Experience Life

HEALTHY. HAPPY. FOR REAL.

NOVEMBER/DECEMBER 2026



LEARN TO FORGIVE
WITHOUT LOSING YOURSELF
PAGE 64

THE MANY WAYS EXERCISE SUPPORTS
WHOLE-PERSON HEALTH
PAGE 52

MIGHTY MITOCHONDRIA
HOW THEY AFFECT ENERGY, LONGEVITY, AND BRAIN HEALTH
PAGE 58

Move. Connect. Thrive.

INTEGRATIVE PHYSICIAN AND AUTHOR
Geeta Maker-Clark, MD,
ON WHY BELONGING IS ESSENTIAL FOR OUR HEALTH AND VITALITY PAGE 16

PUBLISHED BY LIFE TIME
POWERING LARC

SHOP

The Best Gifts *In Life*

From trusted LTH supplements that support lasting health to spa treatments, recovery equipment, apparel, and more, we've gathered what they'll love at LT Shop.







©2026 LIFE TIME, INC. All rights reserved. etmg261306861


Shop.Lifetime.Life
LIFETIME
$100
Something For You
Earn 20% in reward points
on eGift Cards.
eGift Card Promotion valid: 11/24/26-12/31/26

Volume 28, Issue 6

CONTENTS

FEATURES



52
Made to Move

Every part of your body — from your head to the tips of your toes — benefits from physical activity. Discover the many ways movement can make you stronger, smarter, healthier, and happier for the long haul.

By Michael Dregni and Maggie Fazeli Fard



58
Meet Your Mitochondria

These cellular powerhouses play a key role in energy production, metabolic health, cognitive function, mental health, and aging. Find out how you can eat, sleep, move, and live in ways that support good mitochondrial health.

By Mo Perry



64
Unburden Your Heart

Nurturing grievances is no way to live, yet when we feel hurt, forgiving others can be a real challenge. Learning to let go of resentments and grudges — without losing yourself — is an important step toward healing and wholeness.

By Christine Schrum

Experience Life
November/December 2026

Move. Connect. Thrive.

IN EVERY ISSUE

4 *EXPERIENCE LIFE* DIGITAL

7 EDITOR'S NOTE
By Jamie Martin

9 TALK TO US

10 WELL INFORMED
COVID-19 and the heart; ketone supplements; what to eat while on GLP-1s; the surprising advantages of a little resistance training; understanding attachment styles; and more.

16 ON THE COVER
In This Together
Integrative physician and author Geeta Maker-Clark, MD, shares why achieving true health is both an individual and collective effort.
By Jamie Martin

20 IF YOU ASK ME
What Gives You Hope?
EL staffers share how they stay optimistic.

22 MY TURNAROUND
No More Masking
Receiving an autism diagnosis as an adult changed how I view myself. Now I share my story to raise awareness about autism in women and girls.
By Feroza Mehta

85 WORTHY GOODS

87 PERSPECTIVE
By Bahram Akradi

88 MEDITATION



DEPARTMENTS

Real Fitness

26 THE WORKOUT
The Norwegian 4×4
Boost your cardio and longevity with this high-intensity interval workout.
By Rachel MacPherson

31 FORM CHECK
The Calf Raise
Three cues to fine-tune your form.
By Maggie Fazeli Fard

32 LEVEL UP
Back on the Beat
How to confidently return to exercise after a heart attack.
By Andrew Heffernan

35 TRUE OR FALSE
The Great Weight Debate
True or false: Machines are safer than free weights.
By Andrew Heffernan

37 THE LONG GAME
3 DIY Longevity Tests
Assess your strength, balance, and coordination.
By Jessica Migala

Real Food

40 NUTRIENTS
Eating for a Calm Heart
Prioritize these heart-healthy nutrients to support your cardiovascular system during a stressful season.
By Rachel MacPherson

44 SOMETHING SIMPLE
Roasted Squash Salad With Farro and Mustard Greens
This vegetarian dish is packed with fall flavors.
By Kaelyn Riley

46 FOODSTUFF
Focus on Fiber
Five strategies to get more of this critical nutrient into your diet.
By Jose Guzman

48 CONFIDENT COOK
Cozy Cast-Iron Meals
Celebrate the versatility of a kitchen workhorse with these one-pan recipes.
By Maddie Augustin





Real Life

72 BALANCE
Hands-On Hobbies
When you need a break from screens, try these analog activities.
By Alexandra Frost

75 NATURAL MENTAL HEALTH
Grief and Mental Health
Loss can be taxing. An integrative psychiatrist shares ways to support your resilience as you grieve.
By Henry Emmons, MD

76 RENEWAL
Diffusing Defensiveness
Ideas for staying calm and connected when you're dealing with defensive people.
By Jon Spayde

79 PERFECTLY IMPERFECT
The Done List
On the value of scrapping your to-do list.
By Oliver Burkeman

80 GREATER GOOD
Happy Places
Can science aid us in the search for happiness? Or are we looking in the wrong places?
By Michael Dregni

Experience Life DIGITAL



The 7 Types of Rest

It's common for Americans to wear busyness as a badge of honor. Maybe staying occupied allows us to avoid emotions we'd rather not face. Or maybe we're trying to cope with very real economic pressures. Whatever the reason, many of us can't remember the last time we truly rested.

Rest isn't just physical, however. There are actually seven distinct types — physical, mental, emotional, social, sensory, creative, and spiritual — and being depleted in any one of them can leave you feeling run-down.

To find out which type of rest you might be missing and what to do about it, scan the QR code or go to **ELmag.com/rest** to download our free guide.

CONNECT WITH US!

FIRE CIDER RECIPES
Make your own immune-boosting herbal tonics with our recipes for Five-Spice Fire Cider and Cranberry-Orange Fire Cider.
ELmag.com/firecider

AFTERBURN EFFECT
A breakdown of everything you need to know about excess postexercise oxygen consumption (EPOC).
ELmag.com/afterburn

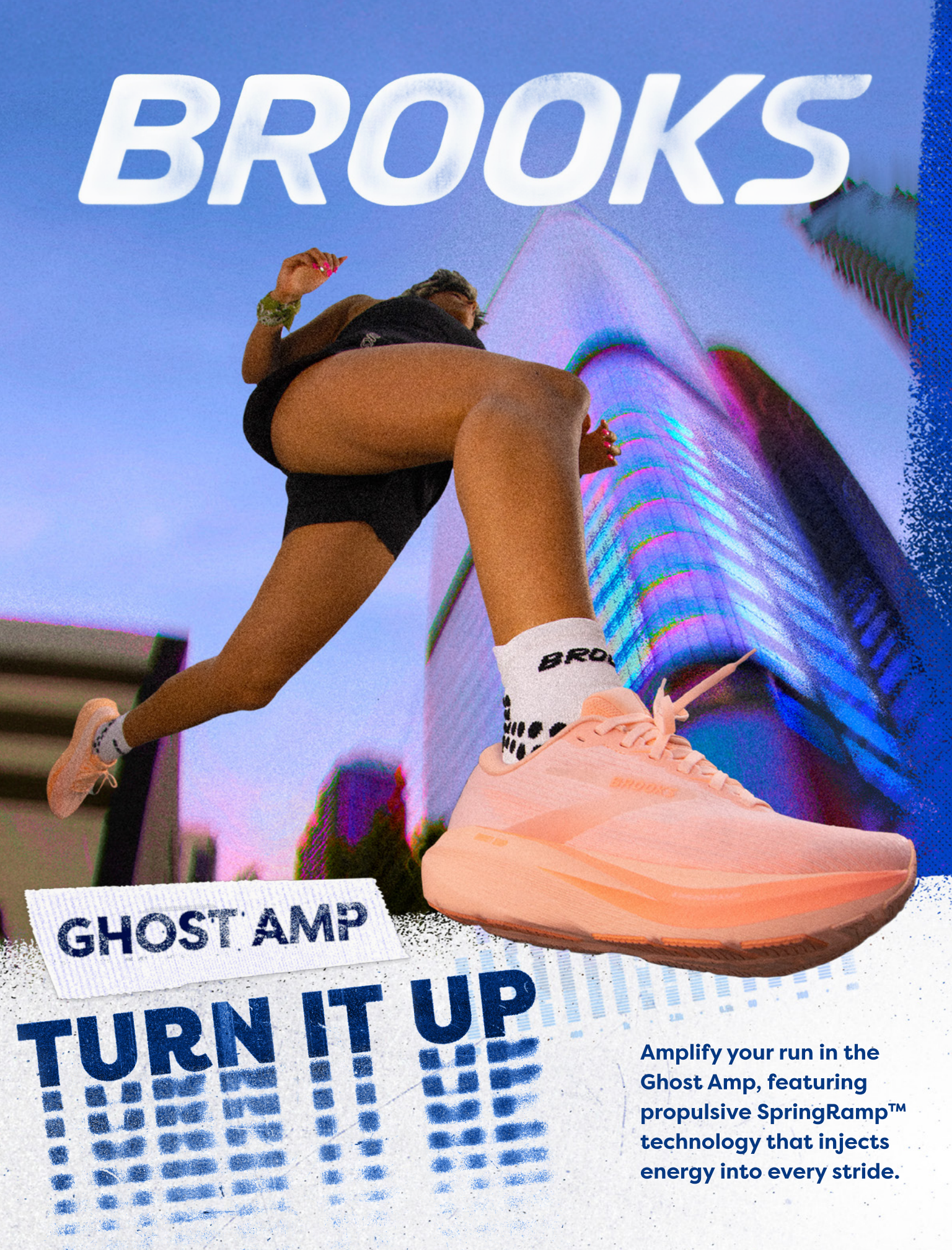
MENOPAUSE AND BRAIN FOG
Hormonal changes during menopause can disrupt your memory and concentration. These strategies can help restore clarity.
ELmag.com/brainfog

EL TALKS



SKINCARE MADE SIMPLE

If your bathroom cabinet is overflowing with the latest viral beauty products, it may be time to simplify. In this episode, dermatologist Mohiba Tareen, MD, cuts through the social media hype and explains what actually supports healthy skin. She shares why skin health starts from within and why a simple, personalized routine works better than an overly complicated one. Scan the QR code or go to **ELmag.com/skinpodcast** to listen.


BROOKS
GHOST AMP
TURN IT UP
Amplify your run in the Ghost Amp, featuring propulsive SpringRamp™ technology that injects energy into every stride.

Experience Life

BY LIFE TIME

OUR MISSION: Empowering people to become their healthiest, happiest, most authentic selves and supporting their enjoyment of a balanced, sustainable, deeply satisfying way of life.

OUR MANTRA: HEALTHY. HAPPY. FOR REAL.

EXPERIENCE LIFE MAGAZINE

EDITOR IN CHIEF **Jamie Martin**

EXECUTIVE EDITOR **Courtney Helgoe**

DEPUTY EDITORS **Craig Cox, Michael Dregni**

EDITORIAL DIRECTOR–FITNESS **Maggie Fazeli Fard**

EDITORIAL DIRECTOR–FOOD AND NUTRITION **Kaelyn Riley**

SENIOR COPY EDITOR **Mike Oakes**

SENIOR EDITOR/LEAD FACT CHECKER **Molly Tynjala King**

FACT CHECKER/COPY EDITOR **Brett Fechheimer**

CONTRIBUTING EDITORS **Lauren Bedosky, Laine Bergeson, Catherine Guthrie, Andrew Heffernan, Jill Patton, Mo Perry, Nicole Radziszewski, Jessie Sholl, Alexandra Smith, Jon Spayde, Heidi Wachter**

CONTRIBUTING WRITERS **Maddie Augustin, Oliver Burkeman, Henry Emmons, Alexandra Frost, Jose Guzman, Rachel MacPherson, Feroza Mehta, Jessica Migala, Christine Schrum**

EXECUTIVE CREATIVE DIRECTOR **Lydia Anderson**

PRODUCTION DIRECTOR **Jane Meronuck**

ART DIRECTOR **Jennifer Jacobson**

SENIOR DIRECTOR–DIGITAL **Anjula Razdan**

DIRECTOR–DIGITAL MARKETING AND MEDIA STRATEGY **Laura Lineburg**

SENIOR MANAGER–MULTIMEDIA, EMAIL, AND SOCIAL MEDIA **Tatyana McNamara**

DIGITAL CONTENT SPECIALIST/SPECIAL PROJECTS COORDINATOR **Christy Rice**

SENIOR MANAGER–BUSINESS AND CIRCULATION **Carrie Stafford**

BUSINESS AND CIRCULATION SPECIALIST **Cole Luskey**

FOUNDING EDITOR **Pilar Gerasimo**

Please address all written correspondence and editorial inquiries to Managing Editor, *Experience Life*, 2145 Ford Parkway, Suite 302, St. Paul, MN 55116 or experiencelife@experiencelife.com.

