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Experience Life

**SPRING
TRAINING**
Bring the Season's
Energy Into
Your Fitness Routine
PAGE 58

**THRIVE WITH
ANXIETY?**
Yes, It's Really
Possible
PAGE 52

BEYOND CBD
A Guide to
More Healing
Phytocannabinoids
PAGE 64

Tennis superstar
VENUS WILLIAMS
is channeling the strength and
confidence that's sustained
her nearly 30-year career to
get back on the court.
PAGE 16

RESILIENCE!

MARCH/APRIL 2024

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CONTENTS

FEATURES



52 Anxiety Is Not Your Enemy

Embrace, rather than escape, our anxious feelings? Yes, according to new research by an associate professor at Harvard Medical School. In this case study, he demonstrates how facing anxiety can help us grow, improve our relationships, and become more spiritually attuned.

By David H. Rosmarin, PhD



58 Spring Training

Ah, springtime! Like buds on the trees, we too are rejuvenated by the warmer temperatures and longer days. Fitness experts explain how we can channel the energy of the season to build a dynamic, sustainable workout routine.

By Andrew Heffernan, CSCS



64 Beyond CBD

Cannabidiol is just one of many healing compounds found in the cannabis plant. These natural medicines have therapeutic properties that can help you deal with anxiety, stress, inflammation, insomnia, PTSD, depression — even certain types of cancer. Meet the new phytocannabinoids.

By Mo Perry

Experience Life

March/April 2024

RESILIENCE!

IN EVERY ISSUE

4 *EXPERIENCE LIFE* DIGITAL

7 EDITOR'S NOTE

By Jamie Martin

9 TALK TO US

10 WELL INFORMED

The biomarkers of long COVID; the benefits of L-theanine; the gender gap in sports and exercise studies; and more.

16 ON THE COVER

Setbacks and Comebacks

Tennis champ Venus Williams on how the ups and downs of a nearly 30-year career have challenged and changed her.

By Michael Dregni

20 ONE HEALTHY HABIT

Wake Up at the Same Time Every Day

Don't sleep through this month's challenge! Support your circadian health by keeping a consistent schedule.

By *Experience Life* Staff

22 MY TURNAROUND

Second Chance

After years of searching for a diagnosis, a woman learns how to love life and her body while living with multiple sclerosis.

By Lindsay Karp

85 WORTHY GOODS

87 PERSPECTIVE

By Bahram Akradi

88 MEDITATION



Real Fitness

26 THE WORKOUT

Run Strong

This hybrid workout combines strength training and speedwork for an effective, efficient challenge designed to enhance your running routine.

By Nicole Radziszewski

31 BREAK IT DOWN

The Hang

Strengthen your core, shoulders, grip, and more with this often-overlooked move.

By Maggie Fazeli Fard, RKC, MFT-1, Alpha

32 UP YOUR GAME

Picture the Process

Visualization is a powerful tool for reaching your fitness and sport goals. But what exactly should you be visualizing?

By Jessica Migala

35 EXPERT ANSWERS

Skip the Snooze Button

Fresh ideas for becoming a morning-workout person.

By Lauren Bedosky

37 STRONG BODY, STRONG MIND

Where Do You Wobble?

Our fitness editor explores what it means to face moments of imbalance head-on — in movement and in life.

By Maggie Fazeli Fard, RKC, MFT-1, Alpha

Real Food

40 NUTRIENTS

The World Beneath Our Feet

You may not be able to see them, but the microorganisms in the soil have a major impact on human nutrition and health.

By Kristin Ohlson

45 SOMETHING SIMPLE

Avocado Caesar Dressing

A go-to toast topper also makes a great base for this savory salad dressing.

By Alyssa Shultis

46 FOODSTUFF

Kitchen Conservation

Avoid unnecessary water waste with these nine tips.

By Kim Syrios

48 CONFIDENT COOK

¡Viva las Verduras!

Try these plant-based twists on Mexican classics and discover more of what this cuisine has to offer.

By Jose Guzman, RDN



72



48

Real Life

72 BALANCE

Sharing a Difficult Diagnosis

The decision to disclose an illness to others is often a complicated one. This guidance can help you share the news your way.

By Jessie Sholl

77 JOY LAB

You Do Not Need to Be Fixed

The case for focusing more on what is working instead of what isn't.

By Henry Emmons, MD, and Aimee Prasek, PhD

78 RENEWAL

True Friends, False Information

Strategies for responding to erroneous or misleading information in our social circles.

By Jon Spayde

81 NATURAL HEALING

What Is Heart Coherence?

How entraining with those around us affects our health.

By Courtney Helgoe

82 GREEN SPACE

The Sustainable Yard

Six ways to garden for the good of the planet.

By Lauren David

40



Experience Life

DIGITAL



CONNECT WITH US!

7 WAYS TO MAKE YOUR BEDROOM MORE INTIMATE

Feng shui experts and sex educators offer their top strategies for setting the scene for more romance.

ELmag.com/createintimacy

AIR QUALITY AND EXERCISING OUTDOORS

Outdoor athletes are more susceptible to the effects of air pollution.

Learn how to protect yourself.

ELmag.com/airqualityandexercise

HOW TO DETOX WITH WHOLE FOODS

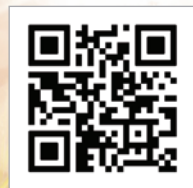
In this episode of the *Life Time Talks* podcast, Anika Christ, RD, CPT, joins *Experience Life* editor in chief Jamie Martin and Life Time coach David Freeman to talk about the dos and don'ts of detoxing.

ELmag.com/detoxpodcast

SUPPORT YOUR MENTAL WELL-BEING

Many people associate seasonal affective disorder with winter, but the arrival of spring can also be challenging for mental health. The change in weather and increased sunlight can trigger mood fluctuations and exacerbate feelings of anxiety and depression. Looking to enhance your mental health — or to help a loved one who's struggling?

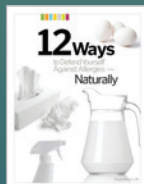
We've curated a range of articles to support your mental wellness pursuits.



SCAN THE QR CODE OR GO TO ELMAG.COM/MENTALHEALTH.

Defend Yourself Against Allergies — Naturally

Some people suffer from hay fever and other seasonal woes. Others are allergic to foods such as wheat, milk, peanuts, and eggs. Around the globe, an estimated 1 billion people now experience an allergy, intolerance, or sensitivity. Allergies are clearly on the rise, but so is our knowledge about how to build resistance and reduce allergy susceptibility. For 12 ways to defend yourself against allergies, download our free guide.



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LIFE TIME
HEALTHY WAY OF LIFE

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Experience Life shares health-and-wellness information and healthy-way-of-life stories that reflect a wide variety of human experience. We respect individuals' pronouns and personal descriptors; for this reason, terms may vary from article to article.

The Strength Within

TEN YEARS AGO, my dear friend and *Experience Life's* production director, Jane Meronuck, described me as resilient. It wasn't a word I had associated with myself to that point, and her use of the term surprised me. In fact, it's something I've spent many hours reflecting on over the past decade.

At that time, I was in the midst of the most bittersweet year of my life. My daughters, then 4 and 1, were healthy, happy kiddos, and watching them grow and learn every day brought me so much joy.

That joy was tempered, however, by the sadness, worry, and grief I carried about my nephew's terminal health condition. About six months earlier, Bryce had been diagnosed with a rare genetic disorder, when he was six months old himself. His life expectancy, we learned, was maybe two years.

While my baby (just a month younger than Bryce) was thriving, my sister's baby was regressing and declining. Other than keeping Bryce comfortable with medication, there was nothing doctors or we could do to reverse or heal his condition. The dream my sister and I shared of our children growing up together was shattered.

The only thing I *could* do was be there for my little sister in whatever ways she needed me. So, I was.

For the 12 months between Bryce's diagnosis and his passing in November 2014, I did whatever I could to carry some of the load of her unimaginable reality, whether it was writing *CaringBridge* updates from afar, or working remotely so I could be physically present to support her family. Some days it was being someone my sister could vent and cry to; often, it was simply encouraging her to get outside for a walk and some fresh air.

In those moments, I didn't think about how or why I was able to do any of those things while maintaining my day-to-day life — which is probably why the observation from Jane (who is no stranger to resilience herself, see page 73) struck me. I was just doing what needed to be done.

Looking back, though, I realize that I was able to manage it all because I had many fundamental health and wellness practices in place that I could rely on, often subconsciously. My workout and nutrition habits, my connections with my support system, my sleep and stress-management routines — these were all well-established elements of my life before Bryce's diagnosis.

I know now that these practices are at least part of the reason I was resilient — they were essential for helping me process and cope with Bryce's dire circumstances. They're the reason I *am* resilient today: They allow me to face and adapt to whatever challenges come my way. And things will come my way — and yours too. That's just life.

In this issue, you'll find inspiring examples of resilience in action: Nearly 30 years into her professional tennis career, Venus Williams is overcoming injury and illness to make yet another comeback (page 16); mom-of-two Lindsay Karp shares how she's learning to live with multiple sclerosis and enjoy life again (page 22); and Harvard Medical School associate professor David H. Rosmarin, PhD, offers a case study on a patient with anxiety — and how they're embracing it as a reality of being human (page 52).

Resilience is within all of us, even if we don't recognize it. Trust that it's there to nurture, tap into, and grow when you need it most.



“I know now that these practices are at least part of the reason I was resilient . . .
They're the reason I am resilient today.”



**YOUR
THOUGHTS?**

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JAMIE MARTIN is *Experience Life's* editor in chief, *Life Time's* vice president of content strategy, and cohost of the *Life Time Talks* podcast.

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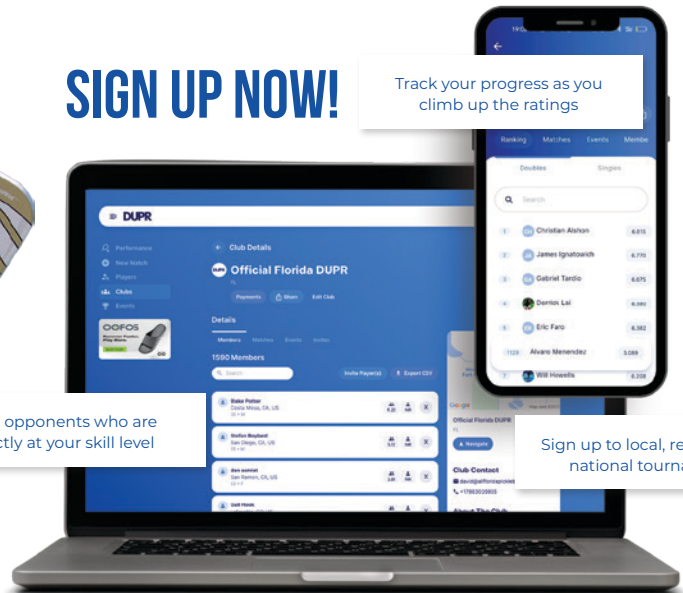
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TALK TO US

INSPIRED TO TAKE ACTION

🧠 Thank you so much for this article (“Uric Acid: A New Metric for Heart Health,” November/December 2023). I have been suffering with gout on and off for a very long time, and this is the first time I’ve really understood what I can do to take control of the situation and keep the problem at bay. I take medication to control the uric acid, but I would rather control it with diet, exercise, and a supplement, as the article suggested.

Raymond B.

📄 Since reading this article (“The Surprising Connection Between Your Calves and Heart Health,” November/December 2023), I have nurtured my calves (and feet) with a gentle magnesium-lotion massage each night before bed.

@archofbrambles

ADHD CONSIDERATIONS

[On “Can Music Help People With ADHD Focus Better?,” November/December 2023]

🧠 As an adult with ADHD, I can attest to the profound impact music has on my own concentration. In my ADHD communities, several people agree that music helps with productivity. Interestingly enough, those same people indicate that each person has their own flavor of music genres and formats that move their brain into that sweet spot of calm focus. It would be nice to see classrooms and workplaces accommodate ADHDers by allowing them to wear their noise-canceling headphones and listen to music during individual work times. It would create the right soundscape for productivity.

Stacy H.

🧠 Reading about attention deficit and hyperactivity disorder helps me understand how some of my childhood issues were intuitively managed with music. Growing up in the 1960s, I found music calmed me through my teenage angst.



The effect of melodies and rhythm on the body, mind, and spirit have helped me inspire and connect to people. It’s much better than medication.

Debra P.

A MESSAGE OF SAFETY

🧠 “Breathe deep” doesn’t cut it in the middle of a panic attack or with constant hypervigilance (“Understanding Panic Attacks,” November/December 2023). Abdominal breathing can help, but very few can get a “deep breath.” Opt instead for a longer exhale — it’s easier to do and sends a message of safety to the brain.

Christine B.

Experience Life welcomes your comments and suggestions. Email experiencelife@experiencelife.com, connect with us on social media, or send feedback to:

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THE CHALLENGE OF RESTING

🧠 Yes, rest is radical (“What Is Trauma-Informed Rest?,” September 2023)! It flies in the face of the pathocracy that tells us we must burn out our bodies to meet the demands of the power structure that oppresses us and makes our lives miserable and meaningless. Rest can be scary for trauma survivors, whose nervous systems are sure that they’re being dive-bombed by lions. We need to approach rest in slow, gentle increments.

Shay S.

PERMEABILITY’S PROMISE

🧠 This is a terrific article (“The Promise of Permeability,” October 2023 Digital Collection). Such a practical synopsis on the state of being that can be so immense and overwhelming. It is marvelous that we as humans are able to feel all that we can, but it can also be crushing if we cannot hold feelings in perspective. And that one truth, about feelings being temporary — that nothing lasts forever — has seen me through more dark days and nights than maybe any other single truth. Thank you for this most timely reminder and calling to not give up on an integrated life.

Katharine C.

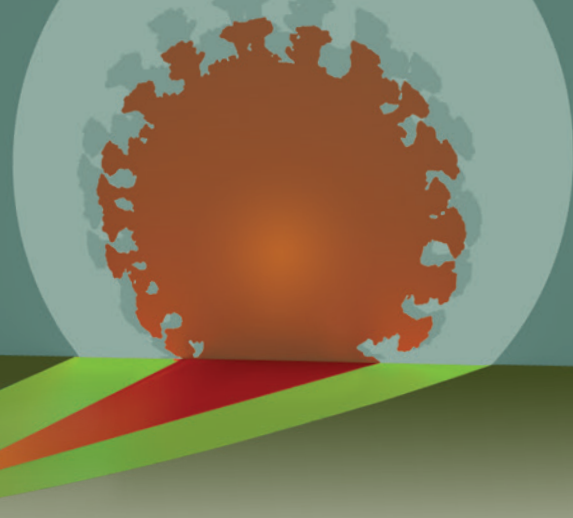
FOOD FOR THOUGHT

✉️ I recently learned from my naturopath about the need for additional protein as I age and noticed your article as well (“How Much Protein Do I Need as I Age?,” November/December 2023). As a nurse, I stay pretty keyed in on my lab values. I noted that after increasing my protein consumption, my renal values rose to the top of the normal range. I would also recommend increasing hydration along with protein consumption.

Janie B.

LONG COVID

Biomarkers Discovered



LONG COVID IS REAL. Once viewed with skepticism as a sort of phantom or, at best, psychosomatic disease, its blood biomarkers have now been pinpointed, and immunophenotyping tests are 96 percent accurate in its identification.

This not only establishes the legitimacy of long COVID, but it may lead to new treatments. That's the conclusion of researchers from the Icahn School of Medicine at Mount Sinai and Yale School of Medicine in a study published last year in *Nature*.

"These findings are important — they can inform more sensitive testing for long-COVID patients and personalized treatments for long COVID that have, until now, not had a proven scientific rationale," said co-principal investigator David Putrino, PhD.

Still, while data now confirms the reality of long COVID, the condition remains a puzzling challenge for researchers and patients alike.

POSTVIRAL FATIGUE

Long COVID is a postviral syndrome, explains functional-medicine practitioner Patrick Hanaway, MD. It's closely related to myalgic encephalomyelitis/chronic fatigue syndrome. And a similar wave of postviral syndrome occurred following the 1918 Spanish flu pandemic, he says.

Integrative-medicine internist Jacob Teitelbaum, MD, describes how a postviral syndrome develops: "Many infections do not have the mitochondrial 'machinery' needed to produce their own energy. Rather, they hijack our body's energy production to reproduce. Our body suppresses our own energy production to starve the viruses. This

is one reason people feel tired during many severe viral infections."

After recovering from COVID, an estimated 10 percent of people still suffer from suppressed energy production, he says. "This then triggers a chain reaction in the body with hypothalamic dysfunction, widespread muscle shortening and pain, and a form of inflammation in the brain

1 in 10

Estimated number of people with COVID who subsequently developed long COVID — including up to 23 million Americans, reports the National Institutes of Health.

called microglial activation. Each of these then triggers its own cascade of events. Immune activation and exhaustion occur alongside the low energy — likely two sides of the same coin."

THE FUTURE OF LONG COVID

Long COVID has proven especially confusing because it features more than 200 possible symptoms, Hanaway says — two of the most common being brain fog and post-exertional fatigue. "There's no one thing going on here. . . . There's a convergence of factors."

And new findings on long COVID keep emerging: A recent study published in *Cell* found that sufferers

have lower serotonin levels, presumably triggered by remnants of the virus lingering in the gut. The authors state that depleted serotonin could trigger neurological and cognitive symptoms, including memory issues.

Long COVID can strike anyone, Hanaway notes. "A third of the people with long COVID had no other health issues beforehand. None. So, it isn't just the obese, the diabetics, the elderly who are getting it. This is actually across the whole spectrum."

Equally concerning, he says, is that every time you contract a COVID infection, it increases your likelihood of getting long COVID.

Overcoming COVID once doesn't seem to be protective, he explains: "That's scary. Many people who weren't sick are getting sick, and you're more likely to get long COVID if you get COVID again."

There are studies, meanwhile, suggesting vaccination lowers the likelihood of developing long COVID, though it doesn't eliminate it. And the number of people reporting long-COVID symptoms has declined since June 2022, suggesting its symptoms may eventually resolve for many people — though it takes longer than anyone would like.

(For a report on long-COVID treatments, see [ELmag.com/longhaulcovid](https://www.ELmag.com/longhaulcovid).)

— MICHAEL DREGNI



DELVE DEEPER

For Q&As with Patrick Hanaway and Jacob Teitelbaum, see [ELmag.com/longcovidbiomarkers](https://www.ELmag.com/longcovidbiomarkers).



THE BENEFITS OF L-Theanine

Mmm, tea! There's nothing quite like a steaming cup of this ancient elixir for both its calming properties and its caffeine that keeps us alert. These two seemingly opposing qualities have spurred debate: Is it possible the soothing effects of tea are an intrinsic property of the beverage, or is this due instead to the relaxing ritual of making and drinking a cup?

L-theanine, an amino acid present in tea leaves, contributes to tea's rich umami taste as well as its peace-inducing quality. Studies have found that the combination of caffeine and L-theanine can reduce mental fatigue, ease stress, and improve cognitive function — while also mitigating some of caffeine's negative effects.

L-theanine is believed to ease the effects of stress by inhibiting cortical neuron excitation. Additional research shows that ingesting L-theanine leads to increased alpha brain waves, the same waves produced while relaxing or meditating. It can also increase levels of the neurotransmitter GABA, which plays a role in preventing anxiety and depression.

A study published in the *Journal of Physiological Anthropology* reported that L-theanine decreased participants' tension and anxiety levels. Another study showed that L-theanine reduces the effects of caffeine on blood pressure, suggesting that it could effectively temper acute stress.

A further study discovered that L-theanine lowered the heart rate

of individuals with a high propensity for anxiety. The same study also found that a single dose improved reaction time and attention performance in the same group. One of the unique aspects of L-theanine is its ability to help regulate stress while also improving concentration.

Green teas — and especially matcha — contain the most L-theanine, while black teas have less due to their processing. L-theanine is also available in supplement form.

If you are interested in the calming and focusing effects that L-theanine can provide, but still want to enjoy your morning coffee, try an L-theanine supplement with your daily cup.

— MARCO DREGNI

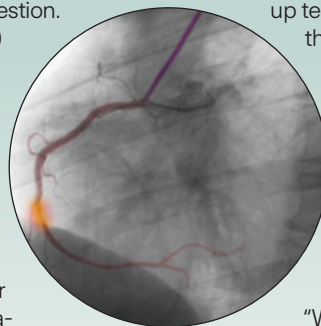
A CLEARER VIEW OF HEART DISEASE RISK

People battling high cholesterol levels may often wonder how those numbers correlate with the actual accumulation of dangerous calcified plaque in their coronary arteries. Physicians now have a tool to help answer that question.

It's called a coronary artery calcium (CAC) scan, and cardiologists use the results it produces to fashion a more personalized treatment plan than what simple cholesterol or blood pressure numbers allow.

"For years, physicians have used risk calculators to determine risk and who should be on statins. Unfortunately, the old risk calculators — which are still used today — do not include markers for inflammation or coronary artery calcification," explains integrative cardiologist Mimi Guarneri, MD, founder of the Academy of Integrative Health and Medicine.

This new, more accurate scanning procedure, she notes, may actually reduce the percentage of patients who require pharmaceutical intervention.



The scanning process is quick, noninvasive, and relatively inexpensive (note that it does require mild radiation exposure and could prompt significant follow-up testing, which some experts believe outweigh the potential benefits).

Results are often available the same day and identify the accumulation of plaque based on the following scale:

- **0:** no calcification
- **1 to 10:** minimal calcification
- **11 to 100:** mild calcification
- **101 to 400:** moderate calcification
- **Over 400:** severe calcification

"We know the risk of events increases as the CAC score rises," says Guarneri. "But we also know . . . that if the score is below 100, the risk is the same on or off a statin" unless you are genetically predisposed to cardiovascular issues.

— CRAIG COX



How Do I Know If It's Time to Seek Therapy?

IF YOU'VE BEEN struggling mentally and are unsure whether to tough it out on your own or seek professional help, consider the following factors.

You're having relationship issues. Relationships can be a source of incredible meaning, joy — and pain. Conflict, especially if it's habitual, can wreak havoc on mental well-being and increase vulnerability to anxiety, depression, and addiction.

Relying on friends or family to help navigate your intimate relational conflict can be problematic due to personal biases and allegiances, plus a loved one's reluctance to say something you might not want to hear. Therapists, by contrast, provide a neutral space in which to help you understand and change unhealthy relationship habits.

Individual therapy is often a good place to start recognizing your own emotions, beliefs, and behaviors that contribute to conflict, and couples counseling facilitates change within the relationship dynamic.

