimen may also provide an added layer of protection against age-related memory loss and heart disease.

Ginkgo is generally well-tolerated but does have some contraindications and shouldn't be combined with other drugs. The maximum recommended dose for ginkgo extract is 240 milligrams (mg) a day.

Goji Berry

Another traditional Chinese medicine that can ease the health burdens created by our modern lifestyles is goji berries. This nutrient-dense superfood contains all eight essential amino acids and a healthy dose of protein, which is unusual for a fruit. Goji berries are also unusually good for eye health.

A study on rats from 2017 found that a low dose of goji berry extract (between 250 and 350 mg per kilogram (kg) of body weight) helped ameliorate the symptoms of dry eye disease. Researchers attributed these actions to increased antioxidant and plasma zeaxanthin levels, a common carotenoid that has been associated with a significantly reduced risk of age-related maculopathy and cataract.

Maculopathy is any disease of the macula, the part of the eye associated with accurate vision. Cataract is the clouding of the eye associated with aging that blurs vision and affects sensitivity to light, which may be positively impacted by proper nutrition.

Zeaxanthin is one of 600 carotenoids found in nature, but one of only two that are deposited in high quantities in the retina (macula) of the eye. Antioxidant nutrients such as zeaxanthin neutralize unstable free radical molecules that are associated with the oxidative stress that causes retinal damage.

Goji berries' high antioxidant profile may further help protect against macular degeneration. A double-masked, randomized, placebo-controlled study published in the journal *Optometry and Vision Science* found that the boost in antioxidant and plasma zeaxanthin levels provided by daily dietary supplementation with goji berry for a period of 90 days protected elderly subjects' eyes from hypopigmentation and soft drusen accumulation in the macula, tiny deposits of protein and fat that get deposited under the retina.

The study also found that goji berries helped filter harmful high-energy blue wavelengths of light to protect and maintain healthy cells in the eyes. Gojis, also

Goji berries' high antioxidant profile may further help protect against macular degeneration.



ALL PHOTOS BY SHUTTERSTOCK



Your eyes are closely connected to your overall health.

called wolfberries, are available fresh in some locations, dried, and as a juice or extract. Goji berry is generally well-tolerated and associated with more than 20 beneficial pharmacological actions.

Carrots

Carrots are widely known to be beneficial for eye health. Loaded with beneficial vitamins and micronutrients, it's no wonder that eating carrots is associated with strong eyesight.

Nutrient deficiency is a serious problem in developing countries where malnutrition is more common and can be a precursor to disease. While malnutrition is less frequent in first-world nations, bariatric surgeries, which are performed to achieve weight loss, or surgeries to remove diseased sections of the bowel can create malabsorption syndrome in which the body fails to absorb nutrients from food.

A 2013 study published in the *Journal of Optometry* examined the case of a 55-year-old woman who presented to doctors with a two-year period of progressive night blindness. Initial treatment with oral vitamin A supplementation was ineffective, suggesting that the deficiency was related to malabsorption rather than dietary insufficiency.

The patient had a medical history of Crohn's disease and had undergone three previous bowel resections, which subsequently led to the malabsorptive state associated with short bowel syndrome. Injections of vitamin A once per month over an 18-month period led to significant improvements in the patient's night vision, including remission of symptoms and vision tests that returned to normal ranges.

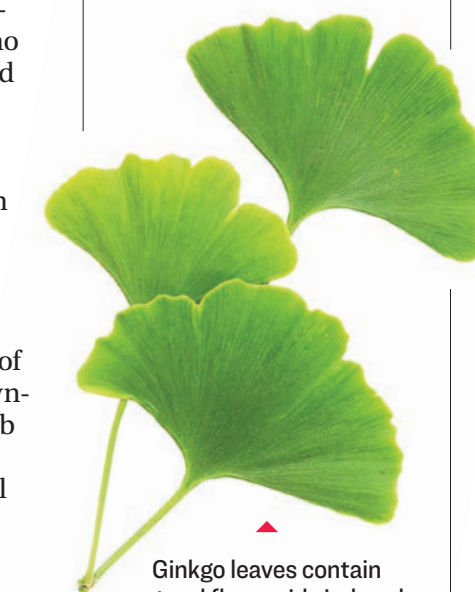
Carrots are also a good source of the carotenoids beta carotene, lutein, and zeaxanthin, a class of antioxidant micronutrients that are believed to protect against macular degeneration and cataracts.

A 2008 study examined the relationship between dietary intake of carotenoids and the risk of cataract in women and found that higher dietary intakes of lutein and zeaxanthin are associated with significantly decreased risk of cataract. Green leafy vegetables and egg yolks are also good sources of lutein and zeaxanthin.

The Age-Related Eye Disease Study, sponsored by the U.S. government's National Eye Institute, found that vitamin supplementation that included beta carotene at levels well above the recommended dietary allowance (RDA) reduced the risk of developing advanced macular degeneration by a whopping 25 percent.

Coconut Oil

The GreenMedInfo.com research data-



Ginkgo leaves contain natural flavonoids imbued with antioxidants that are believed to improve eye health by boosting circulation and protecting against damaging free radicals.



Benefits to the retina increased when the dosage of coconut oil was doubled, suggesting that coconut oil was the significant factor behind these potent eye health benefits.

base has 80 scientific abstracts on coconut oil's many healthful properties.