LIFE TIME

FOUNDER, CHAIRMAN, AND CEO **Bahram Akradi**

PRESIDENT, MEDIA **Kimo Seymour**

Please address all media and advertising inquiries to **ltmedia@lt.life**.

L•AI•C

L•AI•C is Life Time's proprietary AI companion; it's available in the Life Time app.

PICTURE CREDITS

Cover, p. 16–18: Kwaku Alston (photographer), Becky Thompson/The Rex Agency (wardrobe styling), Lisa Chamberlain/The Rex Agency (makeup), Teddi Prior/The Rex Agency (hair). Wardrobe: shirt by Brochu Walker, sweater by SRG Atelier (cover), sweater by Loro Piana, jeans by Good American (p. 16–17), coat by SRG Atelier, sweater by Loro Piana, jeans by Good American (p. 18).

Page 7: Sara Rubinstein; p. 20: Ryan Jacobson; p. 22 (bottom left, right): Matty Jacobsen/Magic Dreams Productions (photographer), Joseph Gonzalez/Constantine James Co. and Alex Safdari/Sloane's Beauty Bar (hair and makeup); p. 44–45, 48–51: Terry Brennan (photographer), Betsy Nelson (food stylist); p. 85 (bottom left and right): Terry Brennan. Stock images: Getty Images.

LIFE TIME®, LIFE TIME FITNESS®, LIFE TIME ATHLETIC®, and EXPERIENCE LIFE® are all trademarks of LIFE TIME.

Alliance for Audited Media

EXPERIENCE LIFE Magazine (ISSN 1537-6656) is published six times a year — January/February, March/April, May/June, July/August, September/October, and November/December — by LIFE TIME, 2902 Corporate Place, Chanhassen, MN 55317. SUBSCRIPTION RATE: One year (6 issues) $27.95; two years (12 issues) $44.95. LIFE TIME MEMBERS: For member questions, cancellations, or change of address, call Account Services at 888-430-6432 or email accountservices@lifetime.life. NON–LIFE TIME MEMBERS: For nonmember questions, cancellations, or change of address, call 800-897-4056 or email ELFcustserv@cdsfulfillment.com. Periodicals postage paid at Chanhassen, MN 55317 and additional mailing offices. ISSUE DATE: November 2026. POSTMASTER: Send address changes to Cole Luskey, EXPERIENCE LIFE Magazine, 2145 Ford Parkway, Suite 302, St. Paul, MN 55116.

LIFE TIME
HEALTHY WAY OF LIFE

Copyright 2026 by LIFE TIME. All rights reserved. Printed in USA. Reproduction of this magazine, in whole, or in part, is prohibited unless authorized by the Publisher or its advertisers. The advertising space provided in EXPERIENCE LIFE is purchased and paid for by the advertiser. None of the products or services is necessarily endorsed by LIFE TIME.

SUSTAINABLE FORESTRY INITIATIVE Certified Chain of Custody Promoting Sustainable Forestry www.forests.org SFI-00993

The paper used in this publication is certified by the Sustainable Forestry Initiative®. Please recycle this magazine.

The information contained in the magazine is intended to provide broad understanding and knowledge of healthcare topics. This information should not be considered complete and should not be used in place of a visit, call, consultation, or advice from your physician or other healthcare provider. We recommend you consult your physician or healthcare professional before beginning or altering your personal exercise, diet, or supplementation program.

Experience Life content is researched, written, edited, fact-checked, and copyedited by human writers and editors. When artificial-intelligence tools offer corrections or suggestions, our editors accept or reject them manually.

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

A FEW DEEP BREATHS



"EMBRACE AND ADAPT." As I sat down to write my final Editor's Note for the 2026 editions of *Experience Life*, that's the phrase that kept coming to mind that best characterizes how I've handled many situations over the past year or so.

We all know that nothing is static and change is constant. This can be a welcome fact, like how the body gradually transforms when we stick with a consistent workout routine. Yet there are some periods when change insists on being front and center rather than unfolding quietly in the background. And when change dominates, we have two choices: Resist it tooth and nail, or take a few deep breaths and embrace it.

Personally, I've dealt with a handful of unexpected circumstances that have made me change how I engage in certain relationships and how I approach some aspects of my health. I've had tough but important conversations, and I've set boundaries to protect my mental well-being. Along the way, I've learned a ton about myself, my values, and what I'm capable of.

Professionally, it's felt like a rollercoaster ride of change for the *Experience Life* team — nerve-racking and overwhelming at points, but also exciting. We've said goodbye to two longtime team members who have transitioned into a new career opportunity and retirement, respectively — shout-out to former managing editor, Courtney Lewis Opdahl, and deputy editor, Michael Dregni, for their many years of amazing contributions and collaboration.

We're welcoming new managing editor (and decades-long freelance writer) Karen Olson, who's helping to streamline our editorial process and systems, which is opening the door for even more robust health and wellness coverage in the new year. This, in turn, is creating opportunities for team members to grow their skill-sets and knowledge as we expand our content offerings.

We're also preparing for the retirement of our executive creative director, Lydia Anderson, who has been at the helm of our art team since the very first edition of *Experience Life* in August 2001. For more than 25 years, Lydia has set our creative vision, creating the beautiful aesthetic that brings each issue and every article to life. When she steps away in late December, it will mark the end of an era, as well as a partnership that I will deeply miss.

All said, it's been . . . a lot. Thankfully, though, we've faced — and *are* facing — these shifts as a team, working through the ups, downs, and unforeseen together. Plus, because we regularly cover change and its role in overall health, we know the importance of embracing it, adapting to it, and learning from it.

We also understand the fundamental and essential roles that our daily habits and choices play in helping us be resilient enough to navigate these shifts. We know that getting regular movement and exercise influences the body and mind (see "Made to Move," page 52) right down to the cellular level (see "Meet Your Mitochondria," page 58). We know the importance of nurturing strong relationships and community (see "In This Together," page 16) and the power of forgiveness in freeing us to let go and move forward (see "Unburden Your Heart," page 64).

It may not seem like it when we're in the midst of it, but change can be exactly what we need to grow, discover what's possible, and thrive. You've got this. We've got this. Onward.

It may not seem like it when we're in the midst of it, but **change can be exactly what we need to grow, discover what's possible, and thrive.**

YOUR THOUGHTS?

Email us at **Experiencelife@experiencelife.com.**

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. Follow her on Instagram @jamiemartinel.



HERO NOODLES™

32G FIBER • 12G PROTEIN
5G NET CARBS

figures per serving of Hero Noodles™ Elbows, see nutrition facts on Hero.co.

Scan For 10% Off Your First Order

TALK TO US

IN CELEBRATION OF 25 YEARS

I have a master's degree in journalism from Northwestern University, so I am a harsh critic when it comes to magazines. Far and away, *Experience Life* is the best in the business.
Ann F.

Experience Life is by far the best magazine I've ever subscribed to. Been a subscriber for 20 years!
Ali M.

I have received this for as long as it has existed. Fantastic magazine! Always gives me inspiration with new recipes, fitness trends, and interesting health articles on various topics.
Sabine B.

You have the best articles. And I appreciate that they aren't behind a paywall. Thank you!
Maria S.

VALUABLE LESSONS

[On "Lessons Learned," July/August 2026]

I just wanted to say I really loved this column by Jamie Martin. I read it a few times and will probably have to read and reread it again. Powerful message.
Anna A.

Jamie Martin's column is absolutely wonderful — a super-positive opportunity for anyone to try and relate to each one of the 25 lessons. I went to a large party the other night and passed it out to the women there to take home with them and ponder. They all loved it.
Linda T.

I very much appreciated Jamie Martin's "Lessons Learned." Truly, words of wisdom!
Mary Beth H.

THE HEALING POWER OF MOVEMENT

I appreciated "A Guide to Exercising During Cancer Treatment" in your May/June 2026 issue. I found moving my body — especially running, yoga,



and walking — so helpful before, during, and after my treatment and double mastectomy for breast cancer.

Diagnosed at 40, I wasn't expecting my body to have to go through something like cancer. Daily movement and exercise helped me regain a sense of power, identity, and energy, which is sometimes depleted when you get the cancer diagnosis. I am now five years cancer-free, and I know exercise, mindset, and movement have something to do with that.
Emily C.

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

Letters to the Editor
Experience Life
2145 Ford Parkway, Suite 302
St. Paul, MN 55116

Please include your city and state. We reserve the right to edit letters for length, grammar, and clarity, and to publish at our discretion. All submitted copy and materials become the property of the magazine. We do not return or guarantee the publication of unsolicited materials. For reprint and publication requests, please contact **experiencelife@experiencelife.com.**

STRONG FOUNDATIONS

"The Post-Exhaustion Superset Workout" in the March/April 2026 issue is excellent. I was looking for this type of straightforward routine as my sports season kicks off. Thanks!
Jo

I'm 71 and an aficionado of low-intensity and low-impact exercise ("The Case for Low-Impact Exercise," October 2019). As a marathoner in my 40s and a veteran of light free weights and the Smith machine, I'm realizing this rigorous foundation has kept me conditioned. I'm pleased and somewhat surprised at this result.
April L.

GOOD EATS

The "Baked Salad With Brussels Sprouts and Halloumi" (March/April 2026) was delicious and easy to fix.
Cathy H.

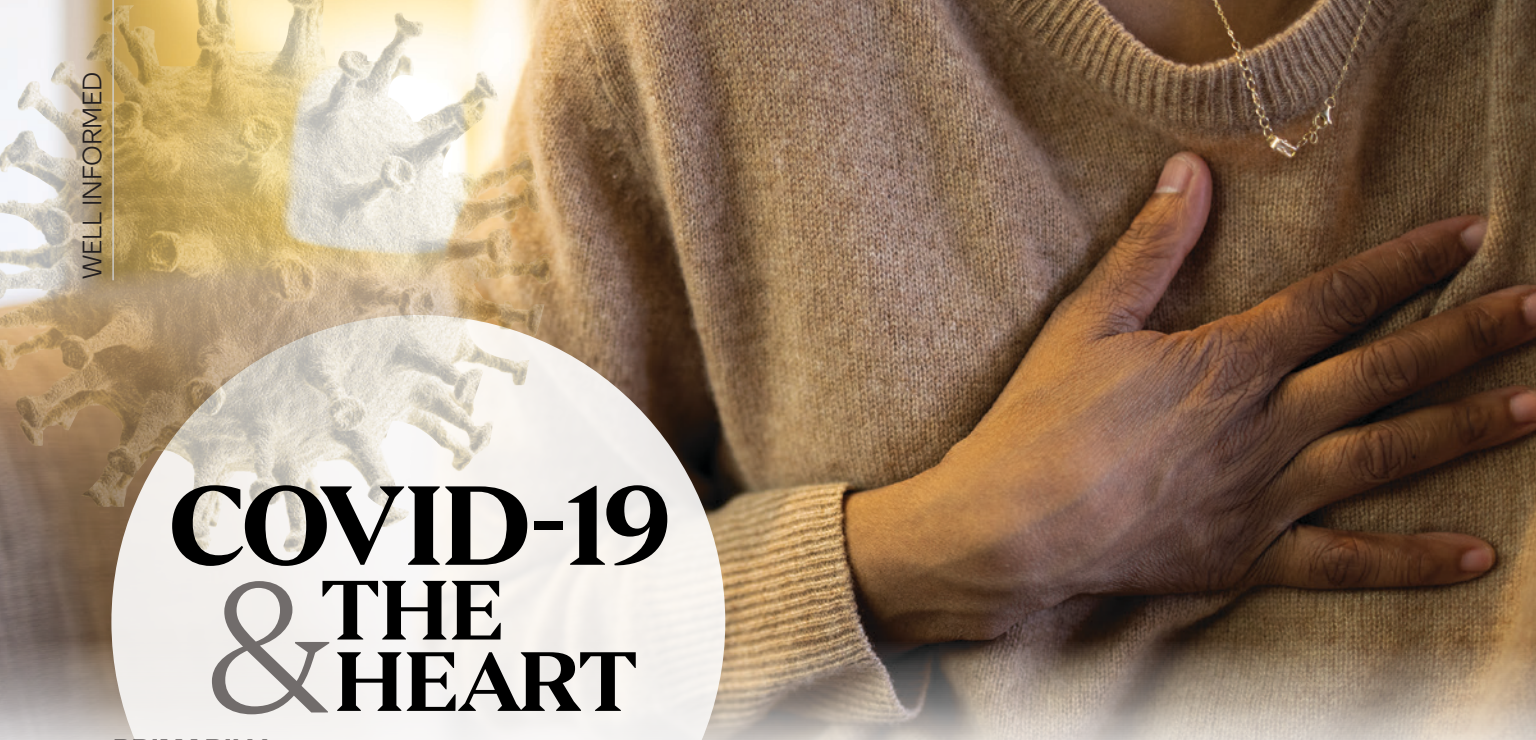
This "Grecian Hazelnut and Orange Olive-Oil Cake" (September 2024) turned out delicious! It's definitely a keeper. I used about two-thirds the honey amount, and the sweetness was perfect.
Joelle

A NURTURING PRACTICE

Thank you for the article "What Is Forest Bathing?" (July/August 2023). It's very informative. When one cannot get to a forest (as I cannot now in New Mexico with wildfires burning and bad air), even the simple acts of gardening, transplanting, and nurturing make me feel more alive.
Suzanne T.