You've experienced trauma. Traumatic experiences — a terrifying

car accident, a bad breakup, a childhood marked by abuse or neglect — leave psychological carnage in their wake. Left untreated, trauma can undermine relationships, impair physical health, and greatly increase one's risk of suicide.

Through therapy, traumatic experiences can be safely processed and reconceptualized. Depending on the nature of the trauma and your therapist's background, treatment may implement evidence-based protocols such as eye movement desensitization and reprocessing (EMDR) or Somatic Experiencing, which target trauma's aftereffects within your brain and body.

You're starting an antidepressant or anti-anxiety medication.

Medication can be an important tool in your mental health arsenal, but research overwhelmingly argues that meds are most effective when used in conjunction with psychotherapy. After all, psychotropic medications may work wonders on our neurotransmitters, but they're not exactly known for asking questions, providing feedback, or helping you

understand yourself better. Think of medication like a car jack and therapy as a car-repair kit: The former lifts you up so that the latter can get to work.

You keep doing something even though it's hurting you or your loved ones. This is addiction in a nutshell, and it can take many forms. Drugs, alcohol, sex, shopping, gambling, work, and even exercise all have the potential to become addictive. While intensive treatment, such as inpatient chemical dependency programs, may be a necessary first step depending on the type and severity of the addiction, therapy can help you understand the root cause of your behavior and develop healthier forms of coping.

You're adjusting to a major loss or transition. Death, divorce, job loss, and even changes like sending a child off to college can all raise difficult and sometimes unexpected emotions. Engaging in therapy during times of transition allows space to make sense of the loss — because all life changes bring some form of loss — and serves as a form

MIND THE RESEARCH GAP

A Q&A with health journalist Christine Yu on the lack of research on female athletes.

More girls and women are playing sports than in decades prior, yet research on female athletes lags far behind: Just 6 percent of sports and exercise studies focus on females. The result? These athletes often receive guidance based on studies of men. Christine Yu tackles this disparity in her new book, *Up to Speed: The Groundbreaking Science of Women Athletes*.

Experience Life • Why is now the time to be talking about the research gap?

Christine Yu • It's an exciting time in women's sports right now. It feels like they are finally getting the attention they deserve. A lot of what we focus on are things like pay equity, media coverage, and attendance, but it's also important to talk about the lack of research. We haven't really investigated what it means to be a person in a female body performing at these high levels: how female bodies adapt to training and what it takes to prevent and recover from injury. We need to close that research gap to best support the athletes who are on the field now and the next generation of athletes who are coming up.



of preventive care, because feelings we suppress find a way to come out whether we like it or not.

Your current support system is not enough. Not only are loved ones ill-equipped to provide neutral feedback, but most aren't qualified to support someone struggling with certain mental health issues, including addiction, severe depression, and suicidal ideation. Moreover, asking them to do so can feel burdensome — even if they insist it isn't — and exacerbate the shame you're already wrestling with.

Therapists undergo years of training to assess and treat these kinds of issues and are taught to refer up (to a higher level of care, such as inpatient treatment) or out (to a specialist) when a client's concerns exceed their scope of practice. Because existing support systems remain crucial to the healing process, therapy can also help you clarify how and when to harness them.

(For advice on finding the therapist who's right for you, see ELmag.com/therapist.)

— ALEXANDRA SMITH, MA, LPCC

One word: plastics. In the 1967 movie *The Graduate*, these petrochemical products were hailed as the future. Now, in a landmark 2023 report from the United Nations, plastic is called out as a "pervasive and growing threat" to the planet.

"The way we produce, use, and dispose of plastics is polluting ecosystems, creating risks for human and animal health, and destabilizing the climate," writes UN Environment Programme (UNEP) executive director Inger Andersen in her report foreword.

In 2022, all 193 UN member states agreed to strive to end plastic pollution. Similar to accords to control climate change, a binding legal agreement is currently being hammered out. The UNEP report is designed to provide a road map of solutions.

"How can the world beat plastic pollution?" the UNEP asks. "A systems change is needed to address the cause." Its plan calls for a reduction in the size of the plastic problem and dealing with the legacy.

With the goal of slashing global plastic pollution by 80 percent by 2040, the UNEP recommends eliminating problematic and unnecessary

plastics to reduce the size of the problem. This means the creation of a "circular" instead of throwaway economy around plastics via three market changes:

Reuse: Governments must promote a shift from single-use to reusable plastic containers. The report states that such reuse can reduce 30 percent of plastic pollution by 2040.

Recycle: The UNEP believes a 20 percent cut of plastic pollution is possible if recycling becomes more common and profitable. It recommends removing fossil-fuel subsidies and enforcing design guidelines to enhance recyclability to increase the share of economically recyclable plastics from 21 to 50 percent.

Reorient and diversify: Replacing plastic packaging with products made from paper or compostable materials can bring an additional 17 percent decrease.

"Everybody has a role to play," Andersen notes. "The transformation would provide economic and social wins."

(For simple things you can do at home to live with less plastic, see ELmag.com/lessplastic.)

— MICHAEL DREGNI

EL • How might understanding sex-based differences make sports more accessible for female athletes?

CY • Throughout history, for women to play sports, we've had to leave parts of ourselves on the sideline. When I was growing up, a girl could play and be just as good as the boys, but that meant not calling attention to our differences — not talking about your menstrual cycle, smushing down your breasts so they weren't distracting, and all these things we'd do to hide our differences.

Moving forward, we must encourage girls and women to be more body-literate. . . . If we can understand how our bodies work, it sets a foundation where we can make better and healthier choices moving forward.

EL • What will it take to close the research gap?

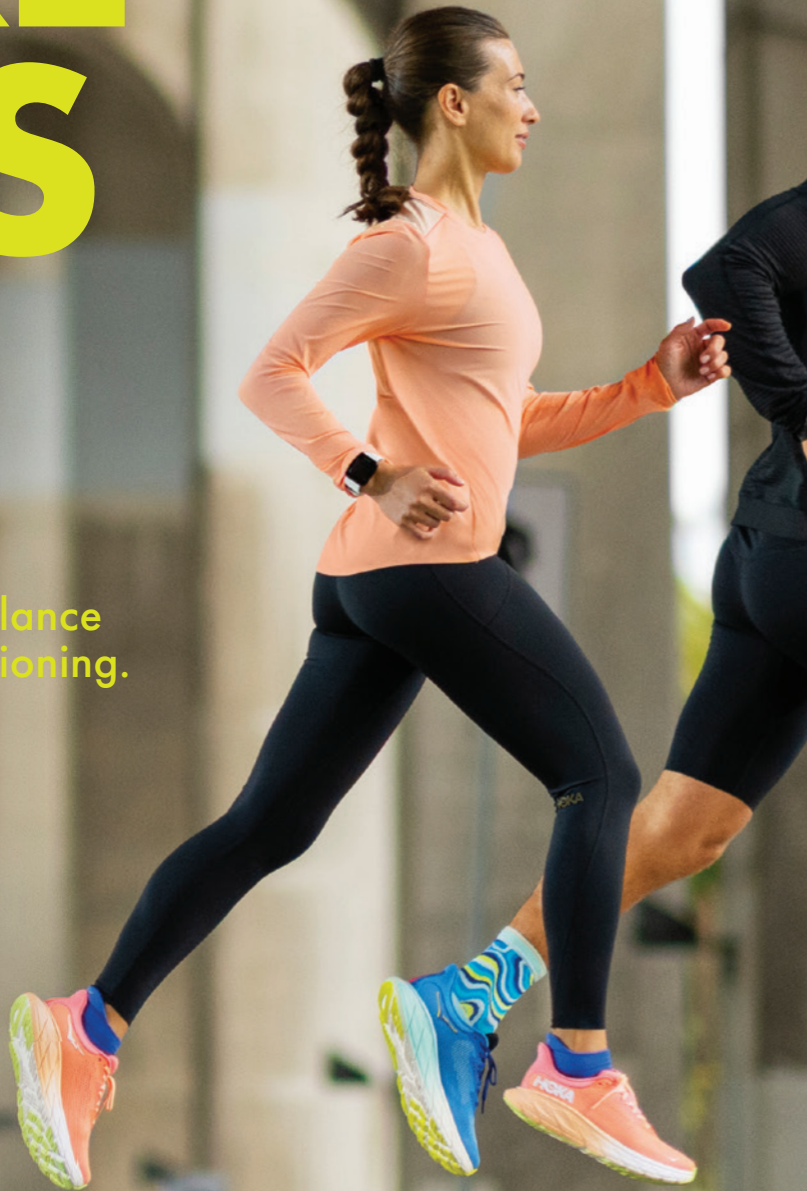
CY • What's exciting is that many researchers and scientists are interested in this field, and they are doing phenomenal work. As we continue to see interest grow, we'll keep getting more and better research. But scientific research isn't cheap, so it's also important to get commitment from government bodies, private companies, and organizations to fund this work. Part of the reason we've seen this surge in interest in research on female athlete health is because more women are coming into senior leadership positions and they're calling the shots. They've grown up playing sports and now want to answer these questions too. 🌱

— LAUREN BEDOSKY

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ON THE COVER

SETBACKS AND COMEBACKS

BY MICHAEL DREGNI

PHOTOS BY
KWAKU ALSTON

Tennis icon Venus Williams is a champion in more ways than one. She talks about her challenges, her legacy, and the inner strength that sustains her.

YOU CAN'T REST on your laurels for long at the highest levels of sport. And so, for Venus Williams, it's come-back time yet again.

Williams turned pro in 1994 at age 14. Now, at 43, she's proving to herself and the tennis world at large that she still has what it takes to play and win.

The 2023 season was an exercise in frustration. She pulled a hamstring muscle before the season-starting Australian Open, fell and tweaked her knee during a first-round loss at Wimbledon, and then suffered another first-round loss at the U.S. Open in August thanks to the hindrance of her ongoing injuries.

Williams had been the world's No. 1 player earlier in her career; she was now ranked in the 400s. In 2024, her goal is an all-out return to form.

After almost three decades at center court, with the highs and lows that accompany life in sports, Williams's strength to try and try again to power herself back to the top shows world-class resiliency.

"My next step . . . is to get to a place where I feel confident in my body again," she explains in a personal, vulnerable video on her YouTube channel. "There are very few times where I have had injuries where I've lost confidence."

She's been working on rebuilding that confidence — although she already exudes it: "I'll get there, God willing," she says.

SISTER ACT

Looking back at her admirable record, it may seem that the wins came almost as a birthright to Venus as well as her equally famed sister, Serena.

Venus and Serena, who is younger by 15 months, grew up on the court together, prodigies schooled in tennis by their ambitious father, Richard. Venus made the jump to pro first, although it was Serena who ultimately won the first Grand Slam singles title,

the 1999 U.S. Open. "If I hadn't been in Venus's shadow, I would never be who I am," Serena told *Vogue* in 2022. "When someone said I was just the little sister, that's when I got really fired up."

The sister act quickly developed a game based on a level of power previously unknown in women's tennis. By age 10, Venus was already hitting serves at more than 100 miles per hour. "They could knock the cover off the ball and run down every shot," tennis historian and journalist Steve Flink says.



Venus's gritty, aggressive style of play has since become the norm on the women's tennis tour. As Venus explained in a 2022 *Newsweek* column, "I want women to embrace their femininity and power."

After her first pro singles win in 1998, Venus went on to earn seven Grand Slam singles titles, 14 Grand Slam doubles titles with Serena, and two mixed doubles Grand Slams. She has won 49 Women's Tennis Association singles titles and 22 WTA doubles. Among her victories are five wins at Wimbledon, the grand temple of tennis.

Venus is also an Olympian, winning four gold medals between the 2000, 2008, and 2012 Summer Olympics. At the 2000 Sydney Olympics, she became the second player to ever win Olympic gold in both singles and doubles at the same Games. All told, she and Serena have each won more Olympic gold than any other female tennis player.

Along the way, the sisters also accomplished something more: They opened tennis to a new generation of Black and brown players. As the *Washington Post* stated, "Their success as Black women in a majority-white sport made them icons."

And yet at the same time as Venus and Serena expanded tennis's boundaries, they endured volleys of racist and sexist attacks. Even their fashion choices — deviating from tennis's notoriously traditional white dress code to add a splash of color to the court — were critiqued.

Despite it all, the sisters kept on winning.

HARD LESSONS

From the sidelines, Venus's triumphs may have appeared almost as if they were her natural due, but they did not come easily. She remembers the agony of learning early lessons in focus, strength, and resilience: As she shares in another video, "One of my biggest losses . . . actually fueled me to really change my life, change my approach to the game of tennis, and taught me a lot as a young person."

Both sisters were in the semi-finals of the 1999 U.S. Open. Venus was just 19 — she remembers because her braces had just been removed — and Serena was 17. "We were *babies!*" she says.

Before the match, Venus asked Serena how she felt about the pressure. "[Serena] says, 'Well, since you have to show up, why not compete?' . . . This is the wisest thing I've ever heard a 17-year-old say; her perspective on it was just incredible, and as I look back, refreshing and amazing."

Venus was ranked in the top five in the world at the time and was desperate to win her first Grand Slam title. She played Martina Hingis, 18, and it was a long, drawn-out "battle of the ages," as Venus recalls.



She also remembers — all too well — not heeding Serena’s wisdom. “I wanted to win,” Venus says, but she didn’t put in that extra effort to make it happen. “My biggest mistake in this match was hoping that my opponent would miss and hoping that somehow she would give me the win.”

Hingis took the match and went on to the finals, where Serena was ultimately victorious.

“It was a really tough, tough, tough, tough, tough loss for me — but also it proved to be my biggest teacher,” says Venus. “I realized that if I didn’t do more and if I didn’t accept the responsibility of what it took to win, I wouldn’t get it, that I would be a great player still . . . but someone else would hold the trophy and I would always be the bridesmaid.”

In 2000, Venus returned to the U.S. Open with new resolve and won.

Now, as Venus posted on X in fall of 2023, “On and off the court, I give it my all.”

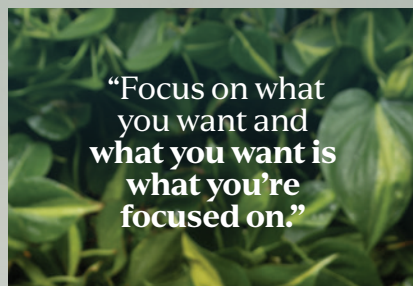
VENUS A.D.

On-court injuries are part of the game, but Venus has also struggled with her overall health. In 2011, she was diagnosed with Sjögren’s Syndrome, an autoimmune disease that causes unusual dryness in the eyes and mouth as well as joint pain, myalgia, and overall fatigue.

“One of the issues with autoimmune disease is that they’re very tricky to diagnose, so a lot of people spend an average of seven years before they get their diagnosis,” explains Venus in a further video.

“For me, I was right in that seven-year window where I literally got too sick to continue to play professional sports before I had a diagnosis.”

Venus again was forced to focus to overcome her illness. She stayed amply hydrated to counter the inflammation at the heart of autoimmunity. She got lots of sleep.



Most important, she reassessed what she ate: She cut back on sugar and processed foods and supplemented wisely. And she adopted a plant-based diet to fight the energy-sapping inflammation. Today, she calls herself a “cheagan” — a vegan who sometimes cheats.

“One thing that I would say — a little advice, and this really helped me — when going through chronic illness, when you’re dealing with issues that you’re not used to, when you can’t be who you want to be because you’re being held back by your physical health, is remember that everything counts and being able to do even something is better than nothing,” Venus advises.

“There were days where I just wasn’t able to train the way I wanted to and I couldn’t run — or even if I could only run for five minutes, I

thought that’s better than no minutes . . . but if that’s all I had that day, I said it’ll all add up,” she says. “Think about the things you *can* accomplish instead of what you *can’t* accomplish.”

At the time, she referred to this new phase of her life as “Venus A.D.” — Venus After Diagnosis.

COMEBACK TIME

Setbacks are part of sports — and life. But so are comebacks. While Venus is optimistic about the 2024 season, she’s also not limited by the sport.

She has her hand in other ventures as well: In 2002, she started V Starr, founded on her love of interior design. The boutique company specializes in commercial hospitality and luxury multifamily residences.

Inspired by the results of managing her autoimmune condition with a plant-based diet, Venus launched Happy Viking in 2020. The superfood nutrition company offers protein powders packed with veggie and fruit phytonutrients, prebiotics and probiotics, and fiber.

And in 2022, Venus joined forces with the nonprofit Outdoor Afro and Clif Bar to promote equity and greater access to the outdoors and sports for underserved communities.

And she still plays tennis with her longtime partner, Serena.

Lately, Venus says she finds inspiration in the axiom “Focus on what you want and what you want is what you’re focused on.”

She explains: “That’s super powerful, and in life I think one of the most challenging things is definitely focusing because focusing takes discipline and focusing also takes application and it also takes endurance.”

Venus has proven over the years she’s capable of discipline, application, and endurance — it’s all part of the icon’s legacy. As she says, “Serena and I used to always joke that in tennis we would say, ‘Carry me off on the stretcher, but I’m going to do what it takes to win.’” 🎾

MICHAEL DREGNI is an *Experience Life* deputy editor.

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Wake Up at the Same Time Every Day

Sleep experts recommend this daily practice to align your circadian rhythms.

BY *EXPERIENCE LIFE STAFF*

WHY

A consistent sleep schedule benefits your circadian rhythms. Too little or poor-quality sleep can lead to circadian disruption, and that's linked to mood disorders as well as acute and chronic health concerns.

HOW

Maintaining consistent sleep and wake times is ideal. Even after a late night, plan to wake up at the same time to synchronize your body clocks. Try a sunrise alarm clock to introduce light, or place your alarm clock across the room if you are tempted by the snooze button.

TAKE ACTION

Discover more about circadian health — plus tips for getting the best rest, morning routines to jump-start your day, and advice on napping — at [ELmag.com/onehealthyhabit](https://www.ELmag.com/onehealthyhabit).





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Second Chance

A woman with multiple sclerosis shares how she's rebuilding her strength and learning to love life all over again.



Left: Lindsay Karp biking the Ashokan Rail Trail with her sons in September 2021.
Right: Lindsay and her husband in May 2023.

BY LINDSAY KARP

WITH THE WIND brushing my face and wilderness surrounding me, I'm overwhelmed with a sense of gratitude for how far I've come. I feel capable and strong as my legs work against the pedals in a comforting rhythm. I'm at peace within my body despite all it's been through.

Not long ago, I couldn't imagine showering without taking a rest, much less riding a bike. For 13 years, I lived with a disease no doctor could name. This unknown condition made me weak, sent pain down my legs, and induced muscle twitching throughout my body. Without an explanation, I believed I'd live undiagnosed and struggle with a slowly worsening illness forever.

The turning point came in 2017, when a neurologist discovered inflammation in my nervous system. After 13 long years, I finally had an answer: multiple sclerosis (MS).

This diagnosis was far from easy to receive, but it allowed me to begin a treatment program that changed my life for the better. For the first time in years, I was hopeful for my future.

LONG ROAD TO A DIAGNOSIS

I was only 21 when I started experiencing mysterious, debilitating symptoms, including stiffness in my legs and involuntary muscle twitching throughout my body. I couldn't fathom why my once-healthy body

was now struggling. Weeks before the symptoms began, I had been barhopping around New York City to celebrate my birthday.

An MRI of my brain revealed nonspecific lesions, which one doctor suggested might be related to MS. But the first neurologist I saw discounted the possibility.

My condition remained undiagnosed despite my efforts to find an answer. Meanwhile, my symptoms

I was overcome with a sense of awe for how far my body had come.

continued, varying like the seasons, and affected every day of my life.

I graduated from college, but the years following that milestone weren't what I'd imagined they would be. Doctors' appointments consumed every spare moment, and lab draws were part of my new weekly routine.

I exhausted every branch of medicine without receiving a diagnosis. Some of the doctors insinuated that I was exaggerating because my disease remained invisible. Many wouldn't think outside the box or listen deeply to my concerns. One physician advised me to go home and have a martini, as

if a drink could cure what ailed me. I felt hopeless every time I left another unproductive appointment.

It was like I was trapped in a nightmare, unable to wake up. I felt disconnected from my body and unheard by professionals who were supposed to be helping me. I vacillated between worrying that my life was over and trying to control my fear and anger.

I tried to maintain a normal life while managing my symptoms and doctors' visits. I earned a master's degree in speech-language pathology, met and married my husband, and started a family in the suburbs of Philadelphia, where we still live today. My symptoms remained stable through the first three years of marriage and motherhood, but I began having flares after weaning my second son from breastfeeding.

I was soon so weak that I struggled to get around my home. Even sitting up in a chair was challenging — I'd find myself hunched over from the effort after only a few minutes.

My symptoms made it difficult to fulfill my role as a stay-at-home mother. I was unable to attend many family outings. Some days I could successfully food shop, though my legs would be shaky and weak by the end. A nanny helped care for our children because those duties were too much for my body to handle.

Lindsay's Top Takeaways

1.

Find a doctor you can trust. Their personality should mesh with yours in a way that allows for a healthy doctor-patient relationship.

2.

Design an exercise program that meets you where you are.

The type of exercise you choose should be most compatible with your ability level.

3.

Focus on the better days during difficult times.

Living with a chronic disease means symptoms will fluctuate. When symptoms worsen, rest and focus on the better days that lie ahead.

Finally, I was referred to a neurologist who listened and made sense of the non-specific lesions on my MRI. He ordered a lumbar puncture, the results of which were consistent with MS.

When I received the diagnosis, I was flooded with concern and relief simultaneously. I cried at the thought of never regaining the abilities I'd lost, but the neurologist reassured me that my life was not over. As hard as it was to digest the news, I felt some semblance of hope.

THE RIGHT DIRECTION

My doctor recommended an infusion of an immunosuppressant every six months to kill the cells responsible for MS. He believed the treatment could improve my symptoms but warned that it might take time for the effects to take hold.

The first few years of treatment were tough. Every symptom flared for a few months following an infusion. Weakness, profuse muscle twitching, and debilitating fatigue consumed me. I'd eventually find my way back to baseline only to be knocked back again by another infusion. My neurologist remained hopeful: "Give it some time," he advised.

After three years of treatment, I started to notice small improvements. I could prepare dinner without my legs aching afterward. While volunteering at my children's school, I could walk across the parking lot and through the hallways and still be able to stand in my son's classroom.

I carried chairs and bags across the field to my son's soccer game with minimal difficulty. I was having more good days than bad, and that was a change in the right direction.

As my body regained some strength, I was inspired to start using an exercise bicycle. I knew from physical therapy in the early days of my diagnostic journey that biking was easier than walking. When I walked, my legs fatigued quickly, but on the bike, my strength lasted longer.