Despite all the favorable press in recent years, you may not know that one of coconut oil's benefits to health is retina protection.

Macular degeneration is the leading cause of vision loss in the United States, affecting more than 10 million Americans, which is more than cataracts and glaucoma combined. Age-related macular degeneration, or AMD, is diagnosed when an eye doctor detects drusen, yellow plaque-like deposits, under the surface of the retina. Over time, these deposits can blur the central field of vision and, if left untreated, vision loss can become severe and debilitating.

One of the prime risk factors for developing AMD is exposure to ultraviolet light. A 1966 study found that rats who were fed a diet of coconut oil and exposed to bright light had significantly better retinal morphologies than rats in control groups, something researchers attributed to reduced caspase-3 activity.

Caspase-3 is a family of protease enzymes that plays an essential role in inflammation and apoptosis, or programmed cellular death. Benefits to the retina increased when the dosage of coconut oil was doubled, suggesting that coconut oil was the significant factor behind these potent eye health benefits.

Oily Fish

Many fish are rich sources of omega-3 fatty acids. Oily fish are fish that have oil in their gut and body tissue, so eating them offers higher levels of omega-3-rich fish oil. The fish that contain the most beneficial levels of omega-3s include tuna, salmon, trout, mackerel, sardines, anchovies, and herring.

Some studies have found that fish oil can reverse dry eye, including dry eye caused by spending too much time on a computer.

Your retinas need two types of omega-3 fatty acids to work right: DHA and EPA. You can find both in fatty fish, such as salmon, tuna, and trout, as well as other seafood. Omega-3s also seem to protect your eyes from AMD and glaucoma. Low levels of these fatty acids have been linked to dry eyes. Be sure to choose fish sourced from non-polluted waters.

The GMI Research Group is dedicated to investigating the most important health and environmental issues of the day. Special emphasis will be placed on environmental health. Our focused and deep research will explore the many ways in which the present condition of the human body directly reflects the true state of the ambient environment. This work is reproduced and distributed with the permission of GreenMedInfo LLC. Sign up for the newsletter at www.GreenMedInfo.health

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Ways to Take Herbs to Support Health

Herbal remedies can be enjoyed in different forms for different needs and preferences

DEBORAH MITCHELL

Herbs are available in a variety of forms, and this can make it challenging to decide which of the different types of herbal supplements are best for your needs. In many cases, more than one form of an herb may be the answer. Your final decision should be based on your unique needs, preferences, and health status.

The Many Ways You Can Take Herbs

Depending on the ingredient, herbal supplements are available as teas (infusions or decoctions), powders, capsules, tablets, tinctures, glycerites, sprays, creams or gels, and essential oils. When possible, it's recommended that you use only certified organically grown or responsibly sourced herbal products. You also should inform your medical practitioner about your use of any form of an herbal supplement because it may interact with any medications you are taking or a medical condition you have.

Now let's look at the characteristics of each of the different types of herbal supplements. This information may help you decide which form will best fit your needs and preferences.

Herbal Teas

Herbal teas are more accurately called infusions or decoctions because they don't all come from the tea plant (*Camellia sinensis*). Instead, they are composed of one or more parts (i.e., leaves, roots, flowers, stems, bark, fruits, seeds) of edible (varied species) plants. These parts are used either fresh or in dried form and then extracted in water to make an herbal tea. The steeping or simmering time depends on the plant part used. Softer parts, such as leaves and flowers, are usually steeped for up to 30 minutes; this is called an infusion. Hard parts, such as roots and bark, are simmered over heat for up to 60 minutes; this is called a decoction.

Use of tea bags and loose tea is not as convenient as tinctures, glycerites, capsules, tablets, or sprays. However, drinking herbal teas is a time-honored tradition enjoyed by people around the world. Herbal teas are often part of people's routines, whether they kick-start the day, help finish off a meal, or are enjoyed before bedtime.



An advantage of powdered herbal supplements is the ability to easily adjust the serving size taken.

When possible, it's recommended that you use only certified organically grown or responsibly sourced herbal products.



Herbal Powders

Like a tincture or glycerite, powders can be mixed with water, juice, or tea and consumed quickly and easily. Another advantage of powdered herbal supplements is the ability to easily adjust the serving size taken. Powdered herbal supplements are not absorbed into the bloodstream as fast as extracts are, however, rather they must go through the digestive process like foods.

Herbal Capsules and Tablets

Herbal supplement capsules and tablets can deliver a measured serving of the desired ingredients in a convenient form. Some capsules can be easily taken apart and the contents mixed with a food or beverage. This is helpful for anyone who has difficulty swallowing capsules or tablets. Capsules tend to be more costly than some other forms of herbal supplements.

A drawback of both capsules and tablets is that they take longer to be absorbed into the body than liquids.

Herbal Tinctures and Glycerites

Tinctures and glycerites are liquid herbal extracts that are made using food-grade solvents (e.g., alcohol, water, glycerin), intended to be used in liquid form. You can use liquid extracts by adding the recommended serving to a small amount of water, juice, or tea. Check each product's instructions for their suggested use.