NOISE MACHINES

Leaf blowers are by far the noisiest things in my otherwise lovely neighborhood ("What to Do About Noise Pollution," March 2021). The noise, dust, and destruction of using them is quite disruptive to humans, birds, and insects.
Irene M.



COVID-19 & THE HEART

PRIMARILY a respiratory disease, COVID-19 can also lead to complications throughout the body — including in the heart, where studies show it can do significant long-term damage.

"Cardiovascular complications of COVID-19 are numerous, and aspects of this phenomenon are not well known," a cohort of international researchers emphasize in a 2024 systematic review.

There were early hints that the virus's scope included the cardiovascular system. In January 2020, when news of the initial outbreak was spreading worldwide, doctors in Wuhan, China, reported that many COVID patients were also suffering cardiac injuries. Heart attacks were common, especially in people with underlying risk factors. There were also numerous cases of myocarditis, an inflammation of the heart muscle.

In the years since, a wealth of research has shed new light on COVID's effects on the heart and blood vessels. Not surprisingly, these effects are influenced by preexisting cardiac conditions like coronary artery disease, another research team notes in a 2022 review.

A large-scale study this year by Sweden's Karolinska Institutet, which includes data on more than 1.2 million adults, found that during a four-year follow-up, cardiovascular disease was more common among participants with long COVID — women, in particular — than those without.

Women with long COVID were three times more likely to develop cardiac arrhythmias than those without it, and they had a 25 percent increased risk of heart failure and peripheral artery disease. Overall, they had slightly more than twice the risk that they'd be diagnosed with a cardiovascular disease; men with long COVID had about a third higher risk than those without.

While the severity of COVID infection can play a role, even those with a "mild-to-moderate infection have an elevated risk of future cardiovascular disease," the study authors write.

"Our results show that long COVID can be a risk factor for cardiovascular disease, even in younger people who were previously healthy," lead author Pia Lindberg, a nurse and PhD student at the Karolinska Department of Medicine, says in a press release.

Studies reveal a wide array of possible cardiovascular effects. COVID can affect both the heart's muscle and its vascular system, leading to accelerated vascular aging, plaque instability, and acute coronary syndromes.

"Our results show that long COVID can be a risk factor for cardiovascular disease, **even in younger people who were previously healthy.**"

Other complications include myocardial injury; broken heart syndrome (a.k.a. Takotsubo cardiomyopathy), which is typically triggered by acute stress; myopericarditis, or inflammation in the pericardium protective sac; and heart failure and cardiac arrest.

Disorders of heart-rate regulation are also frequent complications. "Among the more common lingering problems — affecting up to a third of all patients with long COVID — is postural orthostatic tachycardia syndrome (POTS), which causes the heart to beat abnormally fast," reports *Harvard Medicine* magazine.

"The complete impact of the pandemic has been much greater than what is indicated by reported deaths due to coronavirus disease 2019 (COVID-19) alone," note the authors of the 2022 review.

Looking ahead, the Karolinska researchers advise that cardiovascular risk screening should include patients' long-COVID history. "Long COVID should be integrated into cardiovascular risk assessment frameworks and health system planning, with particular attention to sex-specific patterns of risk."

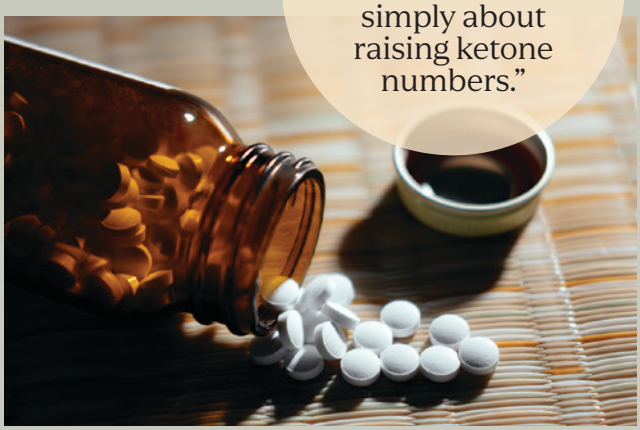
— MICHAEL DREGNI

A CLOSER LOOK AT
KETONE SUPPLEMENTS

Your body has a flexible fuel system. When your blood glucose runs low, your liver converts fat into compounds called ketone bodies that power your brain and muscles. This metabolic adaptation is the scientific basis of the ketogenic diet.

Now, ketone supplements are available in a bottle. Ketone salts and ketone esters elevate ketone levels in the body without prolonged fasting or adherence to a ketogenic diet. They're often touted as shortcuts to the benefits of nutritional ketosis, including weight loss, improved athletic endurance and recovery, and sharper cognition.

"Long-term weight loss and metabolic health are not simply about raising ketone numbers."



But, cautions metabolic-health expert Steven Finch, DHSc, LDN, RCEP, "it's important to separate scientifically plausible applications from commercial overstatement. The excitement is real, but the marketing often outruns the evidence."

We asked Finch to parse the science and the hype.

Weight loss: Exogenous ketones may support weight loss indirectly by suppressing appetite and reducing hunger hormones, but they don't directly mobilize fat or replicate the metabolic adaptation of nutritional ketosis. "Long-term weight loss and metabolic health are not simply about raising ketone numbers," Finch says.

Athletic endurance: Some studies suggest exogenous ketones may improve endurance efficiency and reduce glycogen dependence. Others show no benefit or demonstrate gastrointestinal side effects. "Ketone supplementation remains scientifically intriguing but far from universally validated for athletic enhancement," he notes.

Mental sharpness: Mechanistically, using ketones to boost cognition is plausible, Finch explains. Ketones cross the blood-brain barrier efficiently and can support brain energy when glucose is unstable. Still, the strongest research focuses on people with neurological disease and metabolic dysfunction — not everyday health enthusiasts.

— JILL PATTON, NBC-HWC

WOMEN ARE MISSING OUT ON
CARDIAC REHAB

For the past half century, cardiac rehabilitation (CR) programs have helped millions of people recover from heart surgery and lower their risk of subsequent cardiovascular issues. But recent research reveals a puzzling reality: Women are much less likely than men to use these services.

The obstacles are both institutional and personal, according to a 2025 American Heart Association (AHA) report. Clinicians are less likely to refer women patients to cardiac rehab. And caregiving responsibilities often fall most heavily on women, limiting their ability to follow through with a rehab program — even when they are referred to one.

Women also tend to be older than men when a cardiovascular event sends them to the hospital, and they may be struggling with other maladies — they're more prone to postsurgical depression, for instance — that could impede their ability to complete a rehab regimen.

"Traditional CR programs often fail to address these needs adequately, contributing to proportionally lower participation and completion among eligible women," the authors write.

The AHA report calls for a multifaceted approach to making CR programs more available to women. Such an approach might include introducing an automatic referral process for all patients after surgery, creating new CR options with a broader range of exercise prescriptions or psychosocial services, and routinely offering support through peer-group counseling.

"Implementation of these strategies can facilitate access to CR programs for women, promoting their quality of life and long-term cardiovascular health," the authors write.

— CRAIG COX





NUTRIENTS YOU NEED
WHILE ON GLP-1s

About 11 percent of American adults take glucagon-like peptide-1 (GLP-1) receptor agonists to help manage weight. And many experience side effects, including constipation, vomiting, and diarrhea, as well as longer-term health concerns.

"It seems many people go in to this hoping for a quick fix and then wonder, *Holy cow, what's going on with my body?*" says integrative dietitian Cindi Lockhart, RDN, LD.

Many GLP-1 downsides are linked to nutritional deficiencies; studies show that caloric intake for those who take GLP-1s is reduced by 16 to 39 percent. The drug itself slows gastric motility, which can trigger GI dysfunction and disrupt the absorption of fat-soluble vitamins and minerals. Reduced gallbladder contractions may cause bile to build up and stagnate. And shedding weight too fast can cause muscle and bone-density loss.

Still, eating nutrient-balanced meals can mitigate the risks and side effects of GLP-1s, Lockhart says. She emphasizes these building blocks.

- **Protein** helps preserve lean muscle and supports bone integrity. Lockhart recommends roughly 25–35 grams of protein per meal. Choose easily digestible sources like egg whites, poultry, white fish, organic tofu, or whey isolates.
- **Soluble fiber** supports GI motility and feeds your microbiome, helping to counter GLP-1s' digestion-disrupting side effects, says Lockhart. She suggests 25–30 grams of fiber a day from sources like oat bran, avocado, psyllium husks, legumes, chia, and flaxseed.
- **Omega-3 fatty acids** support absorption of fat-soluble vitamins and help stimulate the gallbladder to release bile. Go for SMASH fish (salmon, mackerel, anchovies, sardines, and herring) three times a week, and enjoy plenty of nuts, seeds, avocado, and extra-virgin olive oil daily.
- **Vitamin D3 with K2** helps you absorb calcium and direct it to your bones. Lockhart notes that 2,000 to 5,000 IU of vitamin D each day is a common recommendation. Sublingual or liquid forms may be better absorbed if fat digestion is impaired.
- **Calcium** levels can decrease when taking GLP-1s because of dairy aversion, bone catabolism, and altered stomach acidity. She recommends a calcium citrate supplement for people who avoid dairy products.

— JILL PATTON, NBC-HWC

RESISTANCE TRAINING WORKS — EVEN IN SMALL DOSES

There's no question that resistance training is key to building muscle mass and promoting mobility as we age, so it's easy to assume that the more you lift, the better you'll feel. But recent research suggests that even less-ambitious regimens can make a real difference.

Brad Currier, PhD, and his McMaster University team reviewed 178 studies analyzing the efficacy of various resistance-training prescriptions (RTx). They concluded that those involving higher loads and multiple sets were more effective than regimens that involved no lifting.



They also found data suggesting that similar health benefits may accrue for those who commit as little as an hour a week to resistance training — and that more time and energy spent lifting may actually reap fewer rewards.

"While others attempt to optimize RTx, we propose that, for most adults, regularly engaging in any RTx is more important than training to optimize strength and hypertrophy [muscle growth] outcomes," Currier writes in a 2023 issue of the *British Journal of Sports Medicine*.

Ken Nosaka, PhD, director of exercise and sports science at Edith Cowan University, reinforced those results earlier this year in the *Journal of Sport and Health Science*. He concludes that simple eccentric exercises — chair squats, heel drops, and wall pushups — can improve muscle strength and endurance in as little as five minutes a day.