I hadn't had a consistent exercise routine before I became chronically ill, and I had no intention of making it a daily practice now. But I was determined to take advantage of everything my body was now capable of doing.

In the beginning, I biked about 10 miles per hour on level-one resistance. Some days were manageable. Other days, I had to stop soon after starting because my legs were too weak.

It was hard to stick with the routine: My muscle stamina was low. But I noticed an increase in energy after exercising, which encouraged me to continue. So each day I got on my bike, and I pedaled until I needed a break.

Over weeks and months, I increased my speed, the resistance, and the length of my workouts. I built up to biking 11.5 miles daily and kept this up for a couple of years. Then one day I pushed myself a little harder and noticed I could bike farther than I realized. I was overcome with a sense of awe for how far my body had come. It was an immense improvement from where I'd been before my diagnosis.

NEW TRAILS AHEAD

My husband is an avid hiker and has passed his love of the outdoors to our boys. Our vacations often revolve around new terrain they're excited to tackle.

Although I can't hike mountains with my family, biking rail trails enables me to be outdoors with them. We've biked the Ashokan Rail Trail in the Catskills; the Delaware and Hudson Rail Trail in Vermont and New York; and a trail to Bordner Cabin in Pennsylvania's Swatara State Park — the list goes on, and it's only just begun.

Today, my symptoms wax and wane, but I'm capable of much more than I was before. I pedal for more than an hour daily, totaling about 17 miles on a level-three resistance. Biking helps my legs build the strength and endurance they need to maintain my walking ability. It also provides cardiovascular exercise that helps keep my heart and lungs healthy.

Most importantly, biking has become my meditation and a source of stress relief. It's boosted my self-confidence and allows me to feel strong, in control, and capable — feelings I thought I'd never experience again.

I hope to continue biking at home and outdoors with my family. Perhaps one day I'll be strong enough to bike on hills or even up mountains. But for now, I couldn't be more excited to live the life I have lying in front of me. 🚲



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p. 35



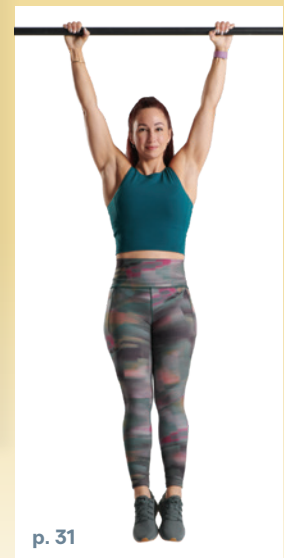
p. 26



p. 32



p. 37



p. 31

AIMING TO BOOST YOUR RUNNING SPEED?

Whether you do 5Ks or marathons, strength training in concert with speedwork can improve your running economy — and protect against injury. Find our hybrid workout, which helps develop the various muscle groups involved in running, on page 26.

Run Strong

This hybrid workout combines strength training and speedwork for an effective, efficient challenge.

BY NICOLE RADZISZEWSKI

WHETHER YOU'RE a 5Ker or a marathoner, getting strong can be a boon. “Runners need to strength train in order to develop the different muscle groups that are involved in running,” says Olivia Cotton, CPT, a Life Time coach and personal training lead in Atlanta. This has been shown to improve running economy as well as protect against injury.

But fitting in resistance training with a running routine — not to mention with adequate recovery — can be a challenge.

Not only is it difficult to make time, but it can be tricky to get the maximum benefits from either modality. That’s because running *and* strength training deplete muscles of the energy necessary for significant gains in one or the other, explains Cotton.

To get around this, she advises, combine strength training with speedwork rather than with long, low-intensity endurance runs. Strength training and sprinting typically recruit similar fast-twitch muscle fibers, so doing both in one workout can be effective. “Combining running intervals with strength exercises is an efficient way to work strength, speed, and power if you don’t have a lot of time,” says Cotton.

What does a strength–speed hybrid workout look like? Think intervals: running up to two minutes at a time between dynamic, full-body strength moves and plyometric exercises.



The Workout

Cotton designed this workout to be done on a treadmill, on a track, or anywhere else you can run and secure space nearby for basic strength moves. Perform this workout once a week.

You’ll need a stopwatch, mat, and bench. A pair of dumbbells is optional. Try the strength exercises first with just your body weight and add weights only if you are able to maintain good form for the duration of a set.

Choose footwear that supports your feet sufficiently while running short distances and allows for ground feel and lateral motion. If possible, avoid sneakers that are heavily cushioned as well as those with zero support and hard, flat soles.

Warm-Up

Begin by walking or jogging, gradually increasing the speed to a steady running pace (not a sprint) for six minutes. Then perform three rounds of the following two exercises to activate the glutes and core-stabilizer muscles. This warm-up will prepare you for running and for the full-body, explosive moves in this workout.

HOLLOW BODY HOLD WITH HIP ABDUCTION 20 REPS



EXPLOSIVE SINGLE-LEG GLUTE BRIDGE 8 REPS/SIDE



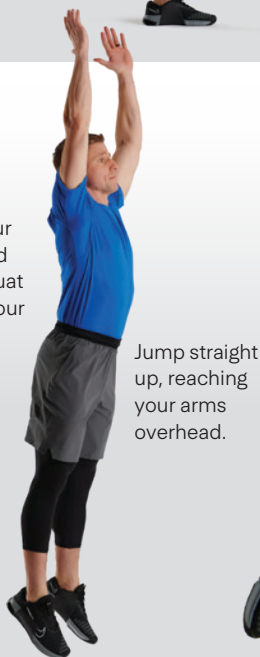
Set 1

Perform three rounds of the following two strength moves. Run for one minute after each round. Your pace should be around a 7 out of 10 on an effort scale of 1 to 10. Rest for 60 seconds between rounds.

SINGLE-LEG DEADLIFT WITH KNEE DRIVE 10 REPS/SIDE



SNAP DOWN WITH VERTICAL JUMP 5 REPS



RUN 1 MINUTE

Remember, this is about a 70 percent effort.



**REST
60 SECONDS**

Set 2

Perform three rounds of the following two strength moves. Sprint for 30 seconds after each round. This should be significantly faster than your one-minute pace and closer to your max speed. Rest for 30 to 60 seconds between rounds.

REAR-FOOT ELEVATED ECCENTRIC SPLIT SQUAT WITH TEMPO (4/2/1) 8 REPS/SIDE

With your back foot elevated, lower into a split squat on a count of four.

Hold the bottom position for two counts. Drive through your front foot to return to standing on one count.



GET THE SPECIFICS

For full exercise instructions, visit [ELmag.com/running-workout](https://www.elmag.com/running-workout).



SKIER WITH TRANSVERSE BROAD JUMP 5 REPS/LEAD LEG



Begin standing on your right foot, then push off to hop to the left and land softly on your left foot. Hop off your left foot and turn 90 degrees to the left, landing softly on both feet. Maintain an athletic position, with knees slightly bent and arms in front of you.

SPRINT 30 SECONDS



This speed approaches your max effort. Aim for 8 to 10 on an effort scale of 1 to 10.

REST 30 TO 60 SECONDS

Set 3

Perform four rounds of the following two strength moves without running in between. Rest for 30 to 60 seconds between rounds.

BODY-WEIGHT THRUSTER 6 REPS

With fingertips on your shoulders, squat down. Driving through your feet, return to standing as you reach your arms overhead.



INCHWORM WITH PUSHUP 6 REPS

From standing, fold forward and walk your hands out to a plank position. Perform a pushup, then walk your hands back toward your feet and return to standing.



REST
30 TO 60 SECONDS ↻

NICOLE RADZISZEWSKI is a writer and personal trainer in River Forest, Ill.



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The Hang

Strengthen your shoulders, core, grip, and more with this often-overlooked move.

BY **MAGGIE FAZELI FARD, RKC, MFT-1, ALPHA**

HANGING FROM A BAR is often a means to an end — the first step in performing pull-ups, for instance, or traversing monkey bars. What many people underestimate are the benefits of just hanging, no hoisting or swinging required.

This straightforward hold improves grip strength, shoulder stability, core activation, and overall posture. It's also a great way to stretch the upper body and decompress the spine.

Hanging from a bar (or a set of rings, or a suspension-training system) might sound intimidating, but rest assured: The move can be adapted for beginners and progressed over time. Moreover, it doesn't take a major time investment to see results.

If you're new to this, begin with your feet supported on the floor. Set up your bar at an arm's-length distance overhead, or stand on a bench or a box that allows you to reach the bar. Hang with your feet planted, then gradually raise the bar (or lower your bench) until you are on your tippy-toes. Start by spending five to 10 seconds in a hanging position; once you can hold for 30 seconds straight, practice raising one leg at a time.

You'll soon be able to hang with both feet off the floor. Again, practice in short increments.

As this becomes easier, you can play with single-arm hangs. Here again, start with your feet supported on the floor.

Follow these tips to get the most out of your hang time.

Engage your core muscles and maintain a neutral spine.

Actively engage through your upper back while drawing your shoulders down.

Don't hang to failure — short hangs (10 to 30 seconds) add up.

Mix up your hang by changing grips, twisting through your torso, swaying your hips, or doing knee raises.

PHOTOS: KELLY LOVERUD; STYLING: PAM BRAND; MODEL: ANNA TAYLOR

INSTRUCTIONS

1.

Grasp a pull-up bar with both hands and hang with arms extended. Use a box or a bench to reach the height of the bar, if needed.

2.

Actively engage your full body, including your core, legs, and upper back. Keep your shoulders away from your ears.

3.

Begin with three sets of 10-second holds. Focus on maintaining good form; don't hang to failure during these efforts.

4.

Repeat daily, if possible. Over time, build up to three sets of 30 seconds, increasing in five-second increments.



MIX UP THE MOVE

For three hang variations, visit ELmag.com/thehang.

Picture the Process

Visualization is a powerful tool for reaching your fitness goals — but what exactly should you be envisioning?

BY JESSICA MIGALA



OFTEN WHEN PEOPLE visualize success in fitness endeavors, they visualize reaching an end goal, such as PRing their deadlift or crossing the finish line of their first triathlon.

Rare is the athlete or gym-goer who applies visualization techniques to the many possible steps in their fitness journey, be it walking through the doors of a new health club for the first time, establishing a wake-up routine that reliably leads to an early morning workout, or performing the warm-up reps necessary for achieving a future personal best.

These interstitial stages might seem boring — a dull, blurry gray-scale compared with the vivid sensory experience of reaching a major goal. But visualizing the small steps is precisely the type of mental performance training that can set you up for achieving those big successes.

It's vital, in other words, to picture the journey. Experts explain how visualization can help you do just that.

THE BENEFITS OF VISUALIZATION

The mind is a powerful tool, and it's the mind's power that makes mental performance training — and visualization in particular — so effective.

“Visualization, or guided imagery, uses our own imaginations to elevate how we show up or perform,” says Life Time Mind coach Barbara Powell, MA, NBC-HWC. “Our brain doesn't really sense or know the difference between an imagined image and reality.”

For example, just imagine you are eating a lemon, and notice how your mouth begins to salivate or pucker — that's your body responding to your thoughts, Powell says. “This shows how potent imagery can be. Our mind creates our reality.”

Data backs this up: A meta-analysis of studies concluded that mental imagery improved motor performance, motivational outcomes, and positive feelings associated with sport. The research, published in the *International Review of Sport*

and *Exercise Psychology*, found that imagery plus physical training is more effective than physical training alone — and the more you practice imagery, the greater the benefits.

Picturing the process can help you better accomplish your sports or fitness goals in a couple of ways. For instance, it provides more practice time.

“You can rehearse sports skills or strategies without having to physically be in training,” says Greg Chertok, a certified mental performance consultant with Telos Sports Psychology Coaching. Visualization allows you to complete more reps or practice an activity without actually doing it.

Not only can you do that anywhere — on a bus or train, or while taking a walk or lying in bed — but it also can reduce the risk of overtraining. “You can visualize certain reps in the gym or an arduous uphill run without the physical strain,” he explains.

Of course, mental performance training doesn't replace your workouts.



“Visualization is complementary to our physical training,” says Powell.

Another perk is its ability to boost your confidence. “If I can imagine overcoming some obstacle or seeing myself be successful,” notes Chertok, “this facilitates confidence and heightens my motivation to physically do it for real.”

IMAGINING PROCESS VS. OUTCOME

Though visualizing success is a powerful tool, research suggests that what exactly you visualize makes a difference.

In the late 1990s, researchers at the University of California, Los Angeles, set out to determine whether it was better to visualize having achieved a goal (outcome visualization) or to visualize the steps needed to achieve a goal (process visualization).

Study participants were divided into three groups: A process-visualization group spent five minutes a day imagining studying for an exam: sitting at their desks, studying book chapters, turning off the television, turning down invitations to go out, etc. An outcome-visualization group spent the same amount of time visualizing themselves receiving an A on the exam. The control group was given no visualization instructions.

The researchers found that the process-oriented group started studying earlier, studied for more hours, and achieved an average exam grade more than five points higher than the outcome-visualization group and about eight points higher than the control group. In other words, any visualization was better than none at all — but the process-oriented participants had a notable leg up.

Chertok explains that outcome visualization “runs the risk of tipping

As you develop the skill of noticing your senses in real time, it becomes easier to evoke them while visualizing your lifts, rides, runs, free throws, and more, no matter where you are.

into fantasizing — that you’re thinking *only* of the outcome you want to achieve.”

This can drain the energy needed to complete the tasks required to make progress. Process visualization is the counterpart: It encourages you to imagine the actions you’ll actually take to reach the desired outcome.

BELIEVE YOUR SENSES

Using imagery is one of the most powerful ways to bring process visualization to your training, says Chertok. Imagery involves calling upon the five basic senses — sight, sound, touch, smell, and taste — to create a realistic experience in your mind.

Begin practicing this by noticing your sensory responses in the moment. Whether you’re lifting weights, riding your bike first thing in the morning, going for a run after work, or lacing up for a game of pick-up basketball, pay attention to what you can see, hear, smell, taste, and touch.

What does the barbell’s knurling feel like as you grip it while deadlifting, for instance? Can you smell the morning dew in the air during your training ride? While sipping your homemade electrolyte drink during your long run, can you pinpoint the flavors of salty, sour, and sweet? What

does a basketball whooshing through a hoop sound like?

As you develop the skill of noticing your senses in real time, it becomes easier to evoke them while visualizing your lifts, rides, runs, free throws, and more, no matter where you are. The better you are at this, the more vivid your imagery will become — and the more effective it will be, says Chertok.

“Our ability to mentally prepare can be identical to how elite performers do it.”

Once you get the hang of building imagery, you can expand your visualization technique to include both internal and external perspectives. “Internal” means that you see the scene from your own eyes: You are doing the action. “External” means that you’re watching yourself do something from a third-party perspective.

“There is so much flexibility in the modality,” Chertok explains. Experiment with how and when you use imagery to “find what feels the most comfortable and confidence-boosting for you.”

Visualization can help us elevate our mindset and prepare mentally for hard efforts, adds Powell: “So, use it to dream big.”

JESSICA MIGALA is a Chicago-based health journalist.



LEARN MORE

Discover how guided imagery can boost health and performance at ELmag.com/guidedimagery.

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Skip the Snooze Button

How can I become a morning-workout person?

BY LAUREN BEDOSKY

RECONFIGURING your schedule to work out in the morning might not be easy, but crossing an a.m. workout off your to-do list boasts several benefits.

“Anecdotally, clients who work out first thing in the morning seem to be the most consistent exercisers, since life and schedules are less likely to throw their fitness routine off-kilter,” says Samantha McKinney, RD, CPT, national program manager for nutrition and metabolism at Life Time.

Morning exercise may also help fine-tune your circadian rhythms. These natural processes follow a 24-hour pattern — the most notable of which is the sleep-wake cycle.

“If you think about waking up and starting your day, many things are happening that the brain uses to understand its circadian rhythms,”

says W. Chris Winter, MD, a neurologist and sleep specialist based in Charlottesville, Va. These include going from dark to light, inactive to active, and cool to warm.

Exercising in the morning heightens these cues. The movement will warm you up, and bright lights in the gym or sunshine outdoors can send a loud and clear message to your body that the day has begun. “That leads to more consistency to the day’s end, as in falling asleep and sleeping well,” Winter says. (Learn more about circadian rhythms at ELmag.com/circadianhealth.)

Of course, morning exercise has some drawbacks — and the biggest has to do with potentially losing sleep to get in an early sweat sesh.

It’s a tough sell, but Winter notes that for most people, the sleep short-

age is temporary; they will naturally begin retiring earlier the night before. “If I stay up late and get up early to exercise and lose a few hours of sleep, the motivation to stay up late the next day is dramatically tempered,” he explains.

Both Winter and McKinney note that a long-term sleep deficit will not benefit your fitness. Making strength and endurance gains requires exercise as well as recovery — and sleep is a crucial component of the latter.

Exercise can help regulate sleep patterns, but if sleep deprivation is an ongoing issue, it might be wise to refocus your efforts on that aspect of your health. (Discover why sleep is vital to your health and how to prioritize shuteye at ELmag.com/gettingtosleep.)

6 TIPS TO MAKE MORNING WORKOUTS WORK

1. Make a plan. Determine when you need to wake up to get your workout done — then allot time to be in bed at least eight hours before that, McKinney says.

2. Start small. To make your new bedtime less of a shock, make gradual shifts toward it. Try getting to bed and waking up 15 minutes earlier every few days, Winter suggests. Don’t forget to factor in time to wind down: Aim to spend the last hour before bed doing something relaxing without a screen.

3. Ease into movement. It may take a few days — or weeks — before you’re ready to complete a full-length morning workout. In the meantime, practice doing 10 minutes of movement when you get up “to get yourself used to exertion shortly after waking,” McKinney says. Try a body-weight strength circuit; a yoga, tai chi, or mobility sequence; or a short walk or jog. Bonus points if you can take your practice outdoors and get early exposure to fresh air and sunlight.

4. Prep the night before. Laying out your workout clothes and preparing your food in the evening can help streamline your morning transition from bed to gym. This way, you don’t have to hunt for stuff once your alarm goes off. Removing barriers to early workouts can help you stay consistent.

5. Heed your body’s signals. Pay attention to how your new workout schedule feels and how well you perform, as well as your energy levels, mood, hunger, and sleep patterns. If you have a smartwatch, you can track measurements such as your heart rate variability (HRV) — the change in the time that lapses between heartbeats. (Learn more about HRV at ELmag.com/hrv.)

“All of those measurements might suffer in the short term, but if you follow the measurements over time, they should largely bounce back,” Winter says.

If you don’t see improvements, you may need to tweak the intensity of your workouts or how you’re fueling and hydrating. Make sure you’re making time for a warm-up, and prioritize drinking water and eating a protein-rich snack before your workout. (For preworkout snack ideas, visit ELmag.com/workoutsnacks.)

6. Give yourself grace. As with any transition, practicing patience and compassion with yourself can set you up for success. There’s no right or wrong way to be a morning-workout person, so be open to finding the routine that works best for you.



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Where Do You Wobble?

Our fitness editor explores what it means to face moments of imbalance head-on, in movement and in life.

BY **MAGGIE FAZELI FARD, RKC, MFT-1, ALPHA**

THE WOBBLE BEGAN as soon as I lifted my heels, transitioning from *utkatasana* (chair pose) — a foundational, grounding yoga posture — to what yoga instructor Kate Counts calls a “soul dive.”

Following Counts’s cues via my computer screen, I shifted my weight forward onto the balls of my feet and allowed my heels to rise off the floor, torso pitching forward, arms extending behind me until my fingertips were reaching up to the ceiling. My body shivered, unconsciously seeking balance.

“The wobble is here,” Counts told our online class. “The wobble is part of the story. It’s always part of the story.”

And she’s right — the wobble wasn’t new. I’d experienced the quivering of my muscles and mind more times than I could count. I knew it from the gym: It’s the feeling of trying something new, working hard, getting tired. I also knew it from less controlled scenarios: the feeling of being caught off-guard when stepping onto black ice, for instance.

What was new, I realized as I teetered on the balls of my feet, was that I wasn’t running away from the wobble.

The momentary loss of balance wasn’t triggering me to instantly drop my heels, returning to the safety and comfort of feeling both feet firmly planted on my mat. I wasn’t afraid of what it might mean if I wasn’t strong enough to steady myself. Nor was I fighting the shake, tensing up so hard in my effort to stop the feeling of unsteadiness that I actually would lose my balance and fall.

The wobble — which Counts also refers to as the “tremor of truth” — is the body’s way of figuring out where it is. It’s the body trying to come back to itself. In that class, I wasn’t afraid of the truth of my body. I was there for it.

This revelatory class took place in November 2021, but Counts’s words came back to me recently while I was reviewing an article on balance training. Balance — the ability to stay upright without falling — is an essential physical and mental skill. Balance training has been shown to boost overall strength and mobility, increase resilience to injury, and benefit cognition, spatial awareness, and proprioception. All wonderful and important points, corroborated by our fact-checking and copyediting team.

But one comment made during the review process struck me. It pushed back on the framing of balance training as “wobble work” because our goal is to help people balance (i.e., remain stationary in a state of equilibrium), not to wobble (i.e., unsteadily rock).

Is that the goal of balance training? To wonder. To remain stationary? To achieve a state of equilibrium?

I reflected on this point for some time. I sought out the wisdom of other movement coaches, textbooks and training guides, and my own experience. Stillness might technically be a definition of balance, but balance training and its real-life functions seemed, to me, to be more nuanced.

My questioning approached a level of philosophizing that was beyond the scope of the balance-training article (which you can read at ELmag.com/balancetraining). But for the sake of my own training, I continued to contemplate the matter.

The most satisfying answer I’ve come up with so far — one that feels true to where I am in my training and life — is that balance training uses controlled instability to continually increase awareness of the limits of one’s stability.

In other words, the goal is to intentionally walk up to the line and come face-to-face with the wobble — Counts’s tremor of truth — and stay there, engaging with it, with curiosity. This is the challenge, the physical and mental stress, that builds our capacity to maintain stability.

Balance training, then, is so much more than training to be still. We train balance so we’re not afraid of being thrown off-balance. We train it so that states of imbalance, a part of life, don’t result in us falling over and not being able to get back up.

The wobble is not something fearsome to be avoided, or a foe to be pursued and overcome. The wobble is a guide, helping us find our way through the guaranteed moments of instability. Big or small, the wobble points us to our work.

“The tremor of truth wants to know that it is heard, seen, and believed,” Counts counseled in another class during which she set us shaking.