Liquid extracts have some advantages over other forms of herbal supplements. Perhaps the most important is that they are more quickly and efficiently absorbed by the body. When the extract makes contact with your mouth, it begins to be absorbed before it ever reaches the digestive system. They are also good for individuals who don't want to or can't swallow capsules or tablets. Liquid extracts also usually have a longer shelf life (usually three years or longer) and are easy to use (a dropper is usually provided in the bottle). Unlike capsules and tablets, you can taste the herb in the extract, which is a plus or minus, depending on your preference and the herb.

Herbal Sprays

A limited number of herbal supplements are available as a spray for internal use.

Herbs in spray form are convenient; you don't need to look for water to use this form. Elderly adults, young children, and anyone that cannot tolerate capsules or tablets can benefit from liquid extracts and sprays.

Like liquid extracts, and unlike tablets and capsules, herbal sprays, generally speaking, don't have fillers. However, be sure to check the label to see if there are any preservatives or synthetic flavors in the spray.

Use herbal sprays according to package directions; usually, one or two sprays into the mouth is all it takes. Some sprays made with herbs are for topical use as cosmetics.

Herbal Creams or Gels

Some herbs find their way into creams or gels for topical use. When using topical herbal products, check out the other ingredients for anything that may cause irritation or an allergic reaction.

Essential oils

Many essential oils of herbs are made using steam distillation to extract the volatile compounds in the plant and transform them into a concentrated liquid. These oils are very potent and are used in very small amounts. Most essential oils are inhaled or used topically after being mixed with a carrier oil. Small amounts of essential oils are sometimes used in liquid extracts and can be used orally.

The Bottom Line

We are fortunate to have a wide variety of ways to take herbs. This means you can more readily find herbal supplement options that fit each of your unique preferences, limitations, and personal needs. Which of the different types of herbal supplements is right for you? Research the various types, discuss them with a knowledgeable professional, and make your choice but be sure to check in with your health care provider if you are under medical care.

Deborah Mitchell is a freelance health writer who is passionate about animals and the environment. She has authored, co-authored, and written more than 50 books and thousands of articles on a wide range of topics. This article was originally published on NaturallySavvy.com

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A diet high in fiber and plant-based foods, for example, is associated with a lower risk of non-alcoholic fatty liver disease.

Anemia, Iron, and Health

Iron ensures our body can produce healthy red blood cells

NANCY BERKOFF

People need iron at every stage of their lives and those needs vary with age and lifestyle. So how do you help your body absorb enough dietary iron to ensure that all its cells are nourished? Infants, children, adolescents, pregnant women, athletes, vegetarians, blood donors, and senior citizens can all be at risk for iron deficiency anemia.

The importance of iron in the diet has been known for a long time. Ancient Greek medical writings point out the importance of iron-containing foods. In medieval France and England, iron, in the form of fine metal filings dissolved in wine, was given to treat anemia.

Iron is needed by the body in order to make hemoglobin and myoglobin. Hemoglobin is the oxygen-carrying red pigment color in blood cells ("hem" means iron). Myoglobin is the color in muscle cells. Red blood cells are produced in the bone marrow and re-leased into the bloodstream. They are the transporters of oxygen and carbon dioxide to and from the lungs and tissues.

Iron and Anemia

A simple definition of anemia is a condition that occurs when you don't have enough healthy red blood cells. The general symptoms of anemia may range from very mild to severe. There are more than 400 different anemias. One of the more prevalent anemias is caused by iron deficiency. Iron obtained from the diet is transported to the bone marrow, where it is incorporated into the red blood cells. If a health care professional suspects that you have an iron deficiency, tests can be ordered to measure the amount of iron in your system.

Some common symptoms of iron deficiency anemia may include weakness or fatigue, dizziness, cold hands and feet, headache, poor mental concentration, and shortness of breath. Pale skin, lips, gums, and nail beds can indicate more severe anemia. Very severe anemia can lead to heart palpitations, sweating, and heart failure. Untreated iron-deficiency anemia can cause serious health problems. Having too little oxygen in the body can damage organs. With anemia, the heart must work harder to make up for the lack of red blood cells or hemoglobin. This extra work can harm the heart.

Iron Throughout the Life Cycle

Adult iron deficiency may happen if there are digestive disorders that prevent iron from being absorbed. It can also

happen if there is simply not enough iron in the diet. Some medications and dietary supplements can have an adverse effect on iron levels. People taking medications or supplements on a regular basis should discuss their iron status with their healthcare providers. People over the age of 50 need about 10 mg of iron each day to stay healthy.

Female athletes can be at a higher risk for iron deficiency, as can male and female endurance or marathon runners. The type of impact done in running can cause increased red blood cell breakdown. The kidneys remove these broken blood cells from the body, resulting in anemia. This can often be solved with a few days rest with adequate diet and hydration.

Children need to absorb an average of 1mg of iron per day for proper growth and development. Since children only absorb about 10 percent of the iron they eat, most children need to obtain

8-10 milligrams per day of iron. This need continues through adolescence, as growth-sprints and physical maturation require a lot of iron.

Healthy infants who are exclusively breastfed usually do not need iron supplements until they are 4-6 months old. After 6 months old, breast-fed infants should receive extra iron from iron-fortified infant cereals. Healthy, formula-fed infants are usually given an iron-fortified infant formula from birth. After 4-6 months of age, iron-fortified infant cereals provide a good additional source of iron. Infants and children with iron deficiency anemia may have delayed physical development and cognitive issues.