> "You can gain strength without feeling as exhausted. **So, you get more benefit for less effort."**

"You can gain strength without feeling as exhausted. So, you get more benefit for less effort," Nosaka notes in a press release. "That makes eccentric exercise appealing for a wide range of people."

— CRAIG COX



UNDERSTANDING ATTACHMENT STYLES

WHEN IT COMES to love, we all have our own style. We might wait for the other shoe to drop, or stay aloof to feel safe. Conversely, we might be easygoing and relaxed about relating.

Attachment theory suggests that early childhood experiences help explain these differing relationship styles — and a new study offers some of the richest evidence to date, says the study's coauthor Jeffry Simpson, PhD, a University of Minnesota professor of psychology.

Simpson's research team tracked more than 700 participants and their families for roughly three decades. Those children who were raised by soothing, encouraging caregivers were more likely to form stable relationships throughout their lives, navigating friendships and romantic relationships with more confidence and resilience than those whose parents didn't provide the same support.

Attachment theory suggests that **early childhood experiences** help explain these differing relationship styles.

AN ENDURING EFFECT

The study builds on more than a half century of research. It shows that children whose parents encouraged them to explore and provided comfort when they were distressed were most likely to be adaptable, trusting, and self-confident, with a secure attachment style.

Children whose parents were inconsistent — smothering their child with attention one moment, disregarding them the next — tended to be easily distressed and unable to self-soothe, with an anxious or ambivalent attachment style.

When a parent repeatedly rejected or ignored the child, that child was likely to demonstrate an avoidant attachment style. Having learned that adults can't be relied on for help, these children tended to be distant, disinterested, and excessively independent.

A fourth style, disorganized attachment, incorporates elements of the anxious and avoidant types. It often stems from a childhood that included trauma or abuse.

These tendencies persist. Children who established secure attachment as infants tend to demonstrate secure behaviors in other relationships as adults.

Meanwhile, insecurely attached infants tend to replicate their anxious or avoidant behaviors throughout their lives. As Simpson puts it, "Our childhood leaves an enduring residue."

ROOM TO GROW

Relationships with caregivers may set a template for relational patterns, but these aren't carved in stone. "Even a securely attached person can revert to insecure attachment behaviors if they feel stressed or overwhelmed," explains Simpson.

Change flows in the other direction, too. For example, in his research on the transition to parenting, Simpson has found that becoming a parent often compels avoidant individuals to cultivate more secure behaviors.

"They're forced to show up and be consistent for their child, and they usually need to rely on their partner more than they ever have before," he notes.

Finally, parents are not the only ones who shape our relational blueprint. "Friendships also influence our attachment style," explains Simpson. "Peer relationships in elementary school and adolescence teach us how to trust and rely on others."

Research shows that our early romantic relationships can also add new roads to our mental maps that lead toward a more secure and trusting outlook.

These "corrective experiences," as psychologists call them, don't necessarily change our attachment style. But they can help us become better able to express and care for our needs in healthy ways.

— ALEXANDRA SMITH, MA, LPCC

DELVE DEEPER

For tips on raising a securely attached child, see **ELmag.com/attachment.**

NOBULL | LIFETIME

LIFE TIME'S OFFICIAL HYBRID TRAINING SHOE



Stro
Th
the S


onger
han
eason
NOBULL
PRIVACY.FLOWCODE.COM
Shop NOBULL Holiday

IN THIS TOGETHER

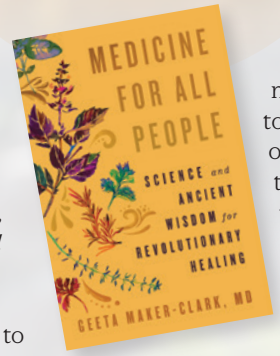
BY **JAMIE MARTIN** • PHOTOS BY **KWAKU ALSTON**

"WHAT IF VITALITY isn't something we prescribe, but something we practice?" Integrative physician Geeta Maker-Clark, MD, posed this question to hundreds of her fellow practitioners in her opening keynote presentation at the 2026 Institute for Functional Medicine's Annual International Conference.

The longtime family physician went on to describe the limitations of traditional healthcare models — short clinic visits, diagnostics, treatments, prescriptions — as well as the potential of the free, everyday medicines that can also strongly influence patients' health and well-being. Think spending time in nature; having access to healthy food and healing plants; connecting, serving, and building trust with our communities; moving in joyful ways; and practicing gratitude.

Maker-Clark delves into these medicines, which she calls "remembrances," in her new book, *Medicine for All People: Science and Ancient Wisdom for Revolutionary Healing*. "We can change the paradigm of what we believe medicine to be and restore it to what it truly is — a healing force," she writes. "The way forward begins not in products or quick fixes, but in reclaiming the simple medicines that have always been with us: nourishment, story, belonging, and love."

"The way forward begins not in products or quick fixes, but in reclaiming the simple medicines that have always been with us: **nourishment, story, belonging, and love."**



Belonging and meaningful connections have proved to be central elements for real health across the populations Maker-Clark has worked with over the past 25 years. "Humans are healthiest when using the power of community and the natural world around us to thrive," she writes. "In that circle of belonging, the body softens, the nervous system exhales. We move from the edge of survival — fight, flight, or freeze — into the quiet work of rest, digestion, and repair."

It's this interconnectedness that inspired Maker-Clark to share her experiences, together with the data and insights she's gathered along the way. "The book is really a love letter to humanity," she explains. "It reminded me of what matters to me, to my community, to my patients. And if there's just one thing I would want people to take away from it, it's to remember that many of the medicines they need are already within reach and are effective and ancient.

"If we can expand our idea of what a medicine is, we can better understand that health is not something that we build by ourselves. Rather, we can create a healthy society together, like a mycelium network underneath the forest floor. Medicines are all around us."





Q&A

WITH GEETA MAKER-CLARK, MD

TUNE IN!
Listen to our conversation with Maker-Clark in our *Life Time Talks* episode at ELmag.com/lttalks.

EXPERIENCE LIFE • **How has your definition of being a healer changed as you've done this work?**

GEETA MAKER-CLARK • When I entered medicine, I thought real healing was going to happen more in exam rooms, in hospitals, and in the OR. But I noticed over time that my medical training had not fully prepared me for the complex care of human beings in their daily lives; my community service prepared me much better for that.

The most powerful influences on my patients' health had very little to do with what was happening in the 30 minutes we saw each other in the clinic. They were shaped by much larger forces — whether they had access to healthy food, whether they were safe in their neighborhoods, whether they had meaningful relationships, whether they felt connected to their culture and their families, whether they had time to rest or move or celebrate or feel a sense of belonging.

I started to understand that healing was much bigger than anything I could be taught in school and began widening my lens to help people create conditions in which they could thrive.

EL • **What if someone has never experienced health as something that happens outside of a medical setting?**

GMC • I want people to know that health isn't something that happens *to* us, or that we either get to have or not have. It is something we participate in every single day. So the choices we make matter.

Equally important are the conditions in which we're making those choices. The burden is not entirely on us to be healthy. Yes, we each have a role in caring for our own health, but healing cannot be placed on individuals alone. We also have to care for one another, build supportive communities, and create policies that make healthy choices actually possible for everyone.

Right now, we're focused on individuals holding all the responsibility for their care. It's OK to ask for help, and need help, and to know that we will actually be healthier for doing so.

EL • **Even with all the resources available to help keep us healthy, there's still a vitality gap. What's driving this?**

GMC • We've become very skilled at treating disease, but we're less skilled at cultivating health. We have more health information and interventions than ever before, with apps, trackers, and supplements. But even my most proactive patients are my most exhausted, disconnected, overwhelmed, anxious ones. The problem isn't a lack of information. It's that the conditions that support vitality are eroding, and they have been for a while.

We spend less time in community, less time outdoors, less time playing and dancing and preparing meals together, less time in ritual. There's more chronic stress and more social isolation; economic insecurity and digital overload have become increasingly common.

Vitality can't be downloaded or purchased. It emerges from daily, ordinary practices that support our flourishing. We can narrow that gap quickly if we start to work on cultivating health rather than treating disease. The good news is these medicines are all around us. The challenge comes in remembering them and making space for them in our lives.

EL • **What does it look like when an individual's conditions are working against their health before they can start making choices for themselves?**

GMC • It looks like someone trying to be healthy while the world around them keeps making that harder. It can look like a person being told to "eat better" when they live in a neighborhood without affordable, fresh food. It can look like being told to "reduce stress" while working two jobs, caring for family, and living without enough rest or safety.

We often talk about health as if we're all starting from the same point. But most people are navigating enormous barriers before they even make one decision about their health. The questions to ask are: What choices are actually available? What conditions are shaping this person's body before they ever walk into an exam room?

EL • **Talk a little about the importance of community, belonging, and connection in relation to our health.**

GMC • It's an illusion that we're separate: Health is profoundly relational. We coregulate each other's nervous systems, we influence one another's habits, and we shape each other's opportunities.

Belonging is a deep medicine, not a luxury. It's an actual biological need. And loneliness is a disease that can reduce the quality and quantity of our lifespan and our healthspan. So if we remember that we're not meant to do life alone, it can help us get further on our path to health and vitality. The neuroscience research shows that we are wired for connection, that we are herd animals who survive best when in community.

EL • **How do you embrace these medicines in your own life?**

GMC • My medicines are wonderfully ordinary. I spend time in nature, which means walking in the park across from my house. I live beside Lake Michigan. I try to get there every day to set my eyes on the horizon, even when it's snowing, and it grounds me.

I dance every day — sometimes in classes or with my dance company, but most of the time just for a few minutes by myself. I share meals with people I love whenever I can. I also make time for my friends and family, which often means texting or calling a few different people a few times a day, even if it's brief. These connections are soul food!

And I serve my community through my medical practice and my Food Is Power initiative.

These practices help me return to myself. They remind me of what matters to me, and that feels like the most important way to feel a sense of vitality and health every day.

JAMIE MARTIN is *Experience Life*'s editor in chief and cohost of the *Life Time Talks* podcast.



Results Are Built Between Workouts.

LTH DREAM
Restorative sleep supports everything you're working toward.

AVAILABLE IN THE LIFECAFE AND AT LTH.SHOP

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
©2026 LIFE TIME, INC. All rights reserved. npmg261273400

What Gives You HOPE?

EL staffers share how they stay optimistic.

DAILY ACTS OF KINDNESS: someone holding the door open, a stranger smiling, a driver letting you merge into traffic. Just small reminders that people still care for one another.

— Christy Rice, digital content specialist/special projects coordinator

COFFEE.

— Maggie Fazeli Fard, editorial director–fitness



MY DAUGHTERS. Seeing them grow into their passions and imagining the ways they're going to change the world for the better gives me so much optimism about the future.

— Jamie Martin, editor in chief

My two darling **GRANDDAUGHTERS.**

— Lydia Anderson, executive creative director

MOUNTAINS.

— Jennifer Jacobson, art director

THE STORIES WE SHARE — and their ability to connect us.

— Molly Tynjala King, senior editor/lead fact checker

Experience Life art director Jennifer Jacobson takes in Glacier National Park's mountainous landscape in October 2021.



Track your glucose, shape your health.

Glucose is the fuel that moves you. Energy, focus, mood, sleep—glucose impacts them all. It quietly runs the show, every minute of every day. When you understand your glucose, healthy habits start to feel like second nature.

With Stelo, you can see your glucose 24/7 and your daily habits start to tell a story.

- See how food, activity, sleep, and stress shape your glucose
- Discover patterns unique to you
- Get personalized insights and built-in coaching
- Build habits that support lasting health.[1,2]



What's your glucose telling you?
Find out today at stelo.com/LifeTime

The official glucose biosensor of Life Time®

1 Stelo User Guide. 2 Crawford M, et al. *Diabetes*. 2025;74(Supp 1):2020–LB. For full information on benefits and risks, visit stelo.com.

INDICATIONS FOR USE: The Stelo Glucose Biosensor System is an over-the-counter (OTC) integrated Continuous Glucose Monitor (iCGM) intended to continuously measure, record, analyze, and display glucose values in people 18 years and older not on insulin. The Stelo Glucose Biosensor System helps to detect normal (euglycemic) and low or high (dysglycemic) glucose levels. The Stelo Glucose Biosensor System may also help the user better understand how lifestyle and behavior modification, including diet and exercise, impact glucose excursion. The user is not intended to take medical action based on the device output without consultation with a qualified healthcare professional.