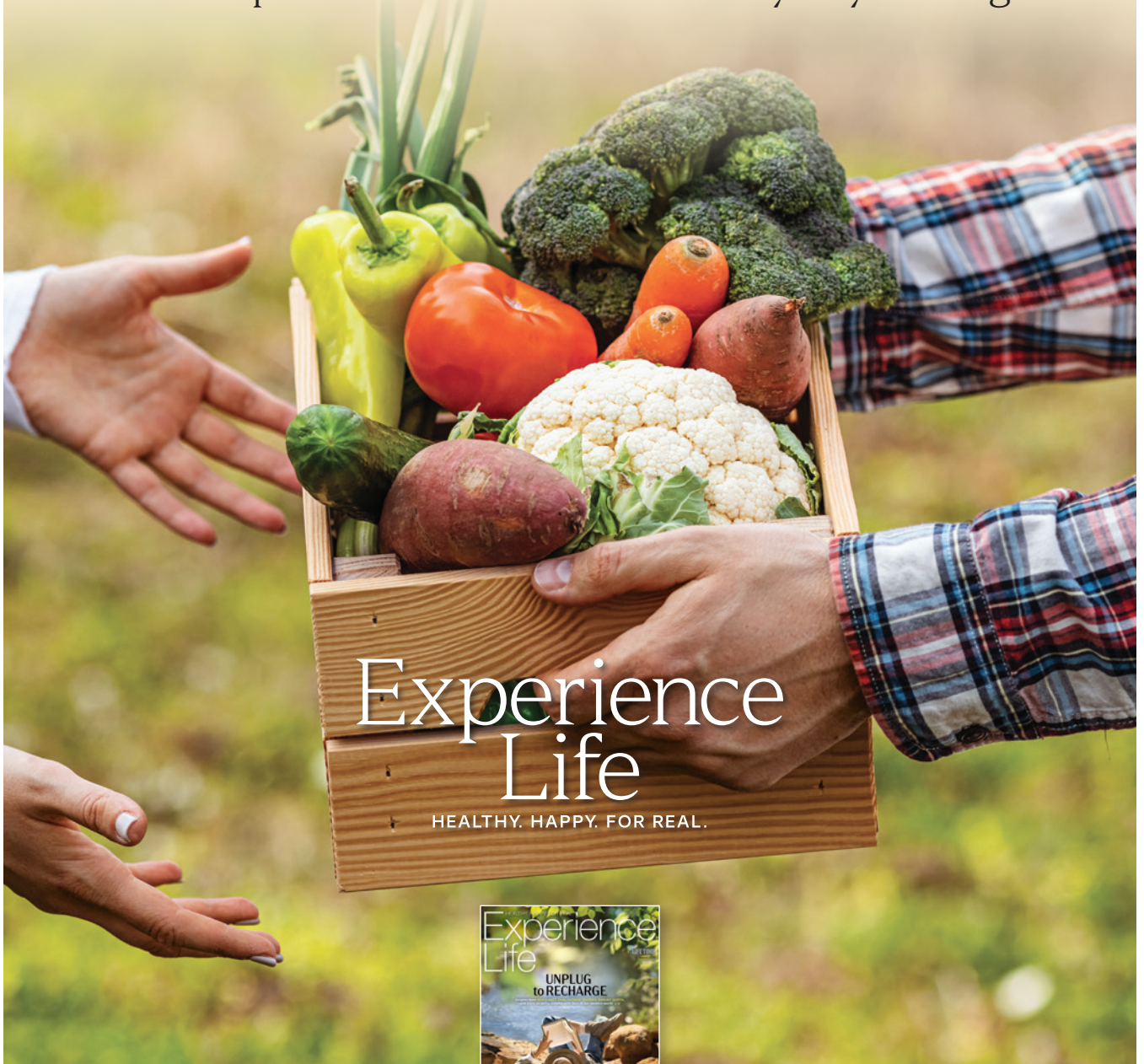
“I see you, wobble,” I repeat back to her through a muted screen, knowing the only ones who can hear me are my cats and, hopefully, my body. “I feel you.”



MAGGIE FAZELI FARD, RKC, MFT-1, ALPHA, is an *Experience Life* senior editor.

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REAL FOOD



p. 46



p. 48

CELEBRATE THE FLAVORS OF MEXICO

Americans often consider Mexican food unhealthy, but the core ingredients — maize, beans, and chili peppers — are all highly nutritious. The three recipes featured in “¡Viva las Verduras!” (page 48) adapt Mexican classics with plant-forward twists that might just elicit a new appreciation for what the cuisine has to offer.



p. 45



p. 40

The World Beneath Our Feet

How soil health is connected to human health — and to so much more.

BY KRISTIN OHLSON

YOU'VE HEARD THE ADAGE

“You are what you eat.” That understanding may even motivate you to buy organic produce free of pesticide residue or to seek out foods like grass-fed beef or pastured eggs. After all, we are what our food eats, too.

But the wellspring of food quality goes even deeper.

“If we are what our food eats, we are only as healthy as the soil our food is grown in,” writes integrative neurologist Maya Shetreat, MD, in *The Dirt Cure*.

A small but expanding body of research backs this idea, demonstrating that the health-promoting properties of our food are inextricably tied to the health of the soil.

Soil is not a dead medium. When we treat it with care and respect, it is a vibrant and complex ecology of bacteria, fungi, and other living things — and everything growing in it and eating from it is healthier. Including us.

WHERE DID THE NUTRIENTS GO?

In conventional industrial-farming operations, soil is too often treated like dirt. Now-common practices — the use of synthetic fertilizers, pesticides, and herbicides; tillage; and leaving soil bare for much of the year — fundamentally change the quality of the soil and what’s grown in it.

The nutritional value of many of the vegetables and fruits we eat today is 5 to 40 percent lower than that of the same produce grown 50 to 70 years ago, according to researcher Donald R. Davis, PhD, FACN.

In a study published in the *Journal of the American College of Nutrition* in 2004, Davis reviewed U.S. Department of Agriculture nutritional data from 1950 and 1999 for 43 different vegetables and fruits. He found “apparent, statistically reliable declines” in the amount of protein, calcium, phosphorus, iron, riboflavin, and vitamin C across the foods he studied over those years.

British researchers conducted a similar analysis in 2021, finding that the amounts of iron, copper, magnesium, and other nutrients in vegetables and fruits had declined between 1940 and 2019. Meanwhile, their water content had increased.

Scientists think that these nutrient losses stem from conventional farming’s reliance on synthetic fertilizers and plant cultivars bred for high yields instead of for nutrient quality, as well as its many practices that deplete soil health.

Fortunately, other research suggests that more ecosystem-friendly farming can help plants regain their nutritional bounty.

A 2014 paper published in the *British Journal of Nutrition* summarizes



the results of 343 peer-reviewed studies that show significantly higher levels of phytonutrients in crops raised organically — a conclusion that suggests organic farming supports soil health better than industrial techniques do. (For more on this, see “Conventional Farming Practices That Harm the Soil” on page 43.)

In a study published in 2007, scientists at the University of California, Davis, compared levels of flavonoids — phytonutrients that protect against cardiovascular disease, cancer, and dementia — in tomatoes raised organically for 10 years with those raised conventionally during the same time period. They found that the organic tomatoes had much higher levels of two important flavonoids, quercetin and kaempferol, than the conventionally grown tomatoes.

This research is especially interesting because the organic plots produced similar yields to the conventional fields, debunking the notion that farmers must sacrifice quantity for quality.

Another potent nutrient provided by healthy soils full of microorganisms is L-ergothioneine (ERGO). Some refer to this antioxidant and anti-inflammatory amino acid as the “longevity vitamin” for its potential to stem the chronic diseases of aging. In a 2021 study, scientists from Penn

7 WAYS TO FIND FOOD FROM GOOD SOIL

Some food and farm activists want to see an official “soil health” label — much like the federally regulated organic label — but for now, nothing like this exists to guide consumers. Finding food grown in good soil requires some detective work. Experts offer these clues.

1. Buy organic or regenerative organic when possible. Paying extra for certified organic food will protect you from most pesticide, herbicide, and fertilizer residue, as well as from subtherapeutic antibiotics in meat and bioengineered crops. Regenerative organic is a new nongovernment certification ensuring that food is free from those agricultural toxins and comes from farms that embrace soil health, animal welfare, and social fairness.

2. Buy local. “The amount of time that food is shipped and stored really changes the concentrations of healthy antioxidants and polyphenolics in our food,” says Kristine Nichols, PhD, lead soil scientist at the Food Water Wellness Foundation.

3. Talk to the farmer. Ask questions the next time you’re at the farmers’ market: Do you practice no-till agriculture? Do you use synthetic fertilizer and killing chemicals? If so, how often? How does your farm promote biodiversity? Are there animals on the farm? Do you live on the farm?

According to integrative physician Daphne Miller, MD, author of *Farmacology: Total Health From the Ground Up*, farmers who live on their land and eat from it themselves are more likely to take good care of their soil.

4. Use all your senses. When you’re shopping for produce, Miller recommends, rely on more than your eyes. “Plants’ interaction with soil and the environment produces strong smells and tastes,” she notes. “These can be

markers for higher phytonutrient levels. They’re like mini medicines and are good for health.”

5. Embrace blemishes. “I tell my kids that when you see a little bug hole on a fruit or vegetable, that’s often the healthiest one,” says neurologist Maya Shetreat, MD, author of *The Dirt Cure*. “That’s the one that has up-regulated phytonutrients to protect and repair itself.”

6. Buy meat, dairy, and eggs from pastured animals. Pastures are intact landscapes with healthy soil (most are rarely tilled or sprayed with agrochemicals), and the wide variety of plants growing there provides great forage.

“Much of what grows in a native grassland or healthy pasture has some medicinal use,” says Didi Pershouse, author of *The Ecology of Care*. “Grazing animals are basically eating herbs all day long, and many of those plant essential oils have positive health benefits.”

7. Grow your own. Nothing is fresher and offers more intact nutrients than something picked minutes before you eat it. (Of course, you need to start with healthy soil! Check with your local university extension service for advice on how to create your own healthy-soil ecosystem.) Miller suggests concentrating on growing nutrient-dense plants like herbs and bitter greens.





State University showed that the intensive tillage of industrial agriculture decreases the concentration of ERGO in three different crops.

Many farmers who start their careers with an industrial mindset discover that it leaves their land less resilient, and often less productive, so they turn toward regenerative agriculture — a set of practices that enhance soil health. Geomorphologist David Montgomery, PhD, and biologist Anne Biklé, MLA, coauthors of *What Your Food Ate: How to Heal Our Land and Reclaim Our Health*, worked with some of these farming visionaries on studies comparing food from regenerative farms with food from conventionally managed farms. They found that the regenerative farms produced crops with higher levels of phytochemicals, vitamins, and minerals.

One of the studies found that the meat from animals raised on regenerative pastures — where farmers paid attention to building soil health — contained higher levels of healthy omega-3 fatty acids than meat from animals raised either conventionally or on pasture where soil health wasn't a priority.

Despite mounting evidence linking healthy soil and healthy plants — and showing how industrial agriculture can disrupt and destroy ecosystems — research into the connection between healthy soil and healthy humans is still in its infancy.

“Some of this has to do with the complexities and many unknowns involved in the research,” explains

Kristine Nichols, PhD, lead soil scientist at the Food Water Wellness Foundation. “Some of it has to do with how new this area of research is, and some is due to a lack of financial support and the costs involved.”

Most food and agriculture research is funded by companies hoping to promote their commercial farming products, so funds are not flooding in for research examining whether fewer chemical products and more knowledge of nature would benefit our agriculture and health.

WHY HEALTHY SOIL MATTERS

There are more life forms in a teaspoon of healthy soil than there are humans on the planet, and scientists are still in the exciting early stages of discovering just how these microorganisms interrelate with plants — and with us.

What has emerged from the research is evidence of an ongoing barter between plants and the soil's most miniscule residents. Through the solar-powered energy-conversion process of photosynthesis, plants create a sugary carbon fuel that supports their own growth. But they don't use it all: 40 percent or more of this fuel is streamed through their roots, delivering energy to fungi and other microorganisms in the earth.

In exchange, these microorganisms feed plants the mineral nutrients they extract from rock, sand, silt, and clay within the soil.

The relationship gets even more complicated. Just as we humans

depend upon our microbiome for multiple benefits, plants rely on the soil's microbiome to help defend against pests, increase availability of nutrients, and more.

Interestingly, in soils with lots of biodiversity, you'll find some microbes that are closely related to disease organisms, explains Utah State University soil scientist Jennifer Reeve, PhD. These microbes don't cause disease, but the plants produce compounds in response to them.

In doing so, they develop a robust set of defenses — just in case the microbes' disease-causing cousins come along. Not only will these plants be able to fight off disease better than those grown in depleted soil, but they can also offer a richer array of phytonutrients to the humans who eat them.

“Plants can't run away, so they have evolved this huge arsenal of different chemical compounds to protect them against pests, disease, and UV and water stress,” says Reeve. “Many of these chemicals and phytonutrients have been shown to have beneficial activity in human health.”

SOIL-FRIENDLY LIVESTOCK

Grazing and foraging animals play a role in this dynamic ecology as well. “The meat, eggs, and milk from animals raised on pasture are higher in nutrients than those from animals raised in confinement,” explains Rutgers University soil scientist Joseph R. Heckman, PhD.

Heckman tested soils in the mid-Atlantic states and found that samples



from pastures were 60 percent higher in organic matter than those in cropland without animals. “Having those animals on the land is also the best way to build soil quality.”

“Nature never farms without animals,” adds Didi Pershouse, founder of the Land and Leadership Initiative and author of *The Ecology of Care: Medicine, Agriculture, Money, and the Quiet Power of Human and Microbial Communities*. “That’s everything from earthworms up to grazing animals.”

Even livestock like cattle can benefit the soil, as long as they’re managed in such a way as to prevent heavy grazing that kills plants. They deposit microbe-rich urine and dung, and they cause plants to pulse carbon sugars into the soil ecosystem.

There’s a virtuous cycle when animals are brought onto the land: They make the soil healthier, which makes the plants healthier, which makes the animals themselves healthier — and those health benefits are passed on to humans.

Like soil, animals, and plants, humans are complex biological systems. As we seek out food that nourishes us, we would do well to consider that our health is deeply connected to the biological systems that produce it. From the ground up. 🌱

KRISTIN OHLSON is a journalist and author of several books, including *The Soil Will Save Us* and *Sweet in Tooth and Claw: Stories of Generosity and Cooperation in the Natural World*.

CONVENTIONAL FARMING PRACTICES THAT HARM THE SOIL

Scientists first extracted

nitrogen from the atmosphere and created synthetic fertilizer in the early 1900s; farming hasn’t been the same since. Fertilizer use was followed by the development of synthetic insecticides, fungicides, and herbicides, along with new plant varieties bred for higher yields — and often genetically engineered to resist the herbicides.

Many farmers quickly embraced these chemicals, which allowed them to produce greater crop yields with reduced labor. Farms grew larger and became less diversified; animals were moved off their pastures and into high-production confinement facilities. Farming was industrialized. The following practices oversimplify an inherently complex natural system, disrupting and weakening the soil as a result.

The use of **chemical fertilizers** disrupts the natural relationship between plants and microorganisms. Rather than receiving nutrients from the soil and its microbes, plants are force-fed synthetic compounds — often derived from petroleum — that are designed to maximize plant growth and yield. Think of this as similar to feeding a human being a towering pile of pizzas: The plants get more nutrients than they need in a year, and it hardly comes from the most nutritious food.

The use of **insecticides, fungicides, and herbicides** affects far more living things than the target organisms listed on the label; sometimes they kill key ecosystem players. Fungicides, for instance, can destroy the beneficial fungi in the soil that link plant communities and help plants access nutrients, water, and protective chemicals.

Overall, the harmful chemicals reduce biodiversity, which is as

important in the farm ecosystem as in any other.

Tilling the ground destroys the complex underground ecosystem in which soil microorganisms live and do their work. “These microorganisms underground create the structure of the soil, which our own society depends on,” explains Didi Pershouse, author of *The Ecology of Care*. “It’s as if they’re building a city every few months and if you till you’re knocking it down every few months.”

Monoculture planting is the practice of raising single crops rather than a diverse array. It streamlines production and reduces costs for farmers (and is encouraged by government subsidy programs), but it disrupts soil ecology.

“Fewer kinds of microorganisms in the soil means that plants receive less in the way of beneficial compounds and molecules that soil microbes make,” explains biologist Anne Biklé, MLA.

Nature is innately diverse and crowded with life: A square foot of native prairie, for instance, can hold more than 100 plant species, and each species feeds slightly different nutrients to soil microorganisms.

When only one species of plant is grown over a large area and surrounding vegetation is cleared away to bare soil, just a small percentage of the soil’s microorganisms receive the nutrients they need. This reduced population can’t then supply the full range of benefits, including nutrition, that the plants need.

“These microbes tend to specialize in doing a few things,” says David Montgomery, PhD, professor of geomorphology at the University of Washington. “You want a great diversity of them to do a broad set of processing in the soil. Without that, it’s like having a village where everyone does the same thing. If you only have bakers in that village, everyone will only eat bread.”

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Avocado Caesar Dressing

BY ALYSSA SHULTIS

Makes about 1½ cups
Prep time: 10 minutes



1 ripe avocado



3 garlic cloves, peeled



4 anchovy fillets (or 2 tsp. anchovy paste)



1½ tbs. lemon juice (about half a lemon)



1 tbs. white-wine vinegar



1 tsp. sea salt



¼ tsp. freshly ground black pepper



½ cup extra-virgin olive oil



WHY AVOCADO?

When added to a salad, avocado encourages your body to absorb fat-soluble carotenoids like lycopene and beta-carotene.

Halve the avocado and remove the pit. Scoop out the avocado flesh and add it to a blender or small food processor.

Add the garlic cloves, anchovy fillets, lemon juice, white-wine vinegar, salt, and pepper. Blend on high speed until smooth.

With the motor running, pour the olive oil into the mixture in a steady stream.

Use immediately, or store in a jar and refrigerate for up to three days.

Use this dressing on the Kale Caesar Salad pictured here (find the recipe at ELmag.com/kalecaesar), or toss with your favorite greens and chopped vegetables.

ALYSSA SHULTIS is a Minneapolis-based writer and editor.

Kitchen Conservation

Try these thoughtful strategies to use less water in the kitchen.

BY KIM SYRIOS

YOU MIGHT THINK your dripping kitchen faucet is just a minor annoyance, but did you know that a single leaky faucet can send more than 3,000 gallons of water per year straight down the drain? That's a lot of wasted water — enough

for 180 showers or 150 loads of laundry.

The average American uses between 80 and 100 gallons of water per day at home, according to the U.S. Geological Survey. As more areas of the country are experiencing frequent

drought, you might be looking for ways to reduce your own water waste to help conserve this dwindling resource. The kitchen is a great place to start.

"Most water waste in the kitchen is behavioral," explains Charles Bohlig,

manager of water conservation for the East Bay Municipal Utility District in Oakland, Calif. "It's important to remember that water has a purpose."

With that in mind, practice these tips to conserve water in your home kitchen.

Fix Leaks and Install Aerators

Faucet leaks are a major source of water waste. "Fixing leaks in a house is typically a No. 1 priority to save water," says engineer Amy Vickers, a water conservation and efficiency expert and author of *Handbook of Water Use and Conservation*.

Installing an aerator on your kitchen faucet can conserve water and lower your utility bill. A mesh screen attached to the end of a faucet to control the stream, an aerator mixes air bubbles with the water to reduce the flow. "Aerators provide the functionality of moving water, but without the volume," explains Vickers. "Your kitchen faucet should flow at a maximum flow rate of about 1 to 2 gallons per minute, and less if only rinsing." This can help save up to 700 gallons of water per year.

Most newer faucets have aerators, but if yours doesn't have one, you can install one easily. They're typically inexpensive, but before purchasing one, contact your utility company to see if they provide them free of charge.

Clean your aerator at least every six months for the best performance.

Mind Your Garbage Disposal

One way to eliminate water waste in the kitchen is to stop using your garbage disposal like a garbage can or compost bin. Garbage disposals are meant to handle smaller scraps of food; putting large quantities of waste through the disposal requires a constant stream of water to keep it from clogging the pipes.

Bohlig advises against flushing a lot of food down your drain while letting the water run for lengthy periods. Instead, run your disposal and faucet briefly to wash away small bits of food; toss the larger scraps into your compost bin.



Save on Dishes

One-pot and one-pan meals are certainly time savers — and because they cut down on dirty dishes, they'll also tamp down your water use. (Get started with our sheet-pan recipes at ELmag.com/sheetpanmeals.)

You can also lean into more water-efficient cooking methods. For example, steaming a few cups of vegetables uses only an inch or two of water; to boil those same vegetables, you'd have to fill the pot.

Reuse Water

Don't be so quick to pour leftover water down the drain! Save drinking water for later by storing it in the refrigerator rather than dumping it out. Or give it to your plants.

Some plants can be watered with leftover room-temperature water from tasks such as washing produce or boiling eggs. Just be mindful of what's in the water: For example, if it contains animal fat, grease, chemicals, or soap, it's better to let it go down the drain, says Vickers.

"Some communities and states encourage residents to recycle graywater," she adds. Graywater definitions and codes vary, but in some jurisdictions it includes wastewater that drains out of kitchen sinks, washing machines, bathtubs, and showers. Where allowed, graywater is typically treated and then reused for watering nonedible plants, shrubs, and trees.

Compost Kitchen Scraps

Composting saves water by eliminating the need to rinse food scraps down the drain. It also reduces the amount of decomposing food in landfills — the third-largest source of methane emissions in the United States. (To learn more about curbing food waste, see ELmag.com/foodwaste.)

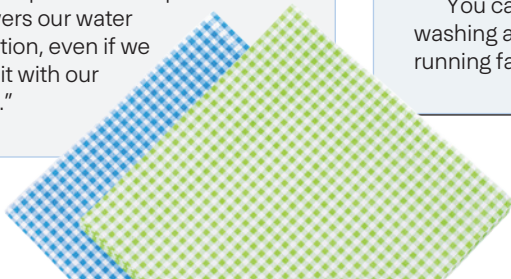
If you live in a community that offers curbside compost pickup, you can simply start adding your kitchen scraps to a small countertop bin lined with a compostable bag. If not, check to see if your community offers a food-scrap drop-off location — or, start your own backyard compost with our six-step method at ELmag.com/composting.

Think Before You Buy

Did you know that just one roll of paper towels requires an estimated 2.5 gallons of water to manufacture? As a single-use product, paper towels also create significant waste in landfills. Instead, transition to eco-friendly alternatives, such as reusable dishcloths (like the ones featured in "Sustainable Swaps" on page 85).

It may feel challenging to eschew some of your preferred products — but ultimately, being more mindful about consumption is well worth the effort, says Tippi Thole, the eco-minded mom behind the website TinyTrashCan.com.