Pregnant women often develop anemia. To help to prevent this, women in child-bearing years should eat a diet sufficient in iron-rich foods. The recommended daily allowance of iron before pregnancy is approximately 18 milligrams, or two good dietary sources of iron daily. During pregnancy, dietary iron should increase to three to four servings every day. Iron deficiency anemia during pregnancy may increase the risk of premature birth, having a low birth weight baby, and postpartum depression. Some studies also show an increased risk of infant death immediately before or after birth.

Iron and the Diet

Iron deficiency is often caused in healthy people by poor dietary intake. Iron needs can range from 10-50 milligrams of iron per day. The typical American diet has only about 6-8 milligrams of daily iron. In addition to food, it is thought that using cast-iron cookware may add some

iron to the diet.

Dietary iron has two main forms: heme and nonheme. Plants and iron-fortified foods contain only nonheme iron. Animal proteins, such as meat, seafood, and poultry contain both heme and nonheme iron. Heme iron is more easily absorbed by the body. People who do not choose to eat animal protein need to include more servings of iron-containing plant foods to ensure adequate iron intake.

Meat, fish, and poultry are excellent sources of dietary iron. Iron is also present in eggs, green leafy vegetables, nuts, peas, beans, some soy products, and whole-grain bread. Since plant-based iron is not easily absorbed, larger portions are required to obtain sufficient iron. See if you can increase your intake of dark green leafies, such as kale, collards, mustards, and beet greens along with spinach. Dried fruit, dried peas, nuts, enriched breads and cereals, and blackstrap molasses can help as well.

Vitamin C assists the body in absorbing iron. Cast iron cookware does actually contain dietary iron. To release the iron, plan to include Vitamin-C containing ingredients, such as pineapple or orange juice, when sautéing greens in a cast iron pan or adding tomatoes to beans simmering in a cast iron pot. When including iron-containing plant foods on the menu, consider combining them with strawberries, kiwi fruit, peppers and chilies, oranges, grapefruit, tangerines and their juices, tomatoes, mangos or papayas, and many green vegetables. Iron-containing plant foods include lentils, black-eyed peas, soybeans, green, red or cabbage, bok choy, raisins and prunes, mustard, collard, kale or beet greens, black beans, watermelon, garbanzo beans, seitan, tempeh, and iron-enriched cereals and grain products.

Egg yolks, calcium-containing foods, and black tea can prevent the body from properly absorbing iron, as can zinc, found in multivitamins and throat lozenges. Plan your meals so that you have iron-rich foods at one meal, waiting several hours before having calcium-rich foods or tea.

Not Just Iron

Vitamin B12 helps the body to produce healthy red blood cells. Vitamin B12 is best absorbed from animal sources, so people who avoid animal foods in their daily diet may need to think about including B12-fortified foods and B12 supplementation. Cold cereals (Grape-Nuts are a good source) and fortified soy, rice, grain or almond milks, as well as nutritional yeast (not baker's yeast) are non-animal B12 sources.

Managing dietary iron resources is within our reach. Include iron-rich foods in your daily menu planning for a healthy, active life!



Although virtually any vegetable will encourage better liver function, broccoli might be the best.

Dr. Nancy Berkoff is a registered dietitian, food technologist, and culinary professional. She divides her time between health care and culinary consulting, food writing, and healthy living.

Best and Worst Foods for Liver Health

Feed your liver what it needs and not what makes it prone to disease

DEVON ANDRE

Think avoiding alcohol is the only way to keep your liver healthy? If you did, it wouldn't be held against you. Alcohol has long been associated with liver disease.

But there are a lot of other things you can do to keep your liver healthy. And there are just as many ways to take it in the opposite direction.

For example, diet is closely related to liver health. A diet high in fiber and plant-based foods, for example, is associated with a lower risk of non-alcoholic fatty liver disease (NAFLD). There is even some evidence to suggest it can protect against alcohol-related liver damage.

But what you eat can also boost the risk for liver damage. Foods high in sugar, saturated and trans-fat, and potentially even

salt can lead to fat accumulation in the liver, scarring, and disease.

What you consume every day can have a profound effect on liver function and overall health. Here are a few of the best and worst foods for your liver.

Oatmeal: Fiber can help your liver function at its best, and oatmeal is an excellent source of both soluble and insoluble fiber. Some research suggests that people with diets high in fiber (particularly insoluble) have less fat in their liver, meaning a lower risk for liver disease.

Broccoli: Although virtually any vegetable will encourage better liver function, broccoli might be the best. There is some research to show it can protect against NAFLD, and cruciferous vegetables like broccoli may increase the liver's natural detox enzymes.

Coffee: Studies suggest that drinking 2 to 3 coffees per day can protect the liver from too much alcohol or an unhealthy diet. Just make sure not to add much sugar, syrups, or other additives to it.

Fried Foods: Fried foods are not suitable for your liver. A burger and fries are high in saturated fats (and potentially trans) that make it hard for the liver to function effectively. Over time, these items can lead to inflammation and boost the chance of liver disease.

Sugar: Sugar might be one of the worst foods for your liver. It taxes the organ by forcing it turn excess sugar into fat, which means the liver not only functions less efficiently, but the risk for fat accumulation in the area goes way



Oatmeal is high in soluble and insoluble fiber, which both help your liver stay slim and healthy.

up. Over time, it can lead to NAFLD.