Dexcom, Dexcom Clarity, Dexcom Follow, Dexcom One, Dexcom Share, Stelo, any related logos and design marks are either registered trademarks or trademarks of Dexcom, Inc. in the United States and/or other countries.
©2026 Dexcom, Inc. All rights reserved. MAT-16259





No More Masking

I was 37 when I received an autism diagnosis. I now raise awareness about autism in women and girls.



Top left: Feroza at a pageant rehearsal in July 2026. Bottom left: Feroza and her mother- and sister-in-law in July 2023.

BY **FEROZA MEHTA**

I WAS DIAGNOSED with autism in November 2019. I was 37 years old.

Although many people with autism receive a diagnosis in childhood, my condition flew under the radar for years because I began subconsciously masking at a young age. Masking involves suppressing socially unacceptable behaviors that are common among people with autism, such as fidgeting or rocking, as well as mimicking neurotypical behaviors. I often forced myself to make eye contact or remain in spaces that were overstimulating. Masking helped me fit in with my peers.

When I received my diagnosis in adulthood, I felt relief. It shed light on much of the friction and difficulty I'd experienced throughout my life.

I gained a new understanding of my son, Aidan, too. He had been diagnosed with autism nearly a decade prior. Following his diagnosis, I'd shared his experience to raise awareness about autism. But after learning that I'm also autistic, I realized that it was time to focus on my story.

When I received my diagnosis in adulthood, I felt relief. It shed light on much of the friction and difficulty I'd experienced throughout my life.

AUTISM ADVOCACY

When Aidan was diagnosed with moderate to severe autism in November 2010, a week before his second birthday, our family life was turned upside down. At first, we hesitated to share the news; autism can carry a stigma, and we thought we could just keep it quiet while we pursued various treatments. But as our days became centered on his physical, occupational, and speech therapies, we couldn't pretend nothing had changed.

Then our medical coverage for Aidan's therapies, which we'd received through Minnesota's state health plan for people with preexisting conditions, fell through. I began to tell Aidan's story publicly to raise awareness about autism and to contribute to efforts (ultimately successful) to reinstate treatment coverage in Minnesota for people with autism and other conditions. It was all a labor of love — and emotionally taxing.

As Aidan's sister, who is 14 months younger, moved through early childhood, I was vigilant for signs she might also have autism, despite experts assuring us she was developing neurotypically. When she was in third grade, I found myself online researching autism traits in girls. Based on what I was reading, I started to wonder if perhaps I was autistic myself.

RECOGNIZING THE MASK

Historically, diagnostic criteria for autism were based on male behavior, leading to underdiagnosis or late diagnosis in girls and women. Autism can present differently in boys and girls, with boys' traits tending to be more external and noticeable — repetitive actions, difficulty responding to nonverbal cues, or physical behavior that appears aggressive, for example.

Autism traits in girls are often less apparent. A girl who struggles to make eye contact may be seen as shy. A girl with an intense special interest in art or animals may not catch the attention of teachers and parents the way a boy with an intense interest in machines might. A girl may have strong communication skills, which goes against the stereotype that kids with autism are noncommunicative.

I was that girl.

Like a lot of autistic girls, I had an easier time making friends in elemen-

tary school, but it was more difficult as I got older. Before social situations, I would practice mental scripts for how to interact — whom to talk to and how long to stay in one conversation before I could leave. I imitated other people, all the while wondering why I was so different.

Perfectionism, especially in school, was one way I tried to fit in. I pushed myself hard academically and would get very upset if I earned a grade lower than an A.

I remember my mother taking me aside when I was a teenager and telling me she worried I wasn't enjoying life. I remember thinking, *What does she mean, "enjoying life"?* I struggled to get through each day, constantly thinking about what I had to do to get from one thing to the next. It takes a lot of energy to pretend you're someone you're not.

Years later, I saw my own experience reflected online in descriptions of autistic girls and women. I mustered the courage to call the Autism Society of Minnesota. In November 2019, I tested and scored high for autistic traits.

My husband and family have been very supportive as I've learned to unmask and accept myself as I am. I no longer feel so guilty about not being able to manage everything I think I'm supposed to, and I feel better about getting support when I need it.

> I want to make sure no more women and girls **feel as alone and helpless as I did.**

TELLING MY OWN STORY

As Aidan grew older and more independent, I found I finally had the time to explore what "enjoying life" might mean for me.

I grew up in Calgary, Alberta, watching pageants — Miss Canada, Miss USA, Miss America, Miss Universe, Miss World — with my mother. I loved everything about the events: the glamour, confidence, and poise of these women; their presence on stage; their advocacy and causes. But as a girl of South Asian descent, I didn't see many women who looked like me. It never occurred to me that competing in pageants was something I could do.

When I was a freshman in college, in 2000, Priyanka Chopra, from India, won Miss World. I wondered: *Could I do something like this?* No, I told myself. Girls like me don't do pageants. We study and take life seriously. The dream lay dormant for another 20-plus years.

Then, in December 2024, my husband and I attended an event with self-help guru Tony Robbins (we're big fans). Robbins asked participants what they've always wanted to do in their lives and challenged them to question how they could improve themselves so they could improve the world.

I realized I'd always wanted to do pageants. And I want to make sure no more women and girls feel as alone and helpless as I did.

So, this past July, at the age of 44, I competed as Mrs. Minnesota International in the Mrs. International competition in Chicago. To prepare for the pageant, I did weight training and toning twice a week and took Pilates classes at Life Time in Edina, Minn. My parents-in-law brought back red silk fabric from their travels in India, and I had a gown made from it for the evening-gown competition. To build my platform about the importance of autism diagnoses in women, I organized events and fundraisers leading up to the competition, and I advocated for my cause on social media.

The pageant itself was an incredible experience with all the glamour and excitement I'd imagined. Although the final results didn't go the way I wanted, the pageant gave me exactly what I needed.

During and after, women shared their own stories and thanked me for teaching them about autism in women — reminding me why I competed. Crowns and titles are great, but they were never the destination. The destination has always been raising awareness and proving that it is never too late to discover who you truly are.

Feroza's Top Takeaways

1.

Trust your gut. Autistic traits in women and girls often get overlooked or misdiagnosed. Feroza recommends consulting with a professional if you have questions.

2.

Go through the world with compassion. "You don't know what's going on in other people's lives, so always extend grace," she says.

3.

Practice self-care. If someone you love is learning to unmask, take time to support yourself as you process the change, she adds.

TELL US YOUR STORY

Have a transformational healthy-living tale of your own? Share it with us at **ELmag.com/myturnaround.**

RIVIAN

Take adventure for a spin.



Scan for exclusive Life Time member perks and upcoming Rivian drive events.



REAL FITNESS

THE DEAD HANG is a simple but challenging way to test your strength, offering an important insight into how well you're aging. Put your own coordination, mobility, *and* strength to the test with the assessments on **page 37**.



THE NORWEGIAN 4×4

Boost your cardio and longevity with this high-intensity interval workout.



PHOTOS: KEVIN DIXON; STYLING: PAM BRAND; MODEL: MAGGIE FAZELI FARD

BY **RACHEL MACPHERSON, CPT, CSCS**

IF YOU HAVE 40 MINUTES and access to any piece of cardio equipment, you have everything you need for one of the most effective cardiovascular workouts available.

The Norwegian 4×4 is a high-intensity interval workout developed in the 1990s by exercise scientists Jan Helgerud, PhD, and Jan Hoff, PhD, at the Norwegian University of Science and Technology. The format is simple: four minutes of hard effort followed by three minutes of easier recovery, repeated four times.

While similar to other types of interval training, the 4×4's focus is on correct intensity, not exhaustion. And it includes intervals to keep your heart working at a high capacity long enough to make real changes, says Helgerud, a professor of medicine and exercise science and former head coach of the Norwegian national cross-country skiing team.

"We are not training to be tired," Helgerud explains. "We are training to increase how much blood the heart can pump per beat."

This method focuses on improving VO_2 max, which measures how well your body uses oxygen. Having a high VO_2 max is a reliable sign of a healthy heart and one of the best predictors of a long life. And this style of long-interval training is especially good at improving it.

In one study, men who did the 4×4 workout three times a week for eight weeks improved their VO_2 max by about 6.5 percent; the workout was more effective than shorter, faster sprints. Additional research suggests that the protocol can effectively improve aerobic capacity and heart health for people with heart disease.

You can do the workout on a treadmill, bike, rower, or anything that lets you reach and sustain a high work rate.

"Running works great, but if that isn't your jam, then use an incline and power walk," says Wes Pedersen, SGT coach and member of the GTX programming team at Life Time. "Anything that works as much of your body as possible will get you to your target heart-rate zone efficiently."

Begin by performing this workout once weekly as part of a routine that includes strength training and lower-intensity cardio. As your fitness improves, or if you are an advanced athlete, Helgerud recommends working up to two or three sessions each week.

After about two to four weeks, the workout will start to feel more manageable, he says. Look for progress in how quickly you can recover during the rest intervals and whether you are able to maintain your target intensity more consistently.

By one to two months, Helgerud says, you can expect clear improvement in your VO_2 max. You'll likely notice a lower resting heart rate, a lower heart rate at the same pace, and the ability to work harder without the same strain.

Over the longer term, you'll likely hit a normal training plateau depending on the total number of interval sessions, but see lasting improvements in cardiovascular health, work capacity, and tolerance for high-intensity effort. In your daily life, you'll likely feel less out of breath during physical activity and have more energy when you need to push yourself. "This is where you feel fitter," Helgerud says.

THE WORKOUT

Like all high-intensity interval training (HIIT) routines, the Norwegian 4×4 relies on variations in heart rate to elicit cardiovascular adaptations. Work intervals are followed by recovery intervals, the combination of which causes your heart rate to increase and decrease significantly.

For best results, it helps to know your maximum heart rate and your heart-rate zones. This ensures that you're working appropriately hard and recovering sufficiently. An active metabolic assessment (AMA), available at some health clubs and labs, can measure your heart-rate zones, and a heart-rate monitor allows you to track how hard you're working during a HIIT session. (Learn more at ELmag.com/AMA.)

You can also perform the following workout by feel, using your breath and conversation rate to assess how hard you're working. But take heed: "Most people take their recovery intervals too hard and their work intervals too easy," says Pedersen. "The goal with Norwegian VO_2 max training is to create large differences between work and rest intervals to stimulate as much intensity at the top end of effort as possible."

WARM UP (6–10 MINUTES)

Warm up to an easy pace, gradually building to about 60 to 70 percent of your maximum heart rate.

MAIN SET (25 MINUTES)

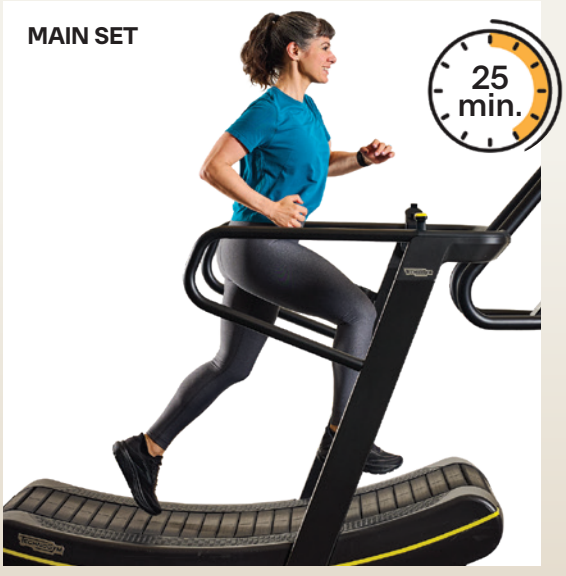
Repeat the following intervals four times:

- **Work:** Four minutes at high effort (high zone 4, or 85 to 95 percent of your maximum heart rate). "You should be able to speak a few words but not full sentences," says Helgerud. Pace yourself so that you can complete all four intervals at the same intensity. "You should be able to go for an extra minute or an extra four-minute interval!"
- **Rest:** Three minutes of active recovery (zone 2, or 60 to 70 percent of your max heart rate). Drop to an easy pace but don't stop moving during the recovery.