"All the food we eat requires water to grow and manufacture," Thole explains. "Reducing consumption of water-intensive foods, like beef and dairy, and eating more plants and unprocessed foods lowers our water consumption, even if we don't see it with our own eyes."



Upgrade Appliances Strategically

Consider water efficiency when upgrading kitchen hardware and appliances. The Environmental Protection Agency's WaterSense and Energy Star programs make it easy to identify water- and energy-efficient products.

WaterSense-labeled products, which include faucets, are validated by third-party organizations. They're guaranteed to perform as well as or better than their standard counterparts while using at least 20 percent less water.

The Energy Star program helps consumers identify energy-efficient appliances, such as dishwashers, that protect the climate, improve air quality, and support public health. A new Energy Star-certified dishwasher uses less than half the energy needed to wash the same dishes by hand — and it can save more than 8,000 gallons of water per year.



Use Your Dishwasher

Running full loads of dishes through a dishwasher requires less water than handwashing — so if you've got one, put it to use. New models use 6 gallons or less per cycle, with many requiring just 3.5 gallons. Conversely, if you hand-wash your dishes under running water, you'll be using up to 2 gallons per minute.

"Even if someone hand-washes efficiently, they are still not going to be able to use the small amount of water that dishwashers use," says Bohlig. He suggests scraping excess food into the compost bin, then putting dishes right into the dishwasher without rinsing. "Letting water continuously run while rinsing can waste gallons in just minutes."

Make Water Baths

You can conserve water while washing your dishes by hand — as long as you don't let the faucet run continuously. Instead, make a soapy water bath in a basin or a bowl for washing, and then use a second, clean-water bath for rinsing. This method helps save time and water compared with using a continuous stream to wash and rinse.

You can use a similar method to wash produce: Create one bath for washing and one for rinsing. If possible, use cold water; waiting for a running faucet to heat up wastes both water and energy. ☘

KIM SYRIOS is a Chicago-based writer.

iVIVA LAS VERDURAS!

Celebrate the flavors of Mexico with these veggie-packed dishes.

BY JOSE GUZMAN, RDN

GROWING UP MEXICAN AMERICAN in Chicago, I thought I knew everything about Mexican food — after all, I ate it for just about every meal. But after traveling throughout Mexico as a young man, I learned that most of what Americans consider Mexican cuisine is primarily influenced by the northern Mexican states, where ingredients like flour tortillas and beef are common. As you move farther south, corn tortillas and dried chilies take center stage.

This limited perspective is one reason Americans often consider Mexican food to be unhealthy. In reality, the three true pillar ingredients — maize, beans, and chili peppers — are all highly nutritious.

Corn tortillas are a naturally gluten-free, whole-grain food with more fiber than their refined flour counterparts. Beans are an excellent source of plant-based protein and fiber, and dried chilies are packed with vitamin C and other antioxidants. Plus, adapting Mexican cuisine to a plant-forward diet is remarkably easy: So much flavor comes from fresh herbs, acids, spices, and cooking techniques that there's no need for animal protein.

If there's one thing Mexican food is known for, it's the generous use of hot peppers. These recipes are designed to have medium heat, but don't be afraid to adjust the number of chilies based on your spice tolerance. If necessary, you can always cut back on how many you use or remove the membranes and seeds to tone down the heat.

If you're a spice fanatic, on the other hand, leave it all intact and double the number of chilies used. My hope is that, after experimenting with these plant-based remixes of Mexican classics, you'll come away with a new appreciation for what the cuisine has to offer.

Cauliflower “Ceviche” With Pineapple Habanero Salsa

Makes four to six servings

Prep time: 20 minutes

Cook time: 10 minutes

FOR THE CEVICHE:

- 1 small head cauliflower, quartered
- 1 cup diced Roma tomatoes
- 1 cup peeled, cored, and diced cucumber
- ½ cup diced red onion, rinsed under cold water
- ½ cup chopped cilantro
- ½ sheet nori, rolled and thinly sliced (optional)
- ½ cup lime juice (roughly 3 limes)
- ½ tsp. sea salt
- 12 corn tostadas

FOR THE SALSA:

- 1 tsp. extra-virgin olive oil
- 2 cups roughly chopped pineapple
- 1 orange habanero pepper, halved and seeded
- 1 garlic clove
- ⅛ tsp. sea salt
- 1 tbs. lime juice (roughly ½ a lime)
- 1 tbs. minced cilantro

Prepare the ceviche: Bring ½ gallon of water to boil in a medium pot. Grate the cauliflower through the large holes of a box grater, yielding approximately 4 cups of “rice.” Add the cauliflower rice to the pot, reduce the heat, and simmer for four to five minutes, until al dente. Drain in a fine colander and rinse briefly with cold water to stop the cooking. Let the rice sit in the colander for a few minutes to dry.

In a large bowl, combine all of the remaining ceviche ingredients, excluding the tostadas. Stir in the drained cauliflower rice. Allow to marinate while preparing the salsa.

Prepare the salsa: Heat the olive oil over medium heat in a small saucepan. Add the pineapple, habanero, garlic, and salt to a blender and blend until smooth. If needed, add 1 to 2 tablespoons of water to help the ingredients break down in the blender. Add the salsa to the saucepan and simmer for five minutes or until the liquid has evaporated and the sauce has thickened. Cool in a small bowl for another five minutes, then add the lime juice and cilantro.

To serve, top each corn tostada with ½ cup of the ceviche and a desired amount of salsa.



Plant-Based Pozole

Makes five 1-cup servings

Prep time: 15 minutes

Cook time: 30 minutes

FOR THE POZOLE BASE:

- 1 tbs. extra-virgin olive oil
- 1 8-oz. package button mushrooms, quartered
- ¼ tsp. black pepper, plus more to taste
- ¾ tsp. sea salt, plus more to taste
- 1 30-oz. can white hominy, drained and rinsed
- 1 32-oz. carton unsalted vegetable stock

FOR THE GREEN SAUCE:

- 1 tsp. extra-virgin olive oil
- 3 large tomatillos, husks removed, quartered (or use 1 11-oz. can)
- 2 garlic cloves
- 1½ cups loosely packed chopped cilantro, including stems
- 1 medium poblano pepper, seeded and roughly chopped
- ½ cup roughly chopped white onion
- 1 whole serrano pepper
- ¼ cup toasted pumpkin seeds
- ½ tsp. ground Mexican oregano (or Italian oregano)
- ¼ cup water

FOR THE GARNISH:

- 1 cup diced red radish
- 1 cup minced white onion, rinsed under cold water
- 1 medium avocado, chopped
- 2 limes, halved
- 10 corn tostadas (optional)

Prepare the pozole base: Heat the olive oil in a large pot over medium-high heat. Add the quartered mushrooms and cook for 10 to 12 minutes or until golden brown, adding the pepper and a pinch of salt halfway through cooking. Add the hominy, vegetable stock, and remaining salt. Bring to a simmer while preparing the green sauce.

Prepare the green sauce: Heat the olive oil in a small saucepan over medium heat. In a blender, combine all of the remaining sauce ingredients and blend until smooth. Add the sauce to the pan and simmer for five minutes, until slightly thickened.

Add the reduced sauce to the pozole base and simmer, covered, for 15 minutes. Adjust salt and pepper to taste.

To serve, ladle the pozole into bowls and garnish with the radish, onion, avocado, and lime juice. Use the tostadas as scoops or break them into bite-sized pieces directly over the soup.



ENJOY MORE!

Find Jose Guzman's recipes for Tofu Tinga Burritos and the Only Salsa You'll Ever Need (shown above) at [ELmag.com/vegmex](https://www.ELmag.com/vegmex).



Black Bean and Roasted Poblano Tacos

With Quick-Pickled Slaw and Green Tomatillo Salsa

Makes eight tacos
Prep time: 20 minutes
Cook time: 25 minutes

FOR THE PICKLED SLAW:

- 2 cups shredded white cabbage
- $\frac{3}{4}$ cup thinly sliced white onion
- 1 jalapeño, seeded and thinly sliced into half-moons
- 2 tbs. white vinegar
- Juice of 1 lime
- $\frac{1}{4}$ tsp. ground Mexican oregano (or Italian oregano)
- $\frac{1}{4}$ tsp. sea salt

FOR THE TACOS:

- 2 medium poblano peppers
- $\frac{1}{2}$ tbs. extra-virgin olive oil
- $\frac{1}{2}$ cup diced white onion
- 2 garlic cloves, minced
- $\frac{1}{2}$ tsp. smoked paprika
- $\frac{1}{2}$ tsp. ground cumin
- 1 15-oz. can no-sodium black beans, drained, with $\frac{1}{2}$ cup of canning liquid reserved
- $\frac{1}{4}$ tsp. sea salt
- 8 corn tortillas

FOR THE TOMATILLO SALSA:

- 4 medium tomatillos, husks removed, quartered (or use 1 11-oz. can)
- 1 cup cilantro leaves
- 1 jalapeño, roughly chopped
- 1 garlic clove
- $\frac{1}{4}$ tsp. sea salt
- 1 tsp. extra-virgin olive oil

Prepare the slaw: Combine the slaw ingredients in a large mixing bowl. Allow them to pickle at room temperature while you continue cooking.

Prepare the taco filling: Roast the poblano peppers directly over a gas-stove flame at medium heat, turning often to completely char and blister all sides of the peppers, for a total of eight to 10 minutes. Alternatively, spray or coat the peppers lightly with oil and place under a broiler for the same amount of time, turning once or twice during cooking. Enclose peppers in a paper bag, with the top folded, to soften while you prepare the beans.

Heat the olive oil in a medium pan over medium heat. Add the onion, garlic, and spices. Cook for five minutes, or until the onions are translucent. Add the beans, reserved bean liquid, and salt. Simmer for eight to 10 minutes, or until the liquid has evaporated.

As the beans simmer, peel the poblanos by scraping down their sides with a knife or paper towel. Cut in half, seed, and slice each poblano into $\frac{1}{4}$ -inch-thick pieces. Add them to the bean mixture.

Prepare the salsa: Add all salsa ingredients except the olive oil to a blender. Blend until smooth, adding 1 to 2 tablespoons of water if needed. With the blender running, add the oil to emulsify.

Heat the corn tortillas three or four at a time in a large skillet over medium heat until soft and pliable, about 30 seconds per side. Keep tortillas warm by wrapping them with a large kitchen towel. Assemble each taco with $\frac{1}{4}$ cup of the filling and some slaw. Top with salsa to taste. 🌱



JOSE GUZMAN, RDN, is a New Mexico-based dietitian and chef.



ILLUSTRATIONS: VANESSA BRANCHI

ANXIETY

Is Not Your Enemy

A case study in how to live — and thrive — with anxiety.

BY DAVID H. ROSMARIN, PhD

***Editor's Note:** When we received a copy of Harvard Medical School associate professor David H. Rosmarin's new book, *Thriving With Anxiety*, we couldn't believe what we were reading. Embrace anxiety instead of treating the symptoms? Anxiety as a means to develop emotional resilience, greater closeness in relationships, spiritual growth? Where are the tips and tricks for creating serenity and calm? What is going on here?*

Anxiety rates have been high in the United States for some time, and they only increased during the COVID-19 pandemic. At the time of this writing, about 29 percent of American adults report symptoms of anxiety — up from 17 percent prior to the pandemic. In 2022, around one in 10 prescriptions was for drugs to treat anxiety or depression; still, the experience of anxiety remains stubbornly widespread. There's something about treating this condition we still don't understand.

That is what makes Rosmarin's thesis so intriguing. What happens, he asks, when we turn toward our anxiety rather than try so desperately to make it go away? In this article, he shares the story of a patient who did just that. We think you'll be as relieved as we were to discover what happened.

WHEN HAROLD came into my office at the Center for Anxiety, he had one objective: getting rid of his panic attacks. "I've been suffering from them on and off for years," he told me. "But now they're getting worse."

Harold's desire made sense. He was an emergency medical technician (EMT). Day after day, the most vulnerable people in the most urgent situations depended on his care. The pressure in the back of an ambulance is intense. He couldn't afford to mess up.

On top of dealing with the panic attacks, Harold was worried about his physical health. He was intensely nervous most of the time, and he wondered whether his racing heart, rapid

breathing, and profuse sweating might signal a heart condition.

For all these reasons, my response surprised him. "Harold, I'm not going to help you get rid of your panic attacks."

But, I told him, if he was open to it, I could help him learn to embrace his panic instead.

Harold looked both bewildered and irate. Still, he didn't flee. So I went on to point out that panic does not impair our functioning, nor is it dangerous.

"Think about it," I suggested. "In your EMT training, did they ask you whether you had epilepsy or another neurological condition that could impact your work?"

"Yes," Harold responded.



“Anxiety can help us enhance our relationships with ourselves and others — and even grow spiritually if we want to.”

“Did they ask you about whether you need corrective lenses?”

“I believe they did,” he said.

“What about panic attacks? Did they ask you about this?”

Harold stopped and thought before answering. “No, they did not.”

“Why is that?” I asked rhetorically.

Before Harold could answer, I chimed in: “Because panic isn’t dangerous. Case in point: You’ve had panic for years, and never — not once — have you ever had an incident on the job, even when you were super uncomfortable. Furthermore, your primary-care physician referred you to my office *after* ordering an electrocardiogram, so we know that your heart is fine.”

Harold still looked confused: “But it’s so uncomfortable! Are you saying you can’t help me?”

I let Harold settle down before telling him I could help him — it just wouldn’t involve trying to stamp out his panic.

“The first thing you need to understand is that squelching your symptoms will make things worse,” I explained. “By the time we’re done, I think you’ll find that your panic is a blessing that helps you to thrive in your life. Anxiety can help us enhance our relationships with ourselves and others — and even grow spiritually if we want to.”

Harold was skeptical but intrigued. He agreed to give my approach a try.

TOLERATING UNCERTAINTY

I met with Harold twice over the next week, and we talked at length about the current state of anxiety in our society:

- Before the pandemic, about one in six American adults was experiencing anxiety.
- By October 2023, that number had increased by 80 percent — closer to one in four.
- In many middle-income countries, such as Mexico, people experience anxiety at roughly half the rate of people in high-income countries, like the United States. And anxiety is only half as prevalent in low-income countries as it is in middle-income countries.

I noted how anxiety seems to increase alongside technological and economic advancement and shared my theory about this correlation: Having resources may make us more intolerant of situations that are uncertain and uncontrollable. The more agency and control we expect

to feel every day, the less we're seemingly able to handle feeling unmoored and anxious.

Harold caught on right away. "In the United States, we often don't have control and our predictions are often completely wrong," he said. "But, unlike other areas of the globe, we expect to feel calm all the time."

He was beginning to understand that anxiety itself is not the main problem: It's a normal, even healthy, human response to threat.

And in Harold's line of work, it made perfect sense that he felt anxious as he faced his patients' life-threatening situations.

The main problem is that we *expect* to be anxiety-free. This expectation is neither realistic nor productive. It also prevents us from growing stronger.

Growth requires us to tolerate discomfort. When we go to the gym, we understand that some soreness can be a side effect of building new muscle tissue and increasing our strength. Likewise, when we're handed a major project at work on a short deadline, we expect to sleep less, eat less, and shower less while we dedicate ourselves to getting it done. If we love our work, we may even revel in temporarily feeling tired, hungry, and sweaty as symbols of our dedication.

We can choose to take the same approach with anxiety. When we release our expectation of perfect calm and learn to tolerate anxiety's discomfort, we build strength and resilience. This is just the first of its gifts.

PANIC TRAINING

Over the next month, Harold and I met weekly for "exposure therapy." This involves deliberately facing one's fears instead of trying to tamp them down.

In this case, we helped Harold to panic. Intentionally. Repeatedly. At a higher level than he had ever panicked before. He raised his heart rate to nearly 200 beats per minute by doing jumping jacks in the office. He breathed through a tiny coffee straw to deprive himself of oxygen. We turned on a space heater so he was sweating from every gland in his body.

This was not pleasant for Harold, to say the least. But by the end, he felt emotionally stronger than ever. "I feel like I just did anxiety boot camp!" he reported.

As his mind and body became more tolerant of anxiety-related sensations, these feelings began to

lose their power to frighten him. He experienced firsthand that panic isn't dangerous — even for his heart, which was his original concern.

"Before this part of treatment, I had a nagging fear in the back of my mind that panic meant an impending heart attack," Harold said. "Now I know in my gut that anxiety has nothing to do with the health of my heart. In fact, my heart rate can go a lot higher than I ever thought it could!"

Ironically, by the end of our seventh session, Harold was largely panic-free. Even though his work was particularly stressful during this time, he had not had any panic attacks. What's more, he was able to identify how his thinking had changed.

"When I have low-level symptoms of anxiety, like a heart flutter, a bit of sweat, or a small increase in my breathing rate, I now instantly see it as just a part of being human on the job," he reported. This recognition had replaced his former catastrophizing and self-judgment for feeling anxious.

As a result, his panic didn't spiral out of control anymore — and he no longer lived in fear of his own fear.

THRIVING WITH OTHERS

Had Harold stopped coming to therapy at this point, our time together would have been a clinical success. By rethinking, embracing, and conquering his anxiety, he had successfully rid himself of panic attacks.


But when I shared with Harold that his anxiety could also lead him to have deeper relationships with others, he decided to continue for a few more sessions.

Before becoming an EMT, Harold was in the military. Like most soldiers, he was trained to keep his emotions to himself. He carried this stoicism into his ambulance work, where most of his colleagues conducted themselves the same way. As it happens, one of the foremost triggers for his panic attacks was a fear that his coworkers might notice his anxiety.

Harold also kept his emotions to himself in his marriage. His wife, Natalie, had long complained of his emotional distance. Harold acknowledged she was right about him not sharing his feelings — but he didn't know where to start.

"Have you ever spoken with Natalie about your panic?" I asked.

"When I have low-level symptoms of anxiety, like a heart flutter, a bit of sweat, or a small increase in my breathing rate, **I now instantly see it as just a part of being human on the job.**"



Like it or not, uncertainty is part of our limited and humble existence.

Sometimes we will be overwhelmed, overburdened, or distressed, and feel as if we are floating through the universe without agency.

Silence filled the room. I repeated the question.

“Well, not exactly,” he allowed. “Once, I told her that I thought I had a heart condition, but she doesn’t even know that I came for therapy.” Harold hung his head.

“Is there a reason you didn’t tell her? Are you afraid of anything?” I asked. He couldn’t come up with any examples, but he did say he thought Natalie might lose respect for him if she knew about his panic attacks.

I suggested he might have this backward.

“From what you’ve shared with me,” I told him, “my hunch is Natalie will love you more and feel closer to you if you tell her you’ve experienced panic disorder. She will cherish that you trusted her to show your vulnerability — a side of you that you don’t share with others.”

Harold was silent again, but he seemed ready to learn whether it was true.

When Harold finally spoke with Natalie about his panic, she did not judge him. As I suspected, she more easily relaxed around him when he shared his vulnerability, and this created more tender, loving moments in their home. The couple started to connect emotionally more than ever.

Harold soon began to open up about other issues. He shared his feelings about work, their mutual friends, and even his childhood — feelings that he had never discussed with Natalie before.

In turn, she felt more confident sharing her feelings, which gave Harold the chance to be present for her emotionally. Notably, without any direct intervention, the couple also experienced heightened sexual connection in their marriage, with increased confidence and closeness in their intimacy.

Harold discovered for himself how being humbled by his anxiety instead of hiding it could make him capable of new levels of emotional and physical closeness. This can happen for all of us when we share our struggles with loved ones instead of concealing them to protect our pride.

THRIVING SPIRITUALLY

Now that Harold was free of his panic attacks and feeling much closer to Natalie, he was motivated to learn more. He asked me about my work on spirituality and mental health, and how his panic might be related.

Harold and I revisited the core of anxiety: So many aspects of life are beyond human knowledge and control. Like it or not, uncertainty is part of our limited and humble existence. Sometimes we will be overwhelmed, overburdened, or distressed, and feel as if we are floating through the universe without agency.

Oddly enough, this doesn't always mean there's something wrong.

Harold's eyes opened wide as I spoke. "That's exactly how I felt when I would have panic attacks. It was as if the world was swirling around me, and I was caught in the middle, powerless and completely uncertain about the future."

I encouraged Harold to frame this experience in a spiritual light. Specifically, I wanted him to see how anxiety is part and parcel of the human experience — because we are not meant to be in control all the time. "It's a good thing to learn to accept the limits of our control," I told him.

Then we took this a step further. A lack of control, and the resulting anxiety, is a natural human experience. The point is not to suppress this experience — but to learn to feel anxious without letting it paralyze us.

Anxiety, I explained to Harold, does not have to be a barrier to achieving our life goals and dreams.

"On the contrary," I offered, "I've never met anyone who achieved their goals without overcoming significant anxiety along the way. That's because to push past our perceived limits, we invariably face adversity and challenge — which cause anxiety."

At our next session, I asked Harold if he had any unrealized dreams or ambitions. At first, he seemed shy to respond. Like so many of us, he was anxious about his aspirations and didn't want to speak about them.

But eventually he told me that he wanted to complete a college degree. Harold's parents were immigrants from Mexico, and neither had finished high school. His own high school diploma was a big accomplishment, as was his acceptance into the military and completion of an EMT certificate. But he had always dreamed of being the first member of his family to attend college.

Before our next session and without prompting, Harold had looked up evening degree programs at a local community college. And he looked completely overwhelmed and exhausted.

"What's wrong?" I asked.

"It's just too much," he responded. "I can't do it!"

"You mean, you feel anxious about applying to college?" I asked.

He nodded.

"Does that mean that this is a good idea or not a good idea?" I asked.

Harold smiled. Then he said, "The fact that I'm anxious probably means that I should apply."

THE JOURNEY ON

Harold and I keep in touch to this day. He has long since finished his college degree. Like all of us, he still becomes overwhelmed at times, but he now understands how to thrive with anxiety.

When his panic mounts, he accepts these feelings as par for the course rather than as an indication something is wrong. He then identifies and confronts his fear instead of avoiding what makes him distressed.

Harold speaks regularly with his wife about his feelings and has opened up to some of his friends (and even a coworker). He's learned that showing his struggles can deepen his connections.

Finally, Harold doesn't choose to shy away from challenges that make him anxious. His college experience reinforced his understanding that achieving goals requires accepting, tolerating, and facing uncertainty. Anxiety is just something that happens along the way.

Anxiety is not Harold's enemy. On the contrary, learning to tolerate it instead of squelching it has helped enhance his connection with himself, his wife, and the world at large.