Salt: There is some evidence to suggest that a high-salt diet may take a toll on the liver by contributing to fibrosis. Fibrosis is the first stage of liver scarring and can inhibit function. Limit intake of processed foods that tend to be high in salt.

Liver health is about a lot more than alcohol. Try eating more

plant-based and fresh foods, while limiting the intake of processed and unhealthy restaurant food.

Devon Andre holds a bachelor's degree in forensic science from the University of Windsor in Canada and a Juris Doctor degree from the University of Pittsburgh. Andre is a journalist for BelMarraHealth, which first published this article.

VLADISLAV NOSEK/SHUTTERSTOCK

How to Find Your Purpose in Life

Having a meaningful goal is good for your well-being. Here's 7 ways to find one.

JILL SUTTIE

Many of the people I know seem to have a deep sense of purpose. Whether teaching children to read or collecting donations of masks and face shields for hospitals during the pandemic, they've found ways to blend their passion, talents, and care for the world in a way that infuses their lives with meaning.

Luckily for them, having a purpose in life is associated with all kinds of benefits. Research suggests that purpose is tied to having better health, longevity, and even economic success. It feels good to have a sense of purpose, knowing that you're using your skills to help others in a way that matters to you.

But how do you go about finding your purpose if it's not obvious to you? Is it something you develop naturally over the course of a lifetime? Or are there steps you can take to encourage more purpose in your life?

Likely both, says Kendall Bronk, a researcher who directs the Adolescent Moral Development Lab at Claremont Graduate University. People can find a sense of purpose organically—or through deliberate exercises and self-reflection. Sometimes, just having someone talk to you about what matters to you makes you think more intentionally about your life and your purpose, Bronk says.

In her work with adolescents, she's found that some teens find purpose after experiencing hardship. Maybe a kid who has experienced racism decides to become a civil rights advocate. Or one who's suffered severe illness decides to study medicine. Of course, experiences like poverty and illness are hard to overcome without help from others. But Bronk's research suggests that having a supportive social network—caring family members, like-minded friends, or mentors, for example—helps youth to reframe hardship as a challenge they can play a role in changing for the better. That might be true of adults, too.

While hardship can lead to purpose, most people probably find purpose in a more meandering way, says Bronk—through a combination of education, experience, and self-reflection—often helped along by encouragement from others. But finding your purpose can be jump-started, too, given the right tools. She and her colleagues have found that exercises aimed at uncovering your values, interests, and skills, as well as practicing positive emotions like gratitude, can help point you toward your purpose in life.

Here are some of her recommendations based on her research.

1. Identify the Things You Care About
Purpose is all about applying your skills toward contributing to the greater good



Working with an organization serving others can put you in touch with people who share your passions and inspire you.

in a way that matters to you. So, identifying what you care about is an important first step.

In Greater Good's Purpose Challenge, designed by Bronk and her team, high school seniors were asked to think about the world around them—their homes, communities, the world at large—and visualize what they would do if they had a magic wand and could change anything they wanted to change (and why). Afterward, they could use that reflection to consider more concrete steps they might take to contribute toward moving the world a little closer to that ideal.

A similar process is recommended for older adults by Jim Emerman of Encore.org, an organization that helps seniors find new purpose in life. Instead of envisioning an ideal future world, though, he suggests posing three questions to yourself:

- What are you good at?
- What have you done that gave you a skill that can be used for a cause?
- What do you care about in your community?

By reflecting on these questions, he says, older adults can brainstorm ideas for repurposing skills and pursuing interests developed over a lifetime toward helping the world.

2. Reflect on What Matters Most
Sometimes it can be hard to single out one or two things that matter most to you because your circle of care and concern is far-ranging. Understanding what you value most may help you narrow down your purpose in life to something manageable that also truly resonates with you.

There are several good values surveys to choose from, including these three recommended by PositivePsychology.com: the Valued Living Questionnaire, the Portrait Values Questionnaire, and the Personal Values Questionnaire. All have been used in research studies and may be helpful to those who feel overwhelmed by all they want to change.

Bronk found that helping people prioritize their values is useful for finding purpose. The survey used in Greater Good's purpose challenge—where students were asked to look at common values and rank which were most important, least important, and in between—has been shown to be effective in helping people clarify their purpose.

Once you're clearer on your deepest values, Bronk recommends asking yourself: What do these values say about you as a person? How do these values influence your daily life? How might they relate to what you want to do with the rest of your life? Doing this exercise can help you discover how you can put your values to use.

3. Recognize Your Strengths and Talents
We all have strengths and skills that we've developed over our lifetimes, which help make up our unique personalities. Yet some of us may be unsure of what we have to offer.

If we need help, a survey like the VIA Character Strengths Survey can be useful in identifying our personal strengths and embracing them more fully. Then you can take the results and think about how you can apply them toward something you really care about.

But it can also be helpful to ask others—teachers, friends, family, colleagues, mentors—for input. In the Purpose Challenge, students were asked to send emails to five people who knew them well and to pose questions like:

- What do you think I'm particularly good at?
- What do you think I really enjoy?
- How do you think I'll leave my mark on the world?