COOL DOWN (5–10 MINUTES)

Progressively ease back to very light cardio, then stretch.







BUILD YOUR BASE

The Norwegian 4×4 is ideal for regular exercisers who can already handle steady cardio. For beginners and those not quite ready for the full 4×4, Wes Pedersen, SGT coach and member of the GTX programming team at Life Time, offers the following modified version to help build your fitness base.

WARM UP (8–12 MINUTES)

Warm up from an easy pace, gradually building to about 60 to 70 percent of your maximum heart rate.

MAIN SET (18 MINUTES)

Perform the following progressive intervals, interspersed with two minutes at recovery pace.

Interval 1: Three minutes at zone 2 effort. This pace should allow you to breathe through your nose or hold an easy conversation. Take two minutes of active recovery before moving to the next interval.

Interval 2: Three minutes at zone 3 effort. At this pace, you'll likely feel your breathing pick up, but you can still talk in full sentences or sing along to a few bars of a song, says Pedersen. Slow down for two minutes of active recovery.

Intervals 3 and 4: Three minutes at zone 4 effort. This is an intensity that feels like hard work; you're breathing hard and are limited to speaking a sentence or two at a time. Take two minutes of active recovery, then repeat for the fourth interval.

COOL DOWN (5–10 MINUTES)

Progressively ease back to very light cardio, then stretch.

RACHEL MACPHERSON, CPT, CSCS, is a writer and certified fitness coach based in Nova Scotia.

TRY THE NORWEGIAN 4×4

Ready to give this challenging workout a go? Scan the QR code to find it in the Life Time app.







TAKE ADVANTAGE OF MEMBER EXCLUSIVES

Discover premium offers from brands you love, curated just for Life Time members.



ACCESS VIA THE LT APP

©2026 LIFE TIME, INC. All rights reserved. etmg261269400

THE CALF RAISE

Three cues to fine-tune your form.

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



THE CALF RAISE is a small but mighty move. It strengthens the lower leg muscles, supporting your endeavors to jump higher, squat heavier, run faster, and generally keep your ankles, knees, and hips healthy. Because the calves also play a vital role in blood flow — they're commonly referred to as your "second heart" — calf raises can help ensure proper circulatory function.

Variations on the calf raise target the muscles of the lower leg differently. Standing calf raises can be done with straight legs to target the gastrocnemius, the visible lower-leg muscle responsible for explosive movements. Calf raises with bent knees target the soleus, the deeper muscle that supports endurance and posture.

You can further modify the move by doing calf raises while seated on a bench or chair, or on a leg-press machine. Progress the challenge by adding weight or doing single-leg variations.

BENT-LEG CALF RAISE

To perform this variation, bend your knees and maintain the bend as you raise and lower your heels. Keep your weight over your heels throughout the move.



1. Feel the stretch. Position your toes and the balls of your feet on a platform, plate, stair, step, or other elevated surface. At the bottom of each rep, allow your heels to drop until you feel a light, but not painful, stretch.

2. Hit the gas. Rather than trying to raise your heels up, bring your attention to pressing down through the balls of your feet — as though you are pressing a gas pedal with each foot. Your heels will naturally rise.

3. Move straight up and down. Avoid rocking back and forth to gain height, maintain balance, or gather momentum in your reps. Imagine that your torso is an elevator moving up and down; avoid jostling the imaginary passengers. Use a pole or other sturdy object for support.

PHOTOS: KEVIN DIXON; STYLING: PAM BRAND; MODEL: NEHEMIAH OWUSU

MAGGIE FAZELI FARD, RKC, MFT-1, ALPHA, CSMC, is *Experience Life*'s editorial director of fitness.

Back on THE BEAT

How to confidently return to exercise after a heart attack.

BY **ANDREW HEFFERNAN, CSCS**

BEING WARY about exercise after a heart attack is understandable. You may wonder if another cardiac event is imminent and worry about the slightest twinge or flutter. As a result, you might hesitate to do exactly what you need to do to get better — namely, get your heart rate up.

"People are frequently terrified," says integrative cardiologist Mimi Guarneri, MD, FACC, author of *The Heart Speaks: A Cardiologist Reveals the Secret Language of Healing*. "They don't know what just hit them. Some people go home without a foundational understanding of any of it."

That's why the first thing to do after a heart attack is enroll in a cardiac rehabilitation program, says Guarneri. These roughly 12-week, 36-session programs — available in person or at home and typically covered by insurance — have been shown to reduce the risk of mortality or hospital readmission by more than 40 percent.

A cardiologist and a team of specialized trainers design your program based on your goals and current capacity, then guide you through the earliest phases of recovery. The program can help you return to — and potentially exceed — your pre-heart-attack fitness level.

"There are flavors of heart attack; it's not just black and white," says interventional and integrative cardiologist Sanjay Bhojraj, MD, FACC. "For some people, we may have to put in an artificial device, which is complicated; others come in on Tuesday, go home on Wednesday, and they're in the gym a few days after discharge."

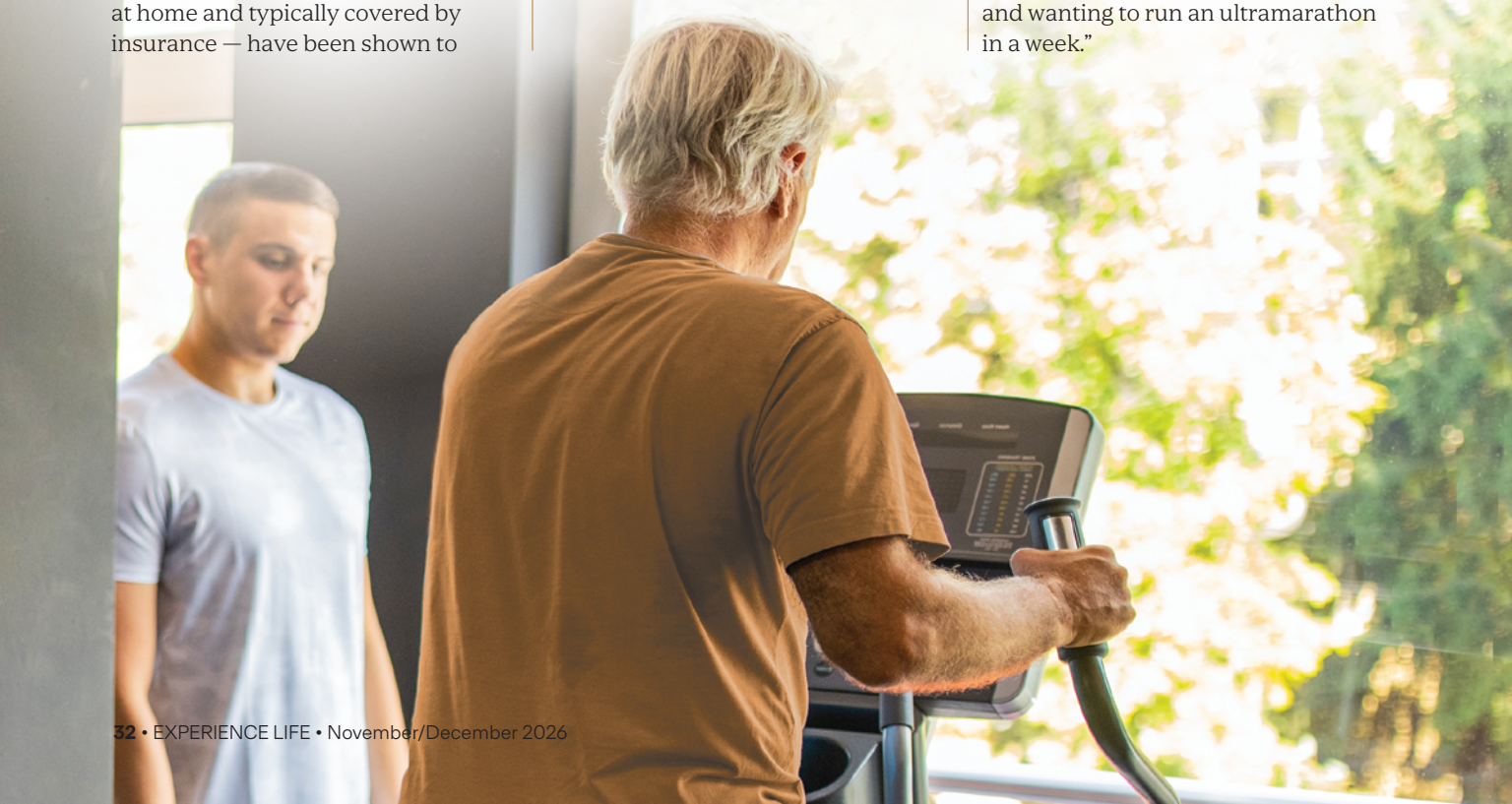
Only the professionals can tell you where you fall on that spectrum, but wherever it is, you can expect to follow a few general guidelines.

A SLOW AND STEADY APPROACH

Your first day in outpatient rehab — which should take place as soon as possible after you leave the hospital — begins with goal-setting: Are you hoping to resume your normal daily activities? Or are you shooting for something more rigorous, like surfing, tennis, or triathlons?

Any goal is fine, says Bhojraj. Just know that progress after a heart attack — as in any fitness program — requires patience, time, and effort.

"Once, a patient told me he was going for a short jog and ended up running 15 miles," he recalls. "Our job is helping people find the middle path between being afraid to do anything and wanting to run an ultramarathon in a week."



Once you know where you want to go, he says, "we can reverse engineer your training program from there."

First steps for this phase of the program are just that: steps, usually on a treadmill, with a heart-rate monitor to ensure your safety. Walking — as well as cardiovascular activities like swimming or cycling — increases your heart rate, circulates blood, and decreases blood pressure and cardiovascular risk over time. Your coaches will keep the duration short and the intensity low and monitor your fatigue level and well-being throughout.

These early phases are safe. Bhojraj notes that in 15 years, he's seen very few true cardiac events occur in a cardiac-rehab program. The primary intention is to help you feel confident exerting yourself again. "A lot of the early phase is psychological," he says.

Strength training can complement the heart-building effects of aerobic exercise; it's now a standard part of many rehab programs. As you curl and squat and press, your body releases nitric oxide. This relaxes the lining of your blood vessels, boosting what's known as endothelial function, a key marker of vascular health.

Research also suggests that combining aerobic and strength work can be more effective for reducing blood sugar and lowering insulin resistance — other major risk factors for heart attacks — than either form of exercise alone.

As with cardio training, strength work in the early phases of cardiac rehab begins gently: lighter weights and higher reps, with a focus on form over exertion. If you've never lifted before, this low-stress approach will introduce your muscles to strength work without causing undue soreness. If you know your way around the gym, it's a useful reminder of the basics of mechanics, form, and breath.

BEYOND THE BODY

Physical rehabilitation is only part of the process. "It's emotional, mental, even spiritual," says Guarneri. "All of those factors affect heart health."

To that end, cardiac rehab often includes education on nutrition, stress management, and other lifestyle habits that influence long-term outcomes. Some programs offer classes in cooking, yoga, and meditation — all of which can empower you to take charge of your health. Practices like meditation can reduce the risk of cardiovascular events; one study found that people who meditated for 15 to 20 minutes twice a day over time cut their risk nearly in half. Quitting smoking and eating a plant-forward diet can further reduce risk, even in people with a genetic propensity for heart attacks.

"If you have good genes and a bad lifestyle, you do worse than someone with bad genes and a good lifestyle," says Guarneri.

Finally, if your program takes place in a group setting, the most underrated perk of cardiac rehab might be the community you can build there. Social isolation and loneliness have been shown to increase the risk of heart attack by 29 percent and the risk of stroke by 32 percent.

In program counseling sessions, participants share stories, ongoing anxieties, and coping strategies, and they may benefit as much from the interaction as from the practical tips. Returning patients, back for a workup or a workout, often support newer ones.

"People go into a program, and all of a sudden they have 15 new friends," Guarneri says.

REGAINING CONTROL

With these early steps — lighter workouts, lifestyle shifts, and psychological support — gradual improvement is the order of the day. Your doctor may have you on medications that reduce heart rate, so if you typically use a monitor to track your effort level, Bhojraj recommends reducing your estimated max heart rate and your training zones by 10 to 20 percent.