And this can be true for any one of us willing to face anxiety with curiosity and courage. 🌱

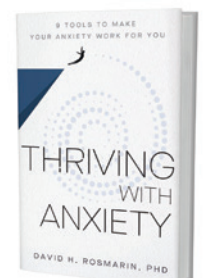
DAVID H. ROSMARIN, PhD, is the author of *Thriving with Anxiety: 9 Tools to Make Your Anxiety Work for You*. He is an associate professor at Harvard Medical School, a program director at McLean Hospital, and founder of the Center for Anxiety, which provides services to more than a thousand patients a year in multiple states. Rosmarin is an international expert on spirituality and mental health whose work has been featured in *Scientific American*, the *Boston Globe*, the *Wall Street Journal*, and the *New York Times*. He can be reached via his website, www.dhrosmarin.com.

The point is not to suppress this experience — but to **learn to feel anxious without letting it paralyze us.**



TUNE IN

Hear more from David H. Rosmarin in this episode of the *Life Time Talks* podcast: ELmag.com/thriveanxiety.



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TRAINING

Channel the energy of springtime to build a dynamic, sustainable fitness routine.

BY ANDREW HEFFERNAN, CSCS

AH, SPRING! It's the season of reawakening, renewal, and optimism. Like flowers in the garden and birds in the trees, we too are rejuvenated by warmer temperatures and longer days.

"Many people come out of hibernation in spring," says Katy Bowman, MS, founder of Nutritious Movement and author of *Rethink Your Position: Reshape Your Exercise, Yoga, and Everyday Movement, One Part at a Time*. With the change in season, the desire to get up, get out, and get moving transcends tradition and habit. Working out might be a year-round activity, but in spring it's special.

Intriguing research suggests that our bodies are built to behave differently depending on the season. A 2015 study in *Nature Communications* involving more than 16,000 participants worldwide found that thousands of our genes alter their expression during the year.

During winter in the northern hemisphere, certain genes increase inflammation when you're most susceptible to infection; this seasonal expression peaks in January and reaches a low point in July. In summer, some genes boost receptivity to sunlight-borne vitamin D.

Come spring, it's not just the sunshine nudging you to get outside and move. It's your DNA.

This is why periodization — changing your workout program at regular intervals — spurs improvements in fitness so much more effectively than sticking with the same program for months or years at a time. Trainers and elite athletes know this: They cycle through different training phases to optimize performance during the competitive season. (Learn more about periodized training at ELmag.com/periodization.)

Exercisers and gym-goers seeking general fitness, longevity, and vitality can benefit from treating spring the way athletes do the preseason. It's the ideal time to set your long-term fitness goals and jump-start your workout programs.

"You're catching the wave of what your body wants to do anyway," says personal trainer Jolie Kobrinsky, CPT, who specializes in unconventional training, blending strength, yoga, steel-club, and steel-mace modalities in her programming.

Even if you've stayed active through the winter, spring offers new and different challenges and opportunities for movement, play, and outdoor exploration that can make your body strong, resilient, and athletic.

What follows are a few of the best ways to take advantage of the season.



EASE YOUR WAY OUTSIDE



WITH SPRING comes the opportunity to “interact with the earth more,” says Bowman. Compared with the artificial light and controlled temperatures of winter indoors, springtime means more exposure to ever-changing natural sunlight and weather. For some people, resuming outdoor activities can feel like a relief

— a literal breath of fresh air. But the transition can bring challenges.

Many popular springtime activities are asymmetrical endeavors. Hiking, trail running, and mountain biking require unilateral and crossbody movements to traverse uneven terrain. Racket sports, like tennis and pickleball, are strenuous full-body workouts that challenge range of motion and stability unequally between the body’s right and left sides. Even walking outdoors brings a challenge if you’ve grown accustomed to walking on a treadmill — or not walking at all.

Springtime home-improvement projects can tax your muscles, joints, and cardiovascular system in ways that won’t feel like exercise — until you’re sore the next day. Gardening and yard work involve bending, squatting, twisting, and reaching. Cleaning out a basement may require carrying

heavy objects up sets of stairs dozens of times. Painting your house may call for reaching overhead while balancing on a ladder, for hours at a time.

“Projects like these require you to lift, turn, and bend in ways we don’t often see in an indoor-training environment,” explains Bowman.

The solution? As spring approaches, spend more time on full-body mobility exercises — with an emphasis on your feet, ankles, and hips — as well as on some rotational and side-bending moves. Seek controlled chaos in your gym sessions, using stability balls, single-leg balances, sandbags, water-filled implements, and TRX exercises in lieu of conventional barbells, dumbbells, and machine exercises.

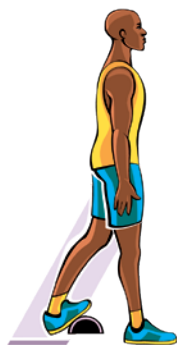
These varied movements will prepare you for the unpredictability of the most dynamic season of the year.

HOW TO WARM UP FOR SPRING ACTIVITIES

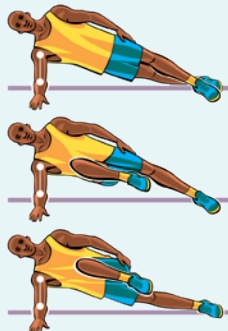
You can prep for the unpredictable demands of spring with these five moves. Perform the series daily, either on its own or as a warm-up before your favorite activity.



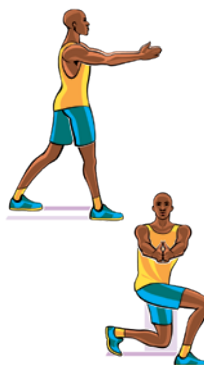
Top-of-the-Foot Stretch
Hold for up to a minute, three times per side.



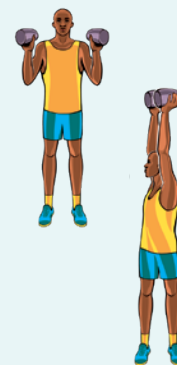
Calf Stretch
Hold for one minute, three times per side.



Side Plank With March
Perform eight marches per side of plank.



Rotational Lunge
Perform 12 reps per side, alternating sides.



Sandbag Rotational Overhead Press
Perform eight reps per side, alternating sides.

ADOPT A MINIMALIST STRENGTH ROUTINE

WITH THE SEASONAL emphasis on outdoor activities like hiking, cycling, rucking, and racket sports, you'll likely have less time for lengthy strength workouts in the gym — and that's OK, says Marcus Filly, CSCS, a strength-and-conditioning coach and functional-movement specialist.

According to the science of periodized training, adapting — and even scaling back on — your strength-training routine in the spring can help you avoid burnout, overtraining, and overuse injuries.

“Let’s say that in the spring, you ease up on your gym time — but you also start playing Ultimate Frisbee or pickleball twice a week for an hour,” says Filly. With two more hours of intense weekly exercise now on your schedule, it’s not just natural but critical to adapt the rest of your routine.

“A lot of people’s energy expenditure goes up considerably in spring,” he adds, so you’ll likely find that you need additional fuel and active recovery to keep up with the additional movement.

But don’t give up on the gym altogether. Spring is a great time for a low-volume, high-intensity approach to strength training that supports your other activities. The key is to adopt a minimalist strategy of performing fewer sets with meaningful — though not necessarily maximal — effort.

“You don’t always have to work at a maximal level in every aspect of your fitness,” notes Filly. “You’ll probably get fitter and stronger in the long run if you stop trying so hard at everything, all the time.”



GET THE SPECIFICS

For full exercise descriptions, visit ELmag.com/spring-training.

HOW TO GO MINIMAL

Doing just what’s needed in the gym — no more, no less — is a great choice in springtime. “I like the two-by-two approach,” says Filly. “Each workout consists of two hard sets of two major moves” — one upper body, one lower body — “plus a couple of sets each of about four lighter, simpler moves.”

Here is a sample full-body, two-by-two workout that’s fast, efficient, and complementary to other activities outside the gym.

For your primary lower- and upper-body moves, choose one lift per category per workout session. Complete straight sets of each move before going on to the next exercise. Repeat this workout three times per week, mixing up the primary moves as desired.



SPRING STRENGTH WORKOUT

EXERCISE	SETS	REPS
Primary Lower-Body Move: Back Squat, Deadlift, or Hip Thrust	5 sets	Sets 1–3: Begin these warm-up sets with a light set of 12 reps. Then gradually increase the weight to something you can lift no more than eight times. This is your working weight. Sets 4–5: 6 reps
Primary Upper-Body Move: Bench Press, Overhead Press, or Pull-Up	5 sets	Sets 1–3: Begin these warm-up sets with a light set of 12 reps. Then gradually increase the weight to something you can lift no more than eight times. This is your working weight. Sets 4–5: 6 reps
TRX Row	1–2 sets	15 reps
Stability-Ball Leg Curl	1–2 sets	15 reps
One-Legged Dumbbell Curl	1–2 sets/side	15 reps
Side Plank	1–2 sets/side	15–30 seconds

FEEL THE FLOW



WHEN MOST PEOPLE think about getting fit, their brains jump to structure and schedules. Some structure is, of course, necessary. But too much can be limiting, especially in a season known for spontaneity and freedom.

“Spring is all about letting go and being creative,” says Kobrinsky. It’s an opportunity to dedicate at least some of your workout to activities that allow for playfulness and improvisation — qualities that form the foundation of the elusive state called flow.

Also known as “getting in the zone,” flow is “the state where your inner critic turns off,” she explains. “You become absorbed in the task at hand.”

Flow is the opposite of multitasking. Absorbed in an activity like running or cycling on a beautiful trail, you’re less inclined to pause, consider, qualify. Body, mind, impulse, and action are unified. You’re switched on.

Begin to cultivate flow with tools or movements that use little to no resistance, Kobrinsky says. “The lower the resistance, the freer you can be with it. The opposite is also true: The higher the resistance, the smaller your room for error, so the less creative — but the more practiced — you should be.”

Powerlifters, who hoist weighty one-rep maxes, are sticklers for form with little to no deviation. But boxers, dancers, and others who work mostly with their own body weight leap, fold, slip, weave, turn, and bend with abandon.

While flow is more accessible during absorbing, low-resistance activities like dancing and mar-

tial arts, you can find your way to it with more conventional movements too.

Let’s say you’re doing dumbbell flies. Kobrinsky suggests that you remain open and curious about what you’re feeling. “You might sense that with your arms outstretched, your heart feels open. That you feel expansive, open, powerful.”

Then, as you draw the dumbbells upward, you might feel like you’re embracing the world, hugging it to you. If these images don’t resonate, she encourages you to find your own: “You’re trying to stay fully present in what you are doing.”

Another key to flow is your breathing. “Marrying breath to movement is one of the most effective ways to create the flow state,” Kobrinsky says.

Yoga practitioners know that exhaling is associated with the yin energy of relaxation, surrender, and release; inhaling is associated with the yang energy of action, dynamism, and power. Experiment with emphasizing and elongating one or the other, depending on the activity.

Cultivating and practicing flow can free you from old patterns and lay groundwork for new ones, Kobrinsky notes. “Flow state reinforces the idea that you have autonomy. You don’t have to be oppressed by your schedule or your datebook, chasing your own tail.”

In effect, she adds, you’re manifesting a different internal state: “You drop into a different reality, one that supports expansiveness and cohesiveness in the body.”

HOW TO HONE YOUR ZONE

Flow isn't something you actively perform, but to set yourself up for it, you must train your mind. It happens only under the right circumstances, and to find it requires discipline and attention to detail. To set the groundwork, and to make sure you catch the flow wave when it comes on, try these practices recommended by Kobrinsky.



TAKE UP JOURNALING

It's not a physical practice, but journaling helps you cultivate a familiarity with your inner landscape: your thoughts, feelings, aspirations. This inner work resembles the growth of root systems in spring, supporting and enhancing growth in our bodies.

"You'll understand more clearly what made you upset or happy or disappointed or ecstatic today instead of getting buffeted by those emotions like a ship in a storm," Kobrinsky says.

Not sure what to write? Start by listing three things you're grateful for and three things you consider areas for further exploration and growth. (Explore six types of journaling at ELmag.com/journaling.)



PLAY WITH YOUR BREATH

"When you're strength training, experiment with breathing out during exertion and in as you lower the weight," she suggests. "Then deliberately switch it around," breathing in as you lift and out as you lower.

Try something similar as you run. If you normally inhale for three steps and exhale for two, try doing the opposite.

Both approaches can be instructive and powerful and bring a meditative quality to your training, even when you're working at close to your full capacity. (To learn more about the art of breathing, visit ELmag.com/breathing.)



FIND YOUR FITNESS RHYTHM

"Working at or close to your edge every time you exercise can only take you so far," Kobrinsky warns. To avoid burnout, balance your efforts by adopting a "low-medium-high-no" rhythm to your activity.

"Every four days, include one easy workout, one medium-hard workout, one high-intensity workout, and one rest day," she explains. What qualifies as easy/low-intensity versus hard/high-intensity will vary from person to person, so heed your body's signals to balance all-out efforts with adequate recovery. (Discover why workout recovery is essential for optimal fitness at ELmag.com/exerciserecovery.)

ANDREW HEFFERNAN, CSCS, is an *Experience Life* contributing editor.



Beyond
CBD

Cannabidiol is just one of many healing compounds in the cannabis plant. It's time to meet more phytocannabinoids.

BY MO PERRY

SEVERAL YEARS AGO, following the birth of her second child, Cindy Applebaum was struggling with anxiety and insomnia. A friend gave her a CBD edible to try, but she was wary — her experiments with cannabis as a teenager hadn't been pleasant. She decided to try the gummy on a weekend when her husband would be home to help with the kids, in case she didn't respond well.

The result was one of the best, most relaxed days she'd enjoyed in years. Eventually, Applebaum (not her real name) discovered that taking a CBD-rich sublingual tincture for periodic anxiety greatly improved her quality of life. Her sleep improved as well. She's now a self-described cannabis advocate and considers the plant an invaluable support for managing everyday stress.

One key reason humans tend to respond so well to phytocannabinoids is because they closely mimic the cannabinoids produced by the human body. The endocannabinoid system, or ECS, was first identified in the late 1980s and early 1990s by researchers who were exploring the physiological effects of cannabis. They discovered that our body's endocannabinoids interacted with the same receptor sites as the cannabis molecules.

"The ECS is located just about everywhere in our body," explains Bonni Goldstein, MD, medical director of Canna-Centers Wellness & Education in California and author of

Cannabis Is Medicine. "It's a physiologic regulator, so when we have a stressor of some sort — an illness, a traumatic injury, inflammation, anything that tips us out of homeostasis — the ECS goes into action to help us get back into balance."

Thanks to a changing legal landscape, most of us now have access to phytocannabinoids in some form. The illicit aura that so recently surrounded cannabidiol (better known as CBD) has largely vanished. Today it appears routinely on supplement shelves as a remedy for pain, insomnia, and anxiety.

Yet CBD is just one of the many phytocannabinoids found in cannabis plants — and it's worth getting to know more of them.

WHAT ARE PHYTOCANNABINOIDS?

Phytocannabinoids are found primarily in cannabis, though they also appear in some legumes, fungi, and rhododendrons. Cannabis also contains phytochemicals called flavonoids and terpenes. These molecules may give different cannabis strains their unique therapeutic properties, as well as any distinct aroma.

Cannabis refers to the drug-variety plant, which contains tetrahydrocannabinol, or THC, the principal psychoactive element. It also refers to industrial hemp, which is legally defined as cannabis containing less than 0.3 percent THC. THC and CBD

are by far the most studied phytocannabinoids — and the most abundant.

Still, they're not the only ones. Researchers have now identified more than 140 phytocannabinoids. Some, such as cannabigerol (CBG), cannabiol (CBN), cannabichromene (CBC), and cannabidiolic acid (CBDA) — known as the minor cannabinoids — are increasingly appearing alongside CBD in products geared toward specific aims. These include improved sleep, better focus, and pain relief.

"I liken cannabis to a bowl of chili," says Goldstein. CBD and THC are the meat and beans, she says, and the minor cannabinoids, flavonoids, and terpenes are the vegetables and spices. "They have an influence on how the chili tastes — meaning its effect on humans — but they're not the dominant compounds."

Most commercially available CBD products are made from hemp, since cannabis plants with higher levels of THC remain illegal at the federal level. In Goldstein's analogy, you can think of hemp as a Texas chili: mostly meat (CBD) and minimal beans (THC).

But as anyone who's attended a chili cook-off knows, it's the other ingredients that make a recipe sing. "It's a mistake to focus on THC and CBD alone," notes Robert Rountree, MD, a Boulder-based functional-medicine physician. "They are two chemicals out of hundreds in *Cannabis sativa*, and they all seem to work in concert with each other."

THE ENTOURAGE EFFECT

Combining phytocannabinoids follows traditional plant-medicine practices. “Our modern medical approach is to isolate cannabis compounds like we do with drugs, but there’s wisdom in how nature has put these things together,” notes integrative psychiatrist Henry Emmons, MD. “Plant-based, natural therapies are often more effective when you’re getting the whole plant.”

This theory is known as the entourage effect. It’s one reason choosing a full-spectrum product may be so important: It contains multiple extracts from the cannabis plant, including terpenes and flavonoids, and these appear to work together for greater benefit.

“It’s like these compounds are playing a complex symphony,” says Matt Storey, director of medical sales at Charlotte’s Web, a company that manufactures hemp-based CBD products. (Note: Charlotte’s Web products are sold at Life Time, which publishes *Experience Life*.) Rather than isolating the brass section, cannabis research is increasingly focused on how various elements are playing together — and which combinations of compounds tend to produce certain harmonious effects.

For example, some evidence suggests CBD can moderate the intoxicating effect of THC, while THC may augment the pain-relieving properties of CBD.

Terpenes play a role here too. The terpenes limonene and linalool have been found to enhance CBD’s capacity to soothe anxiety. And a combination of CBD, CBG, and the terpene beta-caryophyllene appears to calm inflammation more effectively than any one of the compounds alone.

Research into minor cannabinoids and terpenes is still preliminary, but it’s advancing quickly. In 2022, a group of federal health agencies reasserted their interest in minor cannabinoids and terpenes and how they may affect a range of conditions, including cancer treatment, pain, and substance-use disorders.

“We’re seeing more and more interest in the activities of these compounds,” says Storey. “I think we’re moving toward a point where people will base their preferences on products’ minor cannabinoid profiles or terpene action versus just their major phytocannabinoids.”

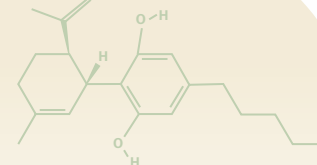
Meet the Phytocannabinoids

These are some of the most potent phytocannabinoids. Here’s what researchers are learning about them.



Full name: **Cannabidiol**

Best used for: **Sleep, anxiety, stress, inflammation, PTSD**



A 2020 survey found that roughly a third of Americans had tried CBD to address pain, inflammation, anxiety, insomnia, headaches, arthritis, or depression. Some pet owners were even using it to help their animals with stress and inflammation. (The bacon-flavored tinctures are an easy sell.)

“I mainly use CBD with my patients for sleep, anxiety, and stress-related symptoms. It’s helpful with calming the nervous system, turning down the alarm bells, and telling your body it’s OK to stand down,” Emmons says. He’s found it particularly helpful for his patients with PTSD who struggle with insomnia.

A growing body of research, much of which has been conducted on animals, has found that CBD’s medicinal benefits are broad. They include antibacterial, anti-inflammatory, neuroprotective, and anticonvulsant effects, as well as nausea reduction, pain relief, and appetite restoration.

CBD blocks the reabsorption (or reuptake) of the body’s own endocannabinoids, allowing them to prolong their effect at the cannabinoid receptors. “This is one way that CBD helps to enhance the function of the endocannabinoid system,” Goldstein says.

Unlike THC, CBD is not intoxicating, though it can be mildly stimulating in lower doses and sedating in higher doses. It’s extremely safe, and side effects are rare. Because it’s metabolized by the liver, however, it can interact with other drugs, so be sure to talk to your medical provider before using it if you’re taking any prescriptions.

Meanwhile, even small amounts of THC appear to boost CBD’s efficacy. “Ideally, a whole-plant cannabis product would be CBD-dominant with a little bit of THC, but also include some of the raw cannabinoids like CBDA, CBGA, and THCA [the acid precursors to the minor cannabinoids],” Goldstein says. “I rarely recommend a purified cannabinoid, for the same reason it’s better to have a whole apple instead of taking a single vitamin.”

“[CBD is] helpful with calming the nervous system, turning down the alarm bells, and **telling your body it’s OK to stand down.**”

CBG

Full name: Cannabigerol

Best used for: Depression, anxiety, inflammation, psoriasis

Often referred to as the mother of all cannabinoids, CBG is another non-intoxicating phytocannabinoid that acts as a precursor for the others. "It's the foundation for producing CBD, CBC, and THC," Emmons explains.

It's typically sourced from young plants because CBG levels diminish as plants mature.

"A lot of people report that CBG helps them feel calmer and more focused, but more research is needed to qualify those consumer reactions," Storey says. It blocks the reabsorption of anandamide — also known as the "bliss molecule" because it contributes to feelings of pleasure and contentment — and this enhances anandamide's effects.

In response to a recent survey of patients using CBG-dominant supplements to treat anxiety, pain, depression, or insomnia, a majority reported their conditions were "very much improved" or "much improved."

Goldstein has seen the same results in her patients, alongside other benefits. "I've found that CBG helps with pain; it helps with anxiety and depression; and it's been shown to help with some skin conditions, like psoriasis," she says.

Researchers have discovered that the skin has its own endocannabinoid receptors (see "The Endocannabinoid System," next page). The research is still in its infancy, but a study published in 2022 conducted on in vitro skin cells found that CBG can inhibit skin inflammation "more potently than CBD."

Another case study, from 2019, with two participants, found that topical applications containing both CBG and CBD led to improvement in their psoriasis lesions, while the lesions that received a placebo oil showed no improvement.

"In some studies, it's been shown to have anticancer effects similar to CBD and THC," Goldstein adds.

CBN

Full name: Cannabinol

Best used for: Sleep, inflammation

CBN is widely promoted as a sleep aid, though there's not yet much research that can explain how it might work. Studies of people taking isolated CBN haven't reported sedation, though one small study found that CBN did enhance the sedating effects of THC.

"CBN has a higher affinity for the type 2 cannabinoid receptor, which is more involved in inflammation than with psychoactivity," Goldstein notes. People who enjoy better sleep when using CBN may be benefiting from lower inflammation rather than a direct sedative effect.

Meanwhile, studies have found that CBN can enhance other phytocannabinoids. In a pre-clinical drug-screening model, CBN increased the neuroprotective action of THC. And in an animal study, a combination of CBN and CBC offered more pain relief than either compound alone.