Adults can do this if they need feedback, too—either formally or informally in conversation with trusted others. People who know you well may be able to see things in you that you don't recognize in yourself, which can point you in unexpected directions. On the other hand, there is no need to overly rely on that feedback if it doesn't resonate. Getting input is useful if it clarifies your strengths—not if it's way off base.

Understanding what you value most may help you narrow down your purpose in life to something manageable that also truly resonates with you.

4. Try Volunteering
Finding purpose involves more than just self-reflection. According to Bronk, it's also about trying out new things and seeing how those activities enable you to use your skills to make a meaningful difference in the world. Volunteering in a community organization focused on something of interest to you could provide you with some experience and do good at the same time.

Working with an organization serving others can put you in touch with people who share your passions and inspire you. In fact, it's easier to find and sustain purpose with others' support—and a do-gooder network can introduce you to opportunities and a community that shares



your concern. According to research, volunteering has the added benefit of improving our health and longevity, at least for some people.

However, not all volunteer activities will lead to a sense of purpose. "Sometimes volunteering can be deadening," warns Stanford University researcher Anne Colby. "It needs to be engaging. You have to feel you're accomplishing something." When you find a good match for you, volunteering will likely "feel right" in some way—not draining, but invigorating.

5. Imagine Your Best Possible Self
This exercise is particularly useful in conjunction with the magic-wand exercise described above. In Greater Good's Purpose Challenge, high school students were asked to imagine themselves at 40 years of age if everything had gone as well as it could have in their lives. Then they answered questions, like:

- What are you doing?
- What is important to you?
- What do you really care about, and why?

The why part is particularly important because purposes usually emerge from our reasons for caring, says Bronk.

Of course, those of us who are a bit older can still find these questions valuable. However, says Bronk, older folks may want to reflect back rather than looking ahead. She suggests we think about what we've

Reading about the work of others can give us a moral uplift that can serve as motivation for working toward the greater good.

always wanted to do but maybe couldn't because of other obligations (like raising kids or pursuing a career). There seems to be something about seeing what you truly want for yourself and the world that can help bring you closer to achieving it, perhaps by focusing your attention on the people and experiences you encounter that may help you get there.

6. Cultivate Positive Emotions Like Gratitude and Awe
To find purpose, it helps to foster positive emotions, like awe and gratitude. That's because each of these emotions is tied to well-being, caring about others, and finding meaning in life, which all help us focus on how we can contribute to the world.

In her study with young adults, Bronk found that practicing gratitude was particularly helpful in pointing students toward purpose. Reflecting on the blessings of their lives often leads young people to "pay it forward" in some way, which is how gratitude can lead to purpose.

There are many ways to cultivate awe and gratitude. Awe can be inspired by seeing the beauty in nature or recalling an inspirational moment. Gratitude can be practiced by keeping a gratitude journal or writing a gratitude letter to someone who helped you in life. Whatever tools you use, developing gratitude and awe has the added benefit of being good for your emotional well-being, which can give you the

energy and motivation you need to carry out your purposeful goals.

7. Look to the People You Admire
Sometimes the people we admire most in life give us a clue to how we might want to contribute to a better world ourselves. Reading about the work of others can give us a moral uplift that can serve as motivation for working toward the greater good.

However, sometimes looking at these larger-than-life examples can be too intimidating, says Bronk. If so, you can look for everyday people who are doing good in smaller ways. Maybe you have a friend who volunteers to collect food for the homeless or a colleague whose work in preserving wildlife inspires you.

You don't need fame to fulfill your purpose in life. You just need to look to your inner compass—and start taking small steps in the direction that means the most to you.

This article is part of a GGSC initiative on "Finding Purpose Across the Lifespan," supported by the John Templeton Foundation. In a series of articles, podcast episodes, and other resources, we'll be exploring why and how to deepen your sense of purpose at different stages of life.

Jill Suttie, Psy.D., is Greater Good's book review editor and a frequent contributor to the magazine. This article was originally published by the Greater Good online magazine.



For everyday living, I am content with simple tastes.

BECOMING MINIMALIST

The Underappreciated Joy of Keeping Your Tastes Simple

Appreciating easily-obtained items and experiences keeps financial and mental costs to a minimum

JOSHUA BECKER

As far back as I can remember, my father came home for lunch. I'm sure it wasn't every day, but in my mind it was.

He worked at a bank and did quite well, slowly but surely climbing the ladder in the industry. And yet, as best I remember, most days he came home for lunch, sitting on a stool at our counter.

Most days, he ate a sandwich with a few slices of deli meat, plain potato chips, and French onion dip. Or, on occasion, he'd eat a hot dog on a slice of bread.

Again, these are just my memories. My dad, recently retired, might tell a different story of his lunch menu variety, but this is the endearing image I have of my father as he came home for lunch each day.

He grew up on a family farm in South Dakota where most lunches were no different than the ones he continues to eat even today. His family upbringing clearly shaped his expectations for lunch.

I, my father's son after all, have strayed

very little from the model he set for me. My lunch, almost every day, are the leftovers from yesterday's dinner. If there are no leftovers, I will sometimes have a bowl of soup or a tuna fish sandwich.

My tastes, overall, are quite simple. I own a 2005 Honda Accord, I wear a black V-neck T-shirt purchased at the local outlet mall, my tennis racket is 20 years old, I order black coffee at coffee shops, and my hair products (a topic of much conversation on YouTube) are bought off the shelf at Target.