After two to four weeks of supervised training, Bhojraj has found, most people are able to start adding unsupervised workouts outside the program, increasing the intensity and duration of their sessions over time — just as you would in a normal fitness program.

"When people come out of the hospital, they feel like they have no power," says Guarneri. "In cardiac rehab, you learn that the health of your heart is in your hands."



"When people come out of the hospital, they feel like they have no power. In cardiac rehab, **you learn that the health of your heart is in your hands."**

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


quality meets comfort
discover intentionally designed essentials for every day
tasc
TASCPERFORMANCE.COM
made to be lived in



The Great Weight Debate

True or false: Machines are safer than free weights.

BY **ANDREW HEFFERNAN, CSCS**

FALSE. The common belief that weight machines are safer than free weights is a misconception. In fact, both machines and free weights have benefits and drawbacks that vary from person to person. Moreover, all forms of strength training — machines, barbells, dumbbells, body weight, bands, kettlebells, and others — are largely effective and safe.

Pitting machines against free weights overlooks a more important safety concern: The risks incurred by not strength training far outstrip any risks posed by the modality you might choose.

"Eighty to 90 percent of people already don't meet the recommended amount of muscle-strengthening activity," says Austin Current, NSCA-CSCS, author of *Science of Strength Training*.

People who don't strength train risk losing muscle mass, dropping bone density, becoming frailer, losing mobility, changing metabolically, developing cardiovascular issues, and compromising their mental health. Regular strength work — regardless of the equipment — is a great line of defense against these whole-body risks.

So why does the false dichotomy persist? Mostly, it's a matter of perception.

Weight machines seem like the perfect solution for beginners and anyone with an aversion to lifting weights. Most machines feel smooth, stable, and safe from the first rep. It's easy to feel the muscles working. You're seated in a padded chair, moving a padded lever arm, using weights that move along an enclosed track.

This can initially feel like a far safer bet than handling barbells, dumbbells, and other free weights, which, as the name suggests, are free to move anywhere — including off the rack and onto your big toe.

But first impressions can be deceiving. In the long term, says John Rusin, DPT, a strength-and-conditioning coach, injury-prevention specialist, and founder of the Pain-Free Performance Specialist Certification program, "free weights are probably safer than machines."

MACHINES VERSUS FREE WEIGHTS

Research suggests that the most serious, acute injuries tend to occur in home gyms when, for example, a lifter bench-presses a barbell without a spotter. But these injuries are preventable (don't bench-press without a spotter) and rare.

Far more common among regular lifters are long-term, repetitive-use injuries that may not warrant a trip to urgent care but can nevertheless erode your capacity to move freely over time. This type of injury — undramatic but debilitating — is much more likely to result from using machines than free weights, says Rusin.

Machines, he explains, are designed to keep you safe while you're using them but "not necessarily to keep your joints healthy in the long term." Consequently, he adds, "they often create more chronic joint stress."

The adjustable seats, lever arms, and angles of motion on strength machines are designed to accommodate the average user. If you're a little taller or shorter, or have different proportions than average, machines might not fit you. Using them may put undue pressure on your joints, resulting in pain and possibly injury over time.

Even if you're an average-size lifter, the path of your arms and legs is still determined by the machine: Your wrists, hips, spine, and ankles may all be locked into place, preventing subtle adjustments that could make the movements more comfortable and guard against repetitive-use strain.

Then there's the issue of usability. Machines appear simple and intuitive, says Rusin, and people may not bother adjusting seat height or backrest angle — they jump on the machine as is, further inviting strain.

Free weights avoid many of these shortcomings; a 5-foot gymnast and a 7-foot NBA player can both perform dumbbell presses or lunges or rows with the same tools — no adjustments necessary. And each lifter can modify each exercise in the way that feels best for them.

Again, "consistent muscle strengthening is the priority," says Current. Whether you use machines or free weights — or, more likely, a combination of different tools — take the time to learn proper setup and form. Enlist the help of a trainer or coach, and use the type of resistance that makes you feel comfortable, so you can work hard while managing joint pain or discomfort throughout your workout.

Aim for a routine that makes you feel better, not worse.

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

Live Well

For the season. For a lifetime.



Give a gift subscription this holiday season!

Visit ELmag.com/LTGift
to order today.





3 DIY Longevity Tests

Assess your strength, balance, and coordination.

BY **JESSICA MIGALA**

THE GOAL with longevity is not simply to lengthen your lifespan but also to prolong your *health*span — that is, how long you remain mobile, functional, and in good health. Research shows that strength, balance, and coordination tests can help assess how your body is aging and reveal opportunities to shore up your fitness for the years to come.

Start with three simple, science-backed assessments.

1. SINGLE-LEG BALANCE

What it shows: Research has found that poor one-legged balance is a reliable indicator of age-related decline in muscle strength and nervous-system coordination. "The ability to stabilize your body on one leg is involved in so many movements, including stepping, lunging, and reaching up to grab something," explains Christine Cernera, CPT, a personal trainer specializing in senior fitness. "As we get older, we naturally lose muscle mass and our reaction times slow. That's why intentionally practicing balance, along with strength training, becomes increasingly important for maintaining stability and reducing fall risk."

About one in four U.S. adults age 65 and older reports falling each year, and falls are the leading cause of injury-related death among seniors.

How to test: Stand on one leg and hold the pose for as long as you can. Switch legs and repeat. Aim for at least 30 seconds per side.

How to improve: For a full-body balance workout, visit ELmag.com/balanceexercises.

2. SIT–STAND

What it shows: Your ability to sit down and rise back up shows three important components of aging with good function. First, it indicates your general mobility and your ability to move your limbs through their range of motion. Second, it indicates coordination, or your ability to balance and move in space. And, finally, it's indicative of your physical strength, because you leverage your body using muscular power and force to push off the floor.

"We need to practice getting down to get up," says Jayme Zylstra, a yoga instructor, group fitness coach, and digital performer for ARORA at Life Time who specializes in working with older adults. "When we lose this skill, our world shrinks. A simple fall becomes a crisis, and getting stuck on the floor is a scary, heartbreaking blow to a person's autonomy. Treat this simple movement as a daily independence check."

How to test: Start by testing your ability to sit and rise from a chair. Without using your hands, sit down on a chair and stand back up as many times as you can in 30 seconds. If you're between the ages of 60 and 64 and perform fewer than 14 sit–stands (men) or 12 sit–stands (women), you are at an increased risk of falling, according to the National Center for Injury Prevention and Control at the CDC. The standard decreases with age. At 70, the baseline goal is 12 reps for men and 10 reps for women; by 80, the goal is 10 and nine reps; and by 90, it's seven and four reps.

The next-level test is your ability to sit and rise from the floor without assistance, which is associated with lower mortality risk. Aim to complete one rep without the aid of your hands, knees, forearms, or other tools. This is a tough challenge for most people, so view the result as an opportunity for improvement.

How to improve: For exercise ideas to help you get down on the floor and back up with ease, visit ELmag.com/getupstandup.

3. GRIP STRENGTH

What it shows: For decades, studies have linked greater grip strength to reduced mortality risk and a lower likelihood of developing heart disease. We know grip strength is important for daily tasks like opening jars or carrying groceries. As an assessment, it indicates your overall muscular strength and function, bone mineral density, fracture and fall risk, nutrition status, and cognition.

How to test: Grip strength can be measured with a tool called a hand dynamometer, but not everyone has access to one. Instead, suggests healthy-aging specialist Amy Peters, CSCS, test yourself with a heavy farmer's carry or a dead hang. To perform the carry, grasp weights in both hands (kettlebells, dumbbells, sandbags, and a trap bar are all good options) and see how long you can hold on while walking. Aim to carry at least half your body weight in your hands for 30 to 60 seconds.

Alternatively, do a dead hang: Grasp a pull-up bar with both hands and hang as long as you can with both feet off the ground. Aim for 30 to 60 seconds.

How to improve: "I've seen people go and focus on improving grip strength specifically, but this misses the point," says Peters. "Grip strength is the result of performing activities that require strength." For a full-body grip-strength workout, visit ELmag.com/gripworkout.

JESSICA MIGALA is a writer specializing in health, nutrition, fitness, and beauty.


[DPT]SM
[DYNAMIC] PERSONAL TRAINING™
Personal training completely reimagined as an engaging, all-encompassing form of coaching that helps you go further than you ever thought possible.
EXPLORE DYNAMIC PERSONAL TRAINING
©2026 LIFE TIME, INC. All rights reserved. trmg261180150



REAL FOOD

CAST-IRON SKILLETS are a legendary kitchen staple — and they're more versatile than you may think. Starting on **page 48,** find recipes for a butter-bean dish reminiscent of French onion soup, a spicy tomato shrimp skillet, and a protein-packed spin on shepherd's pie. (Get the recipe for the Gooey Pecan-Pie Bars pictured here at ELmag.com/castironrecipes.)



EATING FOR A CALM HEART

Prioritize these heart-healthy nutrients to support your cardiovascular system through seasonal stress.

BY **RACHEL MACPHERSON**

THE HOLIDAY SEASON can be full of celebration and connection. It's also one of the most stressful stretches on the calendar. Financial pressures, packed schedules, social dynamics, and shorter days can all take a toll on the body — especially the heart.

Stress can trigger the body's fight-or-flight response, which involves a cascade of hormones designed to help you react to immediate danger. Adrenaline and noradrenaline speed up the heart rate, raise blood pressure, and cause arteries to constrict. And cortisol, another stress hormone, can drive up blood sugar and weaken the immune system.

"Taken together, these hormones increase cardiovascular events and are independent risk factors for cardiovascular disease," explains Mimi Guarneri, MD, FACC, a functional-medicine cardiologist and president of the Academy of Integrative Health and Medicine.

When stress becomes chronic or recurring — as it can for many of us during the holiday season — these effects multiply. Repeated activation of your body's stress systems can damage blood-vessel linings, promote low-grade inflammation, and lead to the buildup of fatty deposits that narrow arteries and raise the risk of heart attack and stroke.

You may feel that end-of-year stress is beyond your control, but what you eat throughout the holiday season can give your heart some welcome support.

"The true cause of cardiovascular disease is inflammation and oxidative stress," Guarneri explains. "The inflammation and oxidation can be helped by eating anti-inflammatory foods."

A good starting point, says Elizabeth Boham, MD, MS, RD, medical director at the UltraWellness Center in Lenox, Mass., is keeping blood sugar steady. "When your blood sugar and insulin are balanced, you feel more calm," she says. "You'll also have more energy, and it's good for your heart health."

From there, key nutrients — including magnesium, omega-3 fatty acids, fiber, and polyphenols — can support your cardiovascular system. And because these nutrients come packaged in whole foods, getting more of them is as easy as grabbing a handful of walnuts, a colorful salad, or a cup of green tea.

MAGNESIUM

This key mineral is involved in more than 300 biochemical reactions, including muscle contraction, nerve signaling, and blood-sugar regulation. For the heart, magnesium's most important job may be promoting relaxation.

"Having adequate magnesium helps the muscles in the arteries relax, and that results in better blood pressure," says Boham. "Having a healthier blood pressure is associated with less cardiovascular disease."

"Having adequate magnesium helps the muscles in the arteries relax, and that results in better blood pressure."

This relaxation is important because stress has the opposite effect — it produces tension. When your fight-or-flight system activates, your blood vessels tighten and your heart works harder to circulate blood. Magnesium helps counteract that response by helping your body produce nitric oxide, which cues the blood vessels to open up so blood can flow more easily.

Not getting enough magnesium can have serious effects on your health. Low levels are linked to high blood pressure, an irregular heartbeat, and a higher risk of heart disease and stroke. Guarneri notes that magnesium and potassium deficiencies are both connected to atrial fibrillation.

Beyond the heart, magnesium supports sleep quality and mood, which tend to suffer during stressful periods.

The richest whole-food sources of magnesium include dark leafy greens (like spinach and Swiss chard), pumpkin seeds, almonds, cashews, black beans, and avocados. Whole grains, such as oats and brown rice, contain good amounts too. Even dark chocolate (70 percent cacao or higher) provides a decent dose per ounce.