CBC

Full name: Cannabichromene

Best used for: Pain, gut inflammation

"CBC is really understudied," Goldstein says. Still, like CBD, CBN, and CBG, CBC is non-intoxicating and appears to enhance the efficacy of other phytocannabinoids.

One study found a greater anti-inflammatory effect from CBC and THC in combination than either alone. And a paper published in 2013 showed that CBC improves the viability of neural stem progenitor cells, which are critical to brain health and healing.

Some research has focused on CBC's impact on inflammatory pathways in the gut. A study published in 2012 found that CBC normalized gut motility in a mouse model of intestinal inflammation, though the mechanism remains unclear.

Researchers in 2020 revealed that both CBG and CBC display antitumor effects against gastrointestinal cancer cells, inducing significantly higher rates of cancer-cell death compared with other cannabinoids.

CBDA

Full name: Cannabidiolic acid

Best used for: Pain, inflammation, epilepsy, nausea

Found in raw cannabis flowers, CBDA converts to CBD when heated. Animal studies have shown it to have antidepressant and anti-anxiety effects.

Like other phytocannabinoids, CBDA targets serotonin receptors as well as specific cellular sensors called transient receptor potential channels; these are involved in pain, inflammation, skin function, brain function, and cancer. "They're like tunnels on the cell membrane that allow ions to go in and out of the cell, which regulates how the cell functions," Goldstein explains.

CBDA can be especially potent for inflammatory conditions. "I have a 91-year-old in my practice who developed gout a couple of years ago," she says. "We found that a daily dose of CBDA kept the gout away, but when he stopped taking it, it flared."

Although Goldstein usually recommends formulas with some THC for pain relief, she views CBDA as a great option for those who wish to steer clear of THC's potentially intoxicating effects.

The Endocannabinoid System

The body produces its own cannabinoids (known as endogenous cannabinoids, or endocannabinoids) to help modulate appetite, memory, immune response, and pain. We have receptors for endocannabinoids in the brain, gastrointestinal tract, reproductive system, heart, blood cells, muscles, and elsewhere. This is called the endocannabinoid system, or ECS, and it's a big reason phytocannabinoids are such effective medicine.

Like other physiological systems, the ECS may function slightly differently in each of us as a result of genetics and lifestyle. For instance, chronic sleep deprivation can lead to what Goldstein calls endocannabinoid deficiency, in which the body isn't making enough endocannabinoids.

An underactive ECS can also be congenital. People with conditions such as migraines, fibromyalgia, irritable bowel syndrome, epilepsy, and autism often suffer from endocannabinoid deficiency or dysregulation. "THC can and does correct this imbalance for many patients," Goldstein says.

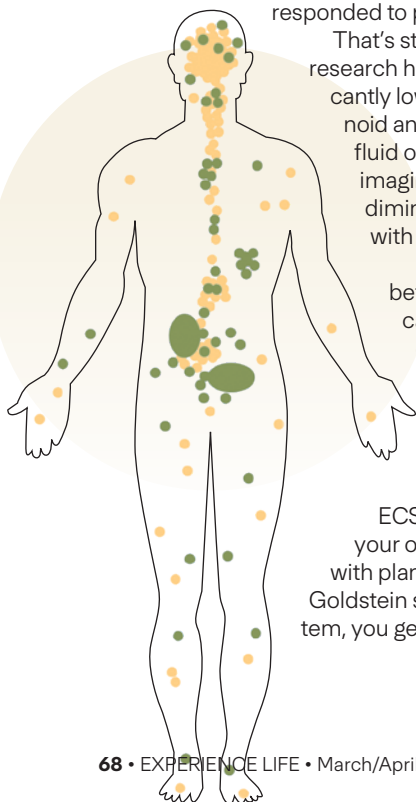
The two best-known endocannabinoids are anandamide and 2-arachidonoylglycerol. They help manage nerve-cell signaling in the brain in ways that relieve pain and regulate mood, among other things. When we're deficient in these chemicals, those processes can suffer.

Our "endocannabinoid tone" reflects our levels of endocannabinoids, how they're produced and metabolized, and the number and state of cannabinoid receptors — in essence, the overall functioning of our ECS. This used to be impossible to measure directly, and clinicians instead evaluated endocannabinoid tone simply by seeing if someone's symptoms responded to phytocannabinoids.

That's starting to change. Some research has shown statistically significantly lower levels of the endocannabinoid anandamide in the cerebrospinal fluid of people with migraines. And imaging studies have demonstrated diminished ECS function in people with PTSD.

It will likely be some time before this research informs clinical practices, since the legality of cannabis products still varies across state lines. But diminished ECS function is easily diagnosed through its effects.

The good news for people with an underactive ECS? "You can replace or enhance your own natural endocannabinoids with plant-derived phytocannabinoids," Goldstein says. "By augmenting that system, you get back into balance."



THC as Medicine

Among the most abundant phytocannabinoids in the cannabis plant, THC is known for delivering the high that's associated with marijuana. But research has revealed that it can also be a potent tool for healing.

"THC has amazing medicinal properties, and with proper and responsible use, many different symptoms can be managed," Goldstein writes in her book.

A key difference between therapeutic and recreational use of THC involves targeting your minimal effective dose, or the lowest dose that provides positive results without side effects, such as intoxication, a racing heart, or paranoia. This amount varies from person to person.

"I don't judge the actual milligram dose," Goldstein says. "You may take 10 mg and get the same medical benefits as your sister with the same condition, who's taking 50 mg. Different people have different absorption, different metabolism, and different underlying endocannabinoid tone." (See "The Endocannabinoid System" at left.)

Some conditions that respond well to THC-rich medical cannabis include Alzheimer's disease, HIV/AIDS, Crohn's disease, glaucoma, chronic pain, multiple sclerosis, and nausea from cancer treatment.

"I've seen people tolerate cannabis products extremely well when they're used with guidance such as you'd get at a medical cannabis dispensary," says Emmons. He adds that people with a family history of psychotic illnesses, such as bipolar disorder or schizophrenia, are at higher risk for psychiatric problems from THC; they should proceed with caution.

"THC has amazing medicinal properties, and with proper and responsible use, **many different symptoms can be managed.**"



The Deltas

You may have seen products touting Delta 8 or Delta 9 THC on their labels — possibly even at the convenience store. What's up with these compounds?

"Delta 8 and Delta 9 just refer to the chemical structure of the compound," explains Goldstein. Every cannabis plant makes a tiny amount of Delta 8 and much higher amounts of Delta 9 THC.

Chemists figured out that CBD from industrial hemp, which is nonintoxicating, can be synthetically converted into Delta 8 THC. This makes it intoxicating in a way similar to the Delta 9 THC abundant in drug-variety cannabis plants — though it's less potent, so more is required to produce the same effect.

"If you're getting a cannabis product in a convenience store, it's probably unregulated, and I don't recommend taking anything unregulated because you risk some serious side effects."

When hemp was legalized at the federal level in the 2018 Farm Bill, a loophole allowed manufacturers to sell synthetic Delta 8 THC — including in states where recreational cannabis is still illegal — because it's derived from industrial hemp.

Yet it's not clear if Delta 8 is safe. "The problem is that other compounds are also made in the process of converting CBD to Delta 8," Goldstein says. "If you start with 100 percent CBD, about 80 percent of it converts to Delta 8 and 20 percent to other, synthetic cannabinoids. And these have never been studied in humans, so we don't know if they're safe."

There are numerous reports of people ending up in the emergency room after using Delta 8 products, often with hallucinations, anxiety, and vomiting. "If you're getting a cannabis product in a convenience store, it's probably unregulated, and I don't recommend taking anything unregulated because you risk some serious side effects," Goldstein says.

Most Delta 9, on the other hand, whether extracted from hemp or drug-variety cannabis plants, is "made by Mother Nature," she adds. Dosing still matters, but with proper use of a tested product, it doesn't seem to carry the same risks as unregulated Delta 8 — which is likely to be contaminated — for most people.

GETTING STARTED

Like any new terrain, the world of phytocannabinoids is best explored with a well-informed guide.

If you have a complex condition or set of symptoms, find a professional who can help you determine the most effective dose, delivery method, and combination of phytocannabinoids for your situation — particularly if you're taking other medications that may interact. Many medical dispensaries offer online lists of local providers who can offer prescriptions and guidance. And the onsite pharmacists and staff at dispensaries are well-equipped to help you.

While it's now possible to find CBD in anything from bubble bath to lip balm, experts agree that phytocannabinoids are best approached as serious medicine. Capsules, tinctures, and edibles with clearly labeled dosage levels from a reputable supplier are your best bet. Look for products from manufacturers (such as Charlotte's Web and CV Sciences) that subject their label claims to third-party testing.

And before you start asking your friends for advice, know that individuals may respond differently to the same phytocannabinoids. For instance, more than a few milligrams of THC might send some people into an anxious spiral, while others appear largely immune to THC-induced paranoia.

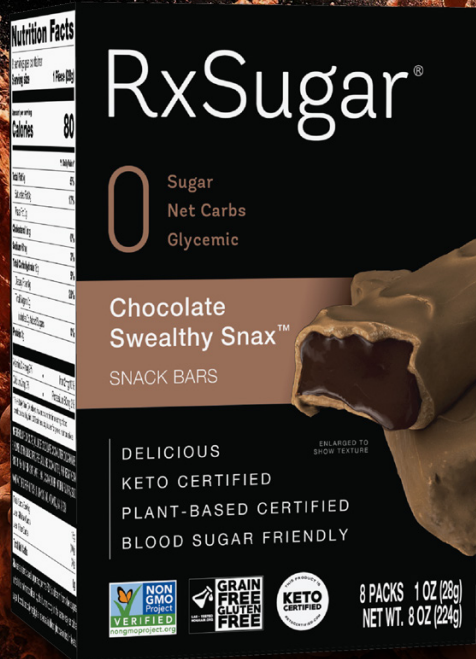
"I could line up 10 people who are all using cannabis to successfully treat PTSD, and they might not all be taking the same thing," Goldstein says. "Some may benefit from a full-spectrum product with a relatively higher amount of CBG or CBC, while others need a certain amount of THC."

Finally, be patient. You may need to give cannabis three to six months to determine whether it's beneficial. Finding the right combination and dose of phytocannabinoids is likely to be an exercise in trial and error. And your needs may change as you go along.

"Often, people end up taking less cannabis over time because their ECS becomes upregulated — it's functioning better," Goldstein says. "Botanical medicine tends to do that. It nudges you in the right direction." 🌿

MO PERRY is an *Experience Life* contributing editor.

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REAL LIFE



YOU DO NOT NEED TO BE FIXED

This spring, instead of seeking to change yourself, what if you tune in to the good that's already within you? On page 77, Henry Emmons, MD, and Aimee Prasek, PhD, explain how you can find your way to a state of authentic flourishing.



Sharing a Difficult Diagnosis

Getting dire medical news is bad enough; wondering whether and how to disclose it can only add to the sense of overwhelm. Consider this advice to determine how to proceed.

BY JESSIE SHOLL

THE MOMENT I noticed a voice-mail from my friend Alice, I knew something was wrong. We're texters, not callers. I left my date alone at the bar and slipped outside, where I listened to her message. "I don't know how to tell you this," Alice said, her voice shaking, "but Chloe is dead."

Chloe was my Alexander Technique teacher. I'd started sessions with her a few years earlier, when my doctor suggested that she might be able to help ease the debilitating pain I'd been feeling in my hands: a repetitive strain injury that comes with my work as a writer and editor. I'd meet her for appointments in her converted studio apartment, where she'd observe me while I stood and walked around, saying things like "let your knees float" and recommending ways to move my body more comfortably.

I never understood exactly how the Alexander Technique worked, but I knew that it did. After working with Chloe for just a few months, I could use a keyboard again, write with a pen, and clip my own fingernails. And she helped others too, including Alice, who learned of Chloe's death on what was then Twitter.

Over the coming weeks, we'd find out that Chloe had cancer and that she hadn't told anyone but her assistant. I was devastated that I hadn't had the chance to say goodbye and confused about why she had kept her diagnosis a secret. At first, I could only guess at her reasoning. Chloe was so nurturing by nature — maybe she felt she wouldn't be able to resist the pull of comforting us, thereby depriving herself of the energy she needed to heal. Or perhaps . . . I didn't know.

ASKING WHY

I know now, after speaking with several experts, that there are plenty of reasons someone might choose not to share a difficult diagnosis. Many people cite a desire to process the information in their own way, at their own pace.

One person, writing under a pseudonym in a *Good Housekeeping* article, detailed her reasons for not disclosing her breast-cancer diagnosis at age 47. When her oncologist pushed her to share her situation, saying she'd get more support, she bristled at the suggestion.

"I knew the kind of support my oncologist promised, while well-intentioned and meaningful, would be detrimental to my psyche," she explains. "Cancer breaks you wide open and I didn't want people, no

matter how beloved, picking apart my ugly innards. Giving everyone a seat at the table where I was waging a war for my life didn't feel supportive. It felt intrusive."

You may also worry that sharing the news might irrevocably alter your social relationships, explains Nora McNerny, host of the podcast *Terrible, Thanks for Asking* and author of *It's Okay to Laugh (Crying Is Cool Too)*. "I've met people who've been through all different kinds of situations and losses and diagnoses," she says, "and the fear I hear often is, 'If somebody knows this about me, that will be all they see in me. That will redefine my relationship to them.'"

Or you may simply need more time to make sense of the news yourself, says Neha Sangwan, MD, author of *TalkRX* and *Powered by Me*. "If the person is young and knows their runway has been shortened by 50 years, it's often a very different experience than an 81-year-old who has gone through the gradual decline in function of their body," Sangwan explains. "How unexpected the diagnosis is to the person combined with their skill in navigating their emotions determines the level of overwhelm and trauma that they're experiencing. Their level of self-trust and emotional boundaries will likely affect how comfortable they'll feel sharing the information with others."

Experience Life staffer Jane Meronuck was 52 when she was diagnosed with a cancer of unknown origin and told she had seven months to live. She shared her diagnosis only with her immediate circle, waiting three months to write a CaringBridge post; she wanted to understand her disease and prognosis more clearly before sharing it with a wider group. (Learn more about Meronuck's story at ELmag.com/jane.)

I now have a much better understanding of Chloe's wordless exit from her students' lives. I don't judge her decision; that's not my place. There's no right or wrong way to reveal a difficult diagnosis. There's only the way to do it for you.



HOW TO SHARE THE NEWS ON YOUR TERMS

Here are some ways to find an approach that works best for you — and a few strategies for making the process easier.

FIND A SPOKESPERSON

Nora McNerny had been dating her late husband, Aaron, for a year when he was diagnosed with glioblastoma. He asked her to tell people for him. "I did not know his family that well," she recalls. "He wanted me to do it because it was too much for him. I am honored that I got to do that, and I was completely unprepared to do that."

Still, McNerny adds, she could see how much her role as spokesperson helped Aaron, in that it allowed him to focus on healing.

Jane Meronuck's husband, Chris, filled that communications role for her, she says.

But, because not everyone has a partner, McNerny suggests enlisting a friend, a sibling, or even a care professional to help you disclose your diagnosis to

a wider circle. "If you don't have a Nora, find a Nora," she advises.

READ THE ROOM

Last summer, I found out via text that a friend of mine had died by suicide. On a second occasion, I learned — also via text — that another friend had been murdered. In neither case did the person sending the text ask if I was in the right headspace for that kind of news. Both times, I felt completely blindsided, or what McNerny calls "driveby devastated."

When you're considering how to reveal a difficult diagnosis (or how to instruct your spokesperson to do so), McNerny suggests practicing "conversational consent" by making sure it's the right time and place for the person to receive the information. It can be as simple as saying, "I have something to tell you that's difficult for me to say, and it might be difficult for you to hear. Is this a good time?"

There's no right or wrong way to reveal a difficult diagnosis. **There's only the way to do it for you.**



WRITE A PRACTICE SCRIPT

Whoever you choose to tell about your diagnosis — and however you choose to tell them — writing down some important points ahead of time can help you make sure you don't forget anything, and it may help calm your nerves when you deliver the news. It can also help you prepare yourself (or your spokesperson) for the inevitable questions.

On that note, expect a range of reactions from your friends and family. Unfortunately, some people won't react well to distressing news. A few people I spoke to for this article noted that some of the folks they most expected to be pillars of support during their crises actually disappeared — and some found relief and comfort from people they'd previously considered only minor players in their lives.

By expressing your needs ahead of time, you're setting everyone up for success.

SET BOUNDARIES BEFOREHAND

If you do choose to talk to certain people directly, defining boundaries ahead of the conversation can help avoid potential problems.

If you just want to tell the person but don't want advice, be sure to make that clear. You can say something like this: "I don't need you to fix this problem or offer advice, but I need to tell you something," McInerny adds that this step is especially important in relationships involving people harboring beliefs that differ from yours — whether those beliefs are religious, spiritual, or otherwise.

"When we expect people to just know what we want without explaining it to them," she says, "it's setting the relationship up for failure."

By expressing your needs ahead of time, you're setting everyone up for success.

USE SOCIAL MEDIA (OR DON'T)

If you want to reach many people at once, social media is a good way to do it. And if you want support from others, many social platforms allow you to connect with people in your specific situation — after all, there are Facebook groups for just about everything.

Meronuck found support through a Facebook group for stage IV cancer patients. "It was invaluable to have access to people who knew firsthand what I was experiencing," she recalls.

End-of-life doula Michelle Kolling, founder of the Minneapolis-based service Held, adds that sharing news via social media allows you to make your desired level of contact clear. "It's a good way to communicate that you don't want individual conversations at that time, like 'We'll reach out personally as soon as we are able,'" she explains.

You can also clearly state that you're not looking for treatment advice or describe specifically the kind of support that you do want from your social media circle.

As with all things online, there are pitfalls to avoid. If you want to notify certain people yourself, make sure you've told them before posting about it. And get familiar with your privacy settings and your network so you know how far the information is traveling. You might choose to share on a platform that's limited to people coping with a situation similar to yours — or you might be comfortable notifying a wider group all at once.

But it's really up to the individual. Some people simply don't use social media, or they don't enjoy it. There's no reason to share this sort of news in a specific way just because it's something other people do. "You're not obli-

gated to bleed out your personal information, feelings, or details for anybody else's benefit," McInerny says. "You aren't. That is completely up to you."

GET PROFESSIONAL SUPPORT

Doulas like Kolling can offer crucial support for people nearing death. They can help you prepare to break the news — if and when you choose to do so — by helping to facilitate difficult conversations or helping you prepare your practice script.

They can also provide nonmedical, practical, emotional, and spiritual support for those facing the end of life — as well as for their loved ones. "We can spend time with the family, to get to know the family dynamics," Kolling explains. "And we then can focus on the dying person and what is important to them now."

She'll often help with letter writing or legacy projects, to offer people a sense that they'll be remembered and that their lives had meaning.

Few of us feel comfortable talking about death, much less preparing for it, Kolling notes. "Because of advances in the medical field and in healthcare, it's common to view death as a medical failure instead of a part of life."

She wants to normalize conversations about dying and what to expect during that process.

Kolling believes what she does is similar to the role of a birth doula, except that she's facilitating an exit rather than an entrance. "It's the other end of life. It's the birth out of this life." 🌱

JESSIE SHOLL is an *Experience Life* contributing editor.

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THE POWER OF TREES

Trees play a vital role in maintaining the health of our planet and its inhabitants. They act as nature's air purifiers, absorbing carbon dioxide (CO₂) and releasing oxygen through the process of photosynthesis. This not only helps regulate the global climate, but also provides the essential oxygen we need for survival.

Trees also contribute to biodiversity by providing habitats for various species, fostering a delicate ecological balance.

Moreover, the presence of trees has a profound impact on human well-being. Studies consistently show that exposure to green spaces and natural

environments — including tree-filled landscapes — is associated with improved mental health and reduced stress levels.

Trees in urban areas act as natural air filters, mitigating pollution and creating healthier living environments. The shade they provide offers respite from the heat, promoting outdoor activities and community engagement.

Recognizing the importance of trees and doing what we can to preserve them is crucial both for the sustainability of our ecosystems and for fostering healthier and happier communities.

WHY IT MATTERS

- There are up to 148 million acres of opportunity in the United States to restore forest cover for climate mitigation.
- Reforesting these areas with approximately 76.2 billion trees could capture 535 metric tons of CO₂ per year — the equivalent of removing 116 million cars from the road.
- Annually in the United States, forests and forest products capture and store almost 15 percent of the country's carbon emissions from burning fossil fuels.

** Information sourced from American Forests.*

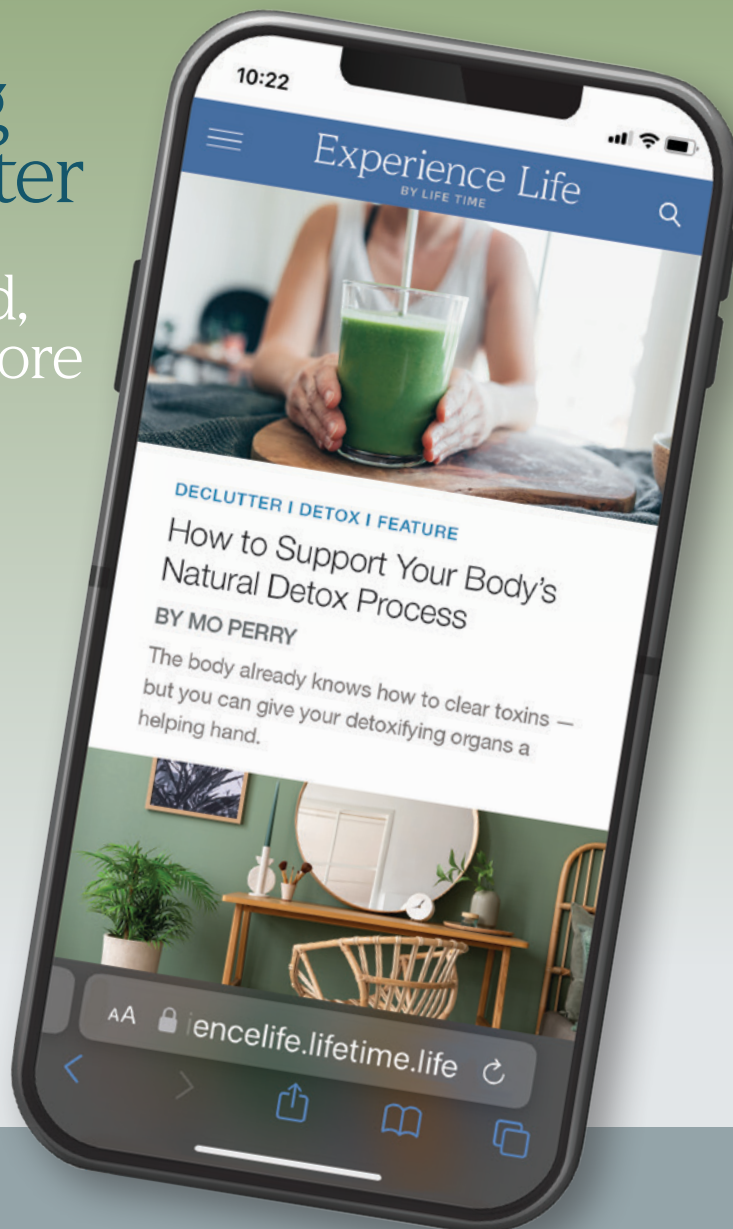


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Available **exclusively online** starting April 1, 2024.