I appreciate a fancy dinner when I have one, a luxurious hotel should I find myself there, or fine art when I view it. But for everyday living, I am content with simple tastes.

Simple tastes, in my opinion, get a bad rap. Some may think I am unrefined for eating leftovers every day for lunch or missing out by not booking expensive accommodations when I travel, but I disagree entirely.

There are many benefits that accompany having simple tastes. Let me list a few of them for you.

1. Enjoyment is easy to find.
When your tastes are simple, it is easy to find things you enjoy. I can be just as happy eating leftovers for lunch as I would be sitting down at a fancy restaurant. One is just more achievable on a regular basis.

2. Easier to entertain.
I'm easy to entertain. If you wanted to treat me for dinner, you should feel no pressure in what you prepare. Truly, serve me homemade tacos and I'd be just as happy as if you served me prime rib. Or pick any restaurant for dinner, I'll be happy.

Again, don't mishear me on this. I love prime rib, but my tastes are simple. Ground beef tacos make me just as happy.

3. Living within your means.
There are benefits to living within your means that go even beyond the subject matter of this article—freedom, peace, and opportunity (for example). When your tastes are simple, life costs less and living within your means is easier than you might have thought.

4. Less lifestyle inflation.
Lifestyle inflation refers to an increase in spending when an individual's income goes up. It is why many are never able to get ahead financially—personal expenses simply rise with personal income. When your tastes are simple, there is less opportunity for lifestyle inflation to take over.

5. More gratitude.
We are faced with two choices every day:

1) We can be grateful for the things we have; or 2) We can focus on all the things we wish we had.

When you are able to find joy and contentment in the simplest of things, gratitude is an easier choice to make.

6. Less influenced by trends, labels, and advertising.
Too often, people pay a premium just for the privilege of becoming a walking billboard. I am not impressed by fancy or expensive brands just for the sake of being able to show off the logo.

Same with advertising and changing trends. As Nate Berkus says, "Trends exist to make people feel badly about what they don't have." When your tastes are simple, you are less likely to be influenced by them.

7. More opportunity to splurge when necessary.
There is another benefit of having simple tastes that I should mention. If you are not spending routinely on expensive things, there is more money available to spend when the splurge is truly desired.

While my wife and I have always lived on a modest income, every five years we take a trip to celebrate a milestone anniversary (10, 15, 20, ...). Because our tastes are not extravagant on a day-to-day basis, that is something we have always been able to afford.

8. Easier to make decisions. Less time wasted.
There is a direct correlation, in very practical ways, between simple tastes and time.

When your tastes are simple, life costs less and living within your means is easier than you might have thought.

For example, it is easier to make decisions when traveling, shopping, or even planning tomorrow's lunch at the office.

Again, don't misunderstand me. I'm not saying it is wrong to enjoy nice things at times. But when you are satisfied with simple things on a daily basis, time (and money) is saved.

9. More opportunity for impact.
I'm going to make a bold statement here, take it or leave it.

Maybe it's because of my upbringing, but when I think of the people I most want to emulate in my life, rarely do I think of the flashy types. I suppose, in the moment, there is something seductive about the person with the expensive car, outfit, or drink.

But in the long run, it is those who have learned to become content with the simple things in life that inspire the most. It seems to me their simpler tastes have left them more clear space to impact others.

There are, of course, some people who pursue minimalism because of their fancy tastes. Owning fewer items allows them to have higher quality, more expensive things. I understand that fully.

But for me, I have a certain level of joy and contentment in keeping my tastes simple, and I think you will, too.

Joshua Becker is an author, public speaker, and the founder and editor of "Becoming Minimalist," where he inspires others to live more by owning less. Visit BecomingMinimalist.com

WISE HABITS

Work Less

Even If You're a Procrastinator

Whether you work too much, or not enough, you can benefit from being better focused

LEO BABAUTA

When it comes to work, I've found that most of us fall in one of two camps.

We either work way too hard, constantly churning, never feeling like we got enough done—or we put off work, going to distractions, feeling guilty about how little we're getting done.

Either camp results in long working hours. And it drains us. It leaves us feeling depleted, not alive.

There's no simple solution to this, of course, but I'd like to propose something here, to both camps:

- Work less.
- Do fewer things.
- Be more fully engaged in those fewer things.
- Recognize your victories.
- Rest more. Play more. Connect more.

Let's look at this from the perspective of each camp.

And please note: I know that not everyone falls into these camps, and not everyone can change the number of hours they work. Take

from this article what might be useful to you, toss out the rest.

The Work-Too-Hard Camp

This is the camp I've been in lately—we try to get everything done. When there are things left undone (there always are), we feel like we haven't done enough.

We never feel like we've done enough. Even when, by all external standards, we're kicking ass.

So working less seems like an impossible thing. But if you recognize that you're working too much, then it's actually an obvious fix.

Working less would mean reducing the number of things we do—which would mean focusing on higher-priority tasks.

If you could only work one hour today, what would you spend that hour doing? What would you do with the rest of the things on your list?

When we ask ourselves these questions, it might become clear that there are some key items we could spend more of our attention on, and many other tasks we could let go of somehow.

Then, after we've reduced the number of things, we can practice being more fully engaged in those things.

Then call it a day—a victorious day, where we got the important things done.

Now ask yourself this question: If you had two hours of free time where you couldn't work, what would you do with those hours?

Most of us spend free time doing more work. Or going to favorite distractions. But what if we used

that time to be fully connected to the people we care about? Or to take care of ourselves, to read, to play, to do nothing?

The Procrastinate-Too-Much Camp

I was in this group for years. In this camp, we don't feel that the "work less" philosophy should apply to us, because we already feel we're not working enough. We feel guilty for all the time we waste.

Well, let's start by tossing out that guilt. It's toxic. We heap all kinds of expectations on ourselves, and then beat ourselves up when we fail to meet those made-

up expectations. Let's throw all that out and start fresh.

With a fresh slate, what would you do with your day? What would feel like an absolute victory?

For this camp, "work less" means have fewer hours, but more focused ones. Spend less of it in avoidance and frittering away the time, cut back the number of hours you work, and be fully in those remaining hours.

So if you were only to work two hours today, what would you do with those hours? What tasks would be most important to accomplish? What would make this day feel victorious?

Once you've identified those tasks, set aside the time, block out the distractions, and pour yourself into them.

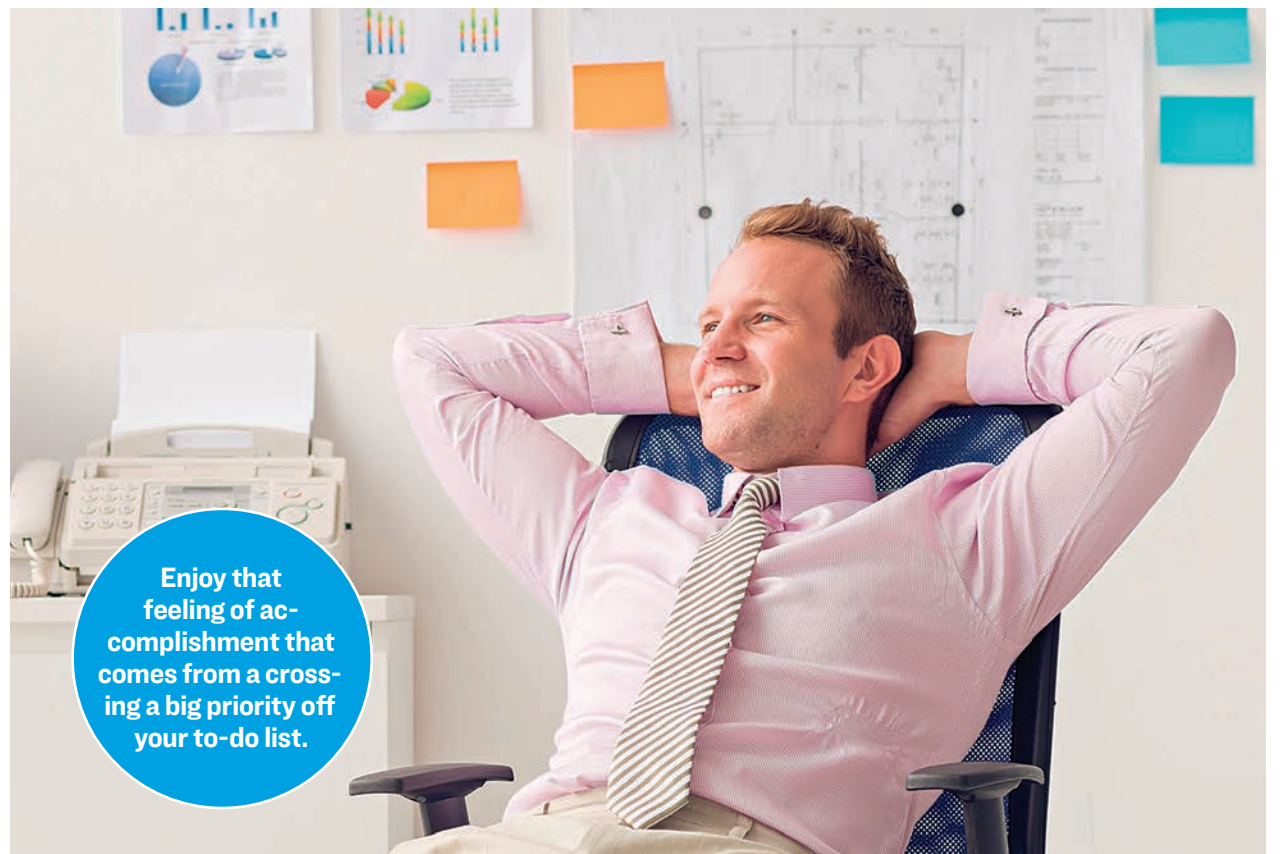
It can help to do them in 15- to 20-minute chunks, with headphones and music, or for longer sessions to do it on a call with someone else who is trying to focus on their meaningful work as well. Help each other focus, celebrate each other's victories.

If you could work fewer but more focused hours, you'd free up time for true rest. For play, connection, self-care. And perhaps, more than doing the tasks themselves, this would be the true victory.

We heap all kinds of expectations on ourselves, and then beat ourselves up when we fail to meet those made-up expectations.

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