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You Do Not Need to Be Fixed

We often equate personal growth with fixing our flaws, but a different kind of change happens when we focus on what we're doing right.

BY HENRY EMMONS, MD, AND AIMEE PRASEK, PhD

WHAT IF, here at the beginning of spring, you swapped out any relentless efforts to perfect yourself for an embrace of what you're doing right — and of whatever might inspire you to do more of *that*?

In the world of self-improvement, we're often encouraged to focus on what's not working. We see a lot of people who may even identify themselves with their pathology: They are depressed, or they're "just an anxious person."

Yet, in our years of experience, we've found that people do better if they recognize how much they do right — how resilient they already are — instead of fixating on places where they feel broken.

We invite you to join us in a new approach. Training our focus on what we like and appreciate — both in ourselves and in our lives — gives us a stronger foundation for change than simply striving to be better. So we encourage you to test out this new belief: *You do not need to be fixed.*

BROADEN AND BUILD

There's a theory from positive psychologist Barbara Fredrickson, PhD, that can help us stop trying to fix ourselves — and still help us feel better. It's the broaden-and-build theory.

The basic idea is that practicing positive emotions and inner states creates a more flexible and expansive way of thinking and acting. This changes how we interact with ourselves and the outside world — and makes us more open to receiving the good.

That's the "broaden" effect: We open up to ways of being that improve our resilience and overall mental and physical health in big ways.

This leads to the "build" effect. As we cultivate positive emotions and inner states, such as gratitude and receptivity, new pathways are created in our brains. Practicing these feelings helps those states become more durable.

This makes them more likely to show up in the future, with less effort, as they become part of our baseline. We find it easier to bounce back from setbacks and recover our equilibrium.

SPIRAL UPWARD

The broaden-and-build approach leads to another effect, called the upward spiral.

The benefits of an upward spiral are immediately visible. When we're in an upward spiral, our inner states directly influence our daily choices and behaviors for the better.

When we cultivate flexibility and expansiveness,

for example, those states feel good. This can lead us to pursue more healthy behaviors — like drinking more water or exercising — because those also feel good.

When our choices generate similar choices, this is sometimes called reciprocal causality. In an upward spiral, anything positive we do for the mind or body helps more positive emotions and inner states rise up, and do so more frequently. This leads to still more healthy behaviors — and on we go. Our behaviors keep fueling one another in a good direction.

This all can start to sound like we want you to be positive all the time. We don't — that would be toxic positivity, and that is pretty much the same as toxic negativity.

In both states, we cling to emotions regardless of context. We block out what life is giving us and refuse to let in anything new. We narrow our perspective rather than broaden it.

Unlike toxic positivity, taking a broaden-and-build approach and cultivating upward spirals can support us to live more in tune with life.

Although we can't expect to feel great all the time, we can become open to receiving the good that life has to offer. This leads

naturally to us taking better care of ourselves, and we start to make the kind of changes we might otherwise try to force.

So, this season, instead of seeking to change ourselves, we're seeking to tune in to the good that's already here — and letting change flow from there. This is how we can find our way to a state of authentic flourishing.

And isn't that where we all want to be?

HENRY EMMONS, MD, is an integrative psychiatrist and cofounder of Natural Mental Health. He is the author of *The Chemistry of Joy*, *The Chemistry of Calm*, and *Staying Sharp*. **AIMEE PRASEK, PhD**, is an integrative-therapies researcher and CEO of Natural Mental Health.



True Friends, False Information

Misinformation is all around us, even in our social circles. Learn how to respond to it without losing your cool.

BY JON SPAYDE

IN DISCUSSIONS about today's hot-button issues, some people don't just disagree on how to interpret reality — they seem to operate from different realities altogether. This can create clashing sets of facts as well as clashing opinions.

Differences can come from cherry-picking information that supports one opinion while downplaying information that buttresses another. Things get more confusing and fraught when falsehoods gain traction on social media, in news sources, or among gatherings of the like-minded.

It's enough of a challenge when a friend or family member's opinions on tough topics differ sharply from yours. But when they embrace and share false or inaccurate information (which is different from creating and spreading disinformation, or information that is intended to mislead), you can feel confused and desperate. You may begin to see them differently — and you might wonder whether it is your responsibility to help them understand that they are misinformed.

Psychologist Joshua Coleman, PhD, author of *Rules of Estrangement: Why Adult Children Cut Ties and How to Heal the Conflict*, offers some helpful advice about how to stay connected with people who have fallen victim to misinformation — without compromising your well-being.

STRESS SOURCES

You don't know what to believe when people you know and trust share inflammatory content. You may be inclined to believe what those close to you share — but something about the content doesn't sit right.

You don't know how to determine what is and what isn't misinformation. It can be tough to differentiate legitimate information and news from that which is false or misleading.

When you're nearly or totally certain the information is false, you may feel anxious about how to respond. "It introduces a potential conflict with that person," Coleman says. *"Am I going to have to disagree with them? Should I try to prove them wrong? Give them space and hear them out?"*

You may feel discouraged, disappointed, or betrayed when people you care about share misinformation. Coleman points out that when friends or family members champion falsehoods, it may reveal an unexpected gulf between you. Recognizing that distance could lead you to feel confused or let down.

When misinformation is shared online by someone you interact with, you're tempted to ignore it. You might pretend you didn't see it or simply scroll past it. You may feel disingenuous for not engaging, but you may question whether engaging will do any good.

You become reactive when misinformation comes up in conversation. Your own anxiety and anger may make the tension between you and the other person worse.

Others react negatively when you object to, or try to counter, the misinformation. You might be uncertain about how to advance or even de-escalate the conversation. The risk is intensified online, where you risk inviting a pile-on.

SUCCESS STRATEGIES

Do some research. The first step is verifying the information you come across with a variety of reputable sources, including fact-checking sites like Snopes.com.

On social media, misinformation-based points of view often appear extreme, but a lot of misinformation is based on a kernel of truth. If you seek the source of the idea, you may be able to find a small basis for agreement — or at least get a sense of the core value or belief that underlies the opinion. (For more on spotting misinformation, visit ELmag.com/factorfiction.)

Consider your bandwidth, as well as what's truly important to you. Know that it's not your responsibility to ensure your social circle is well-informed, and it's OK if you're unable to expend that emotional energy. If you do decide that stopping the spread of misinformation is worth it, be realistic and keep the health of the relationship in mind.

"It's hard to change anybody's beliefs about anything," says Coleman. "They cherish their beliefs, even if they aren't rational or well-founded, and if your goal is to preserve the relationship, it's really important to let go of the need to prove the other person wrong and yourself right."

Choose the right forum and context. Social media is often an unproductive place to discuss misinformation with people you care about because the atmosphere of on-line spaces can be heated and intense.

"Generally, face-to-face is better for relationships that are really important to you," Coleman says. "But for some people, communicating over text or email might be the best option, because you and the other person are less likely to get pulled into a fight. You have the time to more or less curate what you want to say and then send it knowing that your respondent has more time to respond too."

Be generous. When someone shares misinformation, they may think they are helping others see the truth. Giving them the benefit of the doubt on that score, even as you disagree with them, can help you stay calm in an exchange.

Coleman points out that the sharers probably want to preserve their relationship with you, too, so emphasizing your desire to stay on good terms may be met with a positive response.

See if you can find common ground. The next step in handling these conversations is making sure the other person is heard. Then acknowledge where you and the other person can agree. "You can start by listening respectfully and reflecting back what they're saying — 'I hear you telling me XYZ, is that right?'" Coleman says.

If you found some truth in what they're saying, you can say so. This does not indicate that you need to go all the way, or even partway, with the misinformed belief.

Although he and his brother have different political opinions, Coleman notes that they share certain convictions, such as a concern for working people. "I can meet him there, and that helps diffuse the tension when I go on to say that I'm skeptical of the theory he's advocating."

Step away from the conversation, or even the relationship, if it's going nowhere. You can affirm the relationship even as you exit the situation, says Coleman. That exit may involve leaving the room or taking some time off from someone to regroup.

"When you are really at a logjam, with the other person insisting on discussing the misinformation," he adds, "you can say something like this: 'You know, these conversations about this topic don't ever seem to go well for either of us, do they? They certainly don't for me, and I just don't feel like it's productive for us to debate about this. I feel like it's not good for our relationship to keep coming back to these topics.'"

If you decide to step away from the relationship, you may find yourself ready to return after you've had some time to reflect and recenter. Ideally, the other person will have done the same, and you can resume the relationship with mutual care and respect. 🔄

JON SPAYDE is an *Experience Life* contributing editor.



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What Is Heart Coherence?

Research suggests that the “heart-brain” affects our relationships in measurable ways — though most of us don’t need a study to prove it.

BY COURTNEY HELGOE

GIVEN THE PREVALENCE of broken hearts in poetry and song and the absence of them in x-rays, one might expect the connection between the heart and relationships to be strictly metaphorical. Yet volumes of research gathered by the HeartMath Institute suggest this little muscle plays a surprisingly big part in our communications.

According to HeartMath researchers, the heart has an “intelligent role” in physical, mental, and emotional processes. The vagus nerve, for example, carries signals between the heart, brain, and digestive system. Our heart rate is controlled by the autonomic nervous system, as that racing heart before or after a stressful event can attest. And heart rate variability (HRV) is now an important biomarker measuring how well our bodies are processing stress.

Meanwhile, researchers note that our hearts also communicate with systems outside our bodies, specifically the nervous systems of other people and animals. “Our heartbeat generates an electromagnetic field that can be detected up to three feet away from our bodies on all sides,” explains trauma therapist Jane McCampbell Stuart, MA, LMFT, CPCC, RMFT.

Most of us have walked into a room where someone was upset, or people had been fighting, and known immediately something was wrong. It’s not hard to detect. According to HeartMath proponents, that’s because when we’re upset, our heart rhythms reflect it — they race and become erratic. In turn, we effectively broadcast that stress through the heart’s electromagnetic field.

Conversely, when we’re relaxed and centered, our heart rhythms com-

municate this sense of ease and safety, inviting others to feel comfortable in our presence and, potentially, to sync up with our energy.

GET IN SYNC

Heart coherence is a state in which all our systems — physical, mental, and emotional — are working in harmony. It allows us to feel peaceful, spacious, and calm. And research has shown that when we broadcast this energy to others, it affects their coherence too.

Surprising no one, the effect of our coherence on others is amplified when we give them our undivided attention. One HeartMath study discovered that an infant’s heartbeat was detectable in her mother’s brain waves — and it was strongest when her mother was totally focused on her.

A second study used an electrocardiogram to measure the heart coherence between a teenager and his dog. When the boy entered the room where his dog was waiting and consciously focused on his feelings of love for her, his heart rhythms became more consistent. In turn, so did the dog’s. When the boy left the room, the dog’s heart rhythms became erratic — she missed her beloved human.

HeartMath Institute offers a range of free educational materials teaching heart coherence; the techniques are simple and require no special technology. Mostly, they involve turning toward one’s own heart and settling down. This puts us in a place where we can connect more deeply with others — with or without words.

COURTNEY HELGOE is the *Experience Life* features editor.

TWO TECHNIQUES TO TRY

The Quick Coherence technique

from the HeartMath Institute is designed to help you improve your coherence in about one minute. The objective is to clear your head, check your emotions, and open your heart. Use it before any conversation or event when you feel your stress ratcheting up.

- Focus your attention on your heart. Imagine your breath is moving in and out of this area of your chest, and breathe a little more slowly and deeply than you normally do. Find a comfortable rhythm.
- Summon a feeling of gratitude, appreciation, or care for someone or something in your life while you continue this heart-focused breathing.

The Heart Lock-In technique

is often used in research studies to create attunement and connection between individuals and groups.

To practice this, follow the steps above, and then consciously radiate positive feelings toward yourself and others.



The Sustainable Yard

Six ways to garden for the health of the planet.

BY LAUREN DAVID



THE SECRET to a sustainable, Earth-friendly lawn or garden is to learn to think like your surrounding native ecosystem.

That might sound like a tall order, but it really just requires you to open your eyes and ears.

“This process of thinking like an ecosystem means simply learning from nature, trying to replicate it as best you can, and finding ways to implement those processes in our gardens at home,” says regenerative organic gardener Emily Murphy, author of *Grow Now: How We Can Save Our Health, Communities, and Planet — One Garden at a Time*.

Whether you have a small patch of grass, a wide, expansive yard, or even a container garden adorning your apartment, these six gardening techniques can aid the environment and help counter the climate crisis.

1. NO-MOW YARD

No-Mow May was an initiative that began in England in 2019 to encourage people to halt mowing for a month to create habitats for pollinators.

Although the idea has good intentions, most American lawns are composed of non-native grass, which doesn't attract pollinators anyway. Allowing grass to grow to seed provides cover for invasive weeds to thrive, including dandelions, creeping Charlie, and creeping

bellflower, which may, in the end, result in more use of chemical herbicides.

The initiative does have benefits, though. “It helps us to consider letting a little bit of wildness into our lives and reenvisioning a wild garden as a beautiful garden,” says Murphy. And it may inspire you to consider that your lawn could be smaller — or become a wildflower meadow or a native garden.

There are myriad ways to create a true no-mow yard. Maintaining a lawn requires water, work, and mowing, which often includes fossil fuels to run mowers. Growing native grasses or sedges is an alternative; they contribute to biodiversity, create habitat, and reduce carbon emissions from gas-powered mowing.

A sedge is a grasslike native plant, such as the genus *Carex*, which grows well in many regions, explains horticulturist Kelly D. Norris, author of *New Naturalism: Designing and Planting a Resilient, Ecologically Vibrant Home Garden*. You may still need to mow but significantly less than with turf — perhaps just “once to a couple of times a season,” Norris says.

2. PLANTS FOR POLLINATORS

Pollinators are the bees, butterflies, bats, and birds that carry pollen from male to female plants to aid fertilization or spread plant seeds; without pollinators, most plants

wouldn't survive. But their survival is under threat too: “The biggest problem for pollinators is habitat loss,” explains Rhonda Fleming Hayes, Extension Master Gardener and author of *Pollinator Friendly Gardening: Gardening for Bees, Butterflies, and Other Pollinators*.

Creating habitats and food sources by growing native plants, shrubs, and trees is an easy way to aid and abet pollinators. Native plants are those growing naturally in the region where they evolved, forming an ecosystem with native insects and birds.

“If you see bees, birds, or butterflies congregating around certain plants, take a picture of the plant with your phone and then take that to your local nursery and ask what kind of plant it is,” suggests horticulturist Noelle Johnson, author of *Dry Climate Gardening*. (For more on gardening with native plants, see ELmag.com/nativeplants.)

The cycle of growing native plants and attracting pollinators can happen as quickly as one growing season, says Murphy.

3. KEYSTONE PLANTS

Essential to the optimal function or structure of their ecosystem, keystone plants affect the abundance and diversity of the insects that feed and pollinate an ecosystem.



An example of a common keystone plant is milkweed, which is critical for all kinds of pollinators but is especially vital to monarch butterflies, explains Murphy. Native bees are also keystone species: They are essential for propagation of local flora and can pollinate up to three times more efficiently than bumblebees.

“All keystone plants are native plants, but not all native plants are keystone plants,” she notes. “The idea behind planting keystones is that we’re supporting biodiversity and restoring biodiversity to our personal landscapes, our gardens, and cityscapes.”

Plant keystones in your garden, or if you live in an apartment or have limited space, grow them in containers.

If you have a large landscape, and oak trees are native to your area, plant one. Oaks are keystone species to certain regions. “Oak trees can support upwards of 2,300 different species among just that one tree,” Murphy says.

4. NO-TILL GARDENING

Tilling soil — digging deep and turning the soil over — was once the first step prior to planting. But as with our growing comprehension of human microbiomes, there’s a new understanding of the importance of fungi, bacteria, and nutrients in maintaining soil health and creating a symbiotic relationship with the plants you grow. (See page 40 for more on that.)

“No-till or no-dig gardening is simply the process of disturbing the soil as little as possible,” explains Murphy. No-till helps maintain soil structure and the microorganisms’ habitat; retains soil moisture; and reduces soil compaction, erosion, and amazingly, weeds.

“No-dig gardening protects the soil biome — the microbes and other life forms that call the earth under our feet home,” she says. “When we support

life underground, we support life above ground, including our gardens and the visitors we hope to encourage.”

New research finds that minimally moving the soil is better for the environment too: It allows the soil to sequester carbon instead of releasing it into the atmosphere. Plus, this method doesn’t require a rototiller or the fuel to power it.

Perhaps best of all, no-till reduces weeds, since weed seeds aren’t disturbed and brought to the surface to grow. According to Murphy, “there are a thousand or more weed seeds in every square foot of land waiting for the right conditions to grow, and when we till them up toward the surface, we increase their chance for success.”

5. WATER CONSERVATION

Lawns and gardens require lots of water, but there are sustainability techniques that can reduce watering needs. Preparing soil with compost before planting is one of the easiest, Murphy notes. “The more organic matter held in the soil, the better opportunity our soils have for holding that moisture.”

Gardening with native plants is another. Natives need less water than lawns do — and can survive droughts better than non-natives.

Dry landscaping, also known as xeriscaping (“xeri” derives from the Greek word for “dry”), is a method that focuses on using native plants that are drought-tolerant or don’t need much water. “Xeriscaping is essentially growing a garden that is water-wise by growing plants that require very little water,” she explains.

Creating a rain garden can allow you to collect rainwater and reduce runoff and erosion — as well as prevent it from infiltrating your home’s foundation. “A rain garden is a won-

derful little area where we hold on to rainwater and allow it to infiltrate the soil and water our plants,” explains Johnson. “It keeps water from flowing away too quickly — and lessens water use in the garden.”

A rain barrel is another way to save rainwater directly from the sky or as runoff from your roof and gutters — and you can store it for whenever you need water in your garden. If you live in a dry climate or want to reduce your water bill, a rain barrel can quickly pay for itself thanks to the water you save.

6. COMPOSTING AND VERMICOMPOSTING

Composting is the process of breaking down organic material — such as organic scraps from the kitchen, yard trimmings, and leaves — to create a nutritious addition to build soil health.

Making compost requires a mixture of carbon- and carbohydrate-rich “browns” (fall leaves, pine needles, twigs, and bark) and nitrogen- and protein-rich “greens” (produce scraps and grass clippings). Simply stir up to aid in the decomposition process. (To start composting, see ELmag.com/composting.)

Vermicomposting relies on worms to break down organic matter. Worms eat through your food scraps, digest them, and then excrete them, leaving behind a highly concentrated organic material for your plants and soil. There are plenty of premade worm bins available.

“Anyone can worm compost,” says Murphy. “It’s one of the better places to start, especially if someone is apartment living or has a small space with kids.” 🌱

LAUREN DAVID is a writer based in the San Francisco Bay area.

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Realizing Resilience

BY **BAHRAM AKRADI**

LIFE, IN ITS FULL and infinite glory, can be so good. Yet inevitably we'll all experience our share of twists and turns, ups and downs. From smaller things to larger, more impactful events, it's a given that we'll face stressful or life-changing situations as we move through our days. Our ability to adapt to these circumstances is resilience.

The American Psychological Association explains that resilience is "the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands."

This capacity to not only withstand adversity, but to survive, bounce back from, and grow despite it, is a skillset we develop over time. It requires that we tap into our inner strength, as well as that of our support systems, to work through life's hardships.

Resilience can be physical, emotional, or social:

- Physical resilience is our body's ability to handle and recover quickly from acute or chronic health stressors, including exertion or injury.
- Emotional resilience is the ability to respond to stressful or unexpected challenges; it taps into realistic optimism, even in times of crisis.
- Social resilience is the ability of groups to respond to, cope with, and recover from challenging situations or threats, like natural disaster, violence, or health risks.

To varying degrees, we're all naturally wired with the ability to adjust. And though we can develop greater resilience over time, many of us don't know how strong and flexible we innately are.

With a slight shift of perspective, however, we can begin to see how difficulties don't reduce us but can change and improve us. How we react to adversity can influence how our life stories unfold.

While it's often categorized as toughness or strength, resilience isn't armor, nor does it necessarily mean we're hardened. We often perceive it as a close cousin to persistence and in the same family as tenacity.

But if we dig a little deeper, resilience might be more closely related to passion and the intrinsic desire to protect the things we love — our relationships, the bodies we live in, the work we do, the communities

If we dig a little deeper, resilience might be more closely related to passion and the intrinsic desire to protect the things we love.

we're part of, the ideals we live by, the causes we believe in. The things we find meaningful give us the strength and purpose to work through setbacks and pain, probably because we can see, and believe in, something bigger than the obstacle we're facing.

Is being resilient easy? Not at all. Even the strongest among us can feel swallowed up or paralyzed by fear and pain. But the resilient keep going; we work through tough situations, even if we have to encounter the same obstacles more than once.

What's important is that we don't give up. We can fall again and again, but we have to find ways to keep getting back up. The goal is to improve a tiny bit every day, every



week, every year. As experience often proves, our growth enables us to face and overcome challenges.

Once again, we look to trees as a wonderful metaphor. Their character is sculpted in the act of healing from hurt and hardship. They may be disfigured by a bolt of lightning, for instance, yet continue to grow.

They bow to unforgiving winds and stand strong under the burden of heavy snows. They bend to find the light under a crowded canopy of cohorts. They demonstrate their resilience as they adapt and change.

Adversity doesn't mean defeat; rather, it presents new opportunities to transform and even thrive. We can shift our focus and try to look at everything that happens to us as a gift: that hard times are an opportunity to transform and expand.

Once we begin to understand and accept there will be challenges, and take the time to understand resilience, we gain the wisdom to know we're capable of not just making it through tough times, but of emerging with more courage and confidence.

We can recognize it as a means for moving forward — a tool that profoundly contributes to our growth as human beings who are always in the process of building full, meaningful lives.



BAHRAM AKRADI is the founder, chairman, and CEO of Life Time — Healthy Way of Life.

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not in never falling
but in rising
every time we fall.”

— Oliver Goldsmith



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