Boham recommends boosting magnesium (along with fiber, healthy fats, and protein) with a daily quarter cup of raw, unsalted nuts.

If your diet is heavy on highly processed foods, you might not be able to get enough magnesium from food alone. In addition to dietary shifts, supplementation can help. Boham recommends magnesium glycinate or magnesium L-threonate, more absorbable forms that can also support relaxation and sleep.

Magnesium-citrate supplements are another option, though they can have a mild laxative effect. Still, this may be useful if you're dealing with sluggish digestion during the holidays, Boham says. (Learn more about the health benefits of magnesium at ELmag.com/magnesium.)

Guarneri highly recommends testing before choosing to supplement. "Most nutrients in the body can be measured with simple blood and urine tests," she says. "A simple rule is to use supplements to correct a deficiency, or therapeutically, such as to lower cholesterol."



FIBER

It may not be the first nutrient you think of for heart health, but large population studies link eating more fiber to lower rates of heart disease, stroke, and cardiovascular death.

"Whole grains and fiber lower blood sugar and cholesterol," Guarneri says. In fact, for every 7 grams of fiber you eat daily, your risk of cardiovascular disease drops by about 9 percent.

If you'd like to enjoy the occasional holiday treat while keeping your blood sugar steady, fiber is your best ally. "It slows the digestion and absorption of food and prevents spikes in insulin and blood sugar," Boham explains.

When blood sugar spikes too often, it can lead to insulin resistance, in which cells stop responding normally to insulin. This increases cardiovascular risk.

Certain types of fiber also feed beneficial gut bacteria, which produce short-chain fatty acids. These compounds help support immune balance, reduce inflammation, and lower blood pressure, all of which lessen stress on the heart. (Learn more about the many health benefits of fiber at ELmag.com/fiber.)

You can get more fiber from a variety of whole-food sources, including whole grains such as oats, barley, and brown rice. Legumes like black beans, lentils, and chickpeas are particularly valuable because they provide a combination of soluble and insoluble fiber along with heart-healthy plant protein. Nuts and seeds add fiber plus healthy fats and important minerals, like magnesium and potassium.

If you'd like to enjoy the occasional holiday treat while keeping your blood sugar steady, fiber is your best ally.

Fruits such as apples, pears, and citrus are rich in soluble fiber, which binds to bile acids in the gut and helps escort them out of the body, reducing LDL cholesterol. Vegetables like peas, Brussels sprouts, and sweet potatoes contribute insoluble fiber, which supports digestion and promotes fullness.

Most experts recommend aiming for a daily target of 25 to 38 grams of fiber from a mix of these sources, so head for the fruit and veggie platter at your next holiday event.

If you struggle to meet your fiber goal through food, you could consider supplements. Boham recommends organic psyllium husk, a soluble fiber that feeds beneficial gut bacteria and can help lower cholesterol and improve digestion. Start slowly and increase gradually, since adding too much too quickly can cause bloating and discomfort. (Get more fiber-friendly tips on page 46.)



OMEGA-3 FATTY ACIDS

These essential fats, which the body can't produce on its own, help lower inflammation. "A diet rich in omega-3 fats is linked with less cardiovascular disease," Boham says.

So if being grilled about your relationship status at your aunt's solstice party has you frazzled, reach for the fish platter.

Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are found mostly in fatty fish. Studies show they help blood-vessel walls expand and contract, make arteries less stiff, and can lower blood pressure. They're even used in prescription-strength doses to lower triglycerides, a fat in the blood that can increase heart-disease risk.

A 2018 study published in *Psychoneuroendocrinology* found that lower omega-3 levels were linked to higher inflammation, elevated evening cortisol, and a faster resting heart rate — all signs that the body isn't calming down properly after experiencing tension. Getting enough omega-3s may help your body bounce back more effectively from stressful events.

Guarneri recommends eating more wild salmon, sardines, mackerel, anchovies, and herring. These fish are rich in EPA and DHA and provide protein, vitamin D, and vital minerals. Boham suggests adding sardines to a salad with walnuts for a quick, nutrient-dense meal with plenty of omega-3s, protein, and fiber all in one bowl.

If you don't eat fish, you can get omega-3s from plant sources like walnuts, flaxseed, chia seeds, and hemp seeds. These contain alpha-linolenic acid (ALA), a form of omega-3 that the body can convert in small amounts into EPA and DHA. (Learn more about what omega-3s can do for you at ELmag.com/omegabalance.)

Many people don't get enough omega-3s from diet alone, according to Boham. "Fish-oil supplements are a good source of omega-3 fats that help lower inflammation," she says. Guarneri adds that if you decide to use them to address high triglycerides, get guidance from a healthcare provider. Look for products that list EPA and DHA content on the label and choose brands tested by third-party organizations for purity.



POLYPHENOLS

These natural compounds are found in colorful fruits and vegetables, herbs, spices, tea, and dark chocolate. Researchers study them for their ability to reduce inflammation, improve blood-vessel function, and protect the body from the oxidative damage caused by stress.

"Polyphenols are components in foods that have many healthful benefits for us," says Boham. "They are anti-inflammatory and have been associated with less insulin resistance."

She points to curcumin (found in turmeric), quercetin (in onions and apples), and resveratrol (in grapes and berries) as examples. EGCG, a polyphenol in green tea, may also improve insulin sensitivity, she notes.

In blood vessels, polyphenols help increase nitric oxide — the same molecule supported by magnesium — which signals the arteries to relax and widen. This can improve blood flow and lower blood pressure. Polyphenols also neutralize unstable molecules that damage cells, reduce the oxidation of plaque-forming LDL cholesterol, and may help prevent blood clots.

In the gut, polyphenols act like prebiotics, feeding beneficial bacteria that create the same short-chain fatty acids produced by dietary fiber. Scientists are still studying the link between the gut and the heart, but research shows that a healthy balance of gut bacteria supports immune function, lowers inflammation, and may help maintain better blood pressure.

Eating a wide variety of colorful plant foods is the simplest way to get more polyphenols. Boham recommends aiming to eat every color of the rainbow every day. "Pomegranate for ellagic acid, squash for quercetin, yellow peppers for luteolin, and purple cabbage for anthocyanins," she says. "Just to name a few."

Guarneri adds that herbs and spices can be especially concentrated sources of polyphenols. "Saffron, turmeric, basil, and rosemary are all anti-inflammatory," she says.

Dark berries also pack a big polyphenol punch in a small package. Organic green and black teas, organic coffee, extra-virgin olive oil, and dark chocolate (70 percent cacao or higher) are additional sources that are easy to add to your diet during the holidays — or any time of year.

Polyphenols work best when paired with the fiber, vitamins, and other phytonutrients in whole foods. Some evidence suggests that high-dose polyphenol supplements can cause more harm than good by generating oxidative stress and affecting hormone balance. If you feel you're not getting enough polyphenols, skip the supplements and fill your plate with more colorful foods instead.

RACHEL MACPHERSON is a freelance writer and certified nutrition coach based in Nova Scotia.

LOW-STRESS HOLIDAY EATING

Beyond providing the right nutrients, good dietary habits can help keep your heart steady through a hectic season. Try some of these simple tips to stay on an even keel.

Don't skip meals. It's tempting to save your appetite for a holiday party, but it's not the best choice for your health, Boham says. "When we skip meals, we get hungrier later in the day and may overeat." Aim for regular meals to help keep blood sugar and energy stable.

Stay hydrated. Even mild dehydration can activate hormones that raise blood pressure and increase sympathetic nervous system activity, the same fight-or-flight response triggered by stress. Plus, drinking enough water can help you feel full and supports digestion, Boham explains.

Be careful with caffeine. Caffeine can raise blood pressure, especially in higher doses, and regular caffeine intake can make it harder to recover from stress. "It may seem like it's helping you get everything done, but it can cause anxiety, keep you up at night, and result in you feeling even more tired," Boham explains. If you're already on edge, consider reducing your caffeine intake.

Moderate alcohol. Having more than two drinks per day increases your risk of high blood pressure. The more you drink, the higher that risk becomes, potentially damaging your heart and kidneys. At holiday gatherings, alternating alcoholic drinks with water is a simple way to slow the pace. "I add lemon or lime to my water or seltzer to make it more fun," Boham adds.



Roasted Squash Salad
With Farro and Mustard Greens

This vegetarian dish is packed with fall flavors.

BY **KAELYN RILEY**

I LOVE GREENS in every season: sturdy collards and Swiss chard in the winter, peppery arugula and watercress in the spring, raw mesclun by the pound through the sweltering summer heat. And if I'm eating a salad in the fall — and I usually am — you can bet it's made with mustard greens.

One of the most underrated brassicas (a close relative of more popular picks like cabbage, broccoli, and kale), mustard greens are spicy and punchy, with a sinus-clearing effect not unlike wasabi or horseradish. Because they bring so much flavor to the table, they lend themselves well to a salad like this one, with a simple dressing of olive oil and lemon juice to balance their heat without competing with it.

If your mustard greens are smaller and younger, they'll be more delicate and milder in flavor, but they'll still work well for this recipe; just handle them gently during the massaging step. You can also use another leafy green, like kale or Swiss chard, and add a dab of Dijon along with the olive oil and salt to dress the greens.

I like using delicata squash for this salad because its thin, tender skin is edible when cooked, so I leave it on to save prep time and add a little extra fiber. You can peel your delicata if you prefer, or swap in a different winter squash, like butternut or kabocha. They all roast up beautifully and give the salad a touch of sweetness, along with heart-healthy potassium and vitamin C.

Winter squash is also rich in carotenoids, plant pigments that give the flesh its yellow and orange colors. Your body converts several of these carotenoids — compounds like beta-carotene and alpha-carotene — into vitamin A to support your immune system and vision, as well as cell growth and development. Carotenoids also act as antioxidants and are fat-soluble, so eating the squash with a healthy fat (like the olive oil in this recipe) can improve your body's ability to absorb these vital nutrients.

Cooked farro adds a bit of protein and fiber to this dish. It also acts as a kind of anchoring hearty element — something any good salad needs if I'm going to crave it in the colder months. Farro's nutty flavor and chewy texture make it my top pick for any grains-and-greens situation, but do be aware that it's not gluten-free. If anyone at your table is avoiding gluten, try wild rice or quinoa instead.

This salad includes a modest amount of protein from a few different sources: the farro, walnuts, and feta cheese. If you're looking for more, add a can of chickpeas to the pan for the last roasting step, or serve the salad with poached eggs or some cooked chicken or fish.

Like a lot of produce, mustard greens are available year-round — but they're at their most flavorful and nutritious during their peak season.

Here in Minnesota, that window is mid-to-late fall, which is also when the local rabbit population starts treating my modest backyard garden like an all-you-can-eat salad bar. They eat my cabbages and cauliflower, gnaw the tops from my carrots and radishes, and chew through the leaves of every last herb I dare to raise — but they leave my mustard greens alone. They're too spicy for bunny palates, but to me, that sharp, pungent flavor just tastes like fall.



Makes four servings
Prep time: 20 minutes
Cook time: 30 minutes



1 medium delicata squash (about 1½ lb.)



½ tsp. red-pepper flakes



1½ tbs. extra-virgin olive oil, divided



1 tsp. sea salt, divided



¾ cup dry farro, rinsed



¾ cup chopped walnuts



1 bunch mustard greens, chopped (about 6 cups)



1 lemon, halved



½ cup crumbled feta cheese



¼ cup chopped dried cranberries

Preheat the oven to 425 degrees F. Slice the top and bottom quarter inch from the squash, then cut it in half lengthwise. Remove and discard the pulp and seeds. Cut the squash halves into ¼-inch slices, then spread the slices on a sheet pan and top with the red-pepper flakes, 1 tablespoon of the olive oil, and ½ teaspoon of the salt. Toss to combine, then arrange the squash slices in a single layer and roast for 15 minutes.

Meanwhile, place the rinsed farro in a medium saucepan with 3 cups of water. Bring to a boil, then reduce the heat to low, cover, and simmer for 10 minutes. Remove from the heat; leave the pan covered for five minutes, then remove the lid, drain the excess water, and set the cooked farro aside to cool slightly.

After the squash has roasted, remove the sheet pan from the oven. Add the chopped walnuts, then flip the squash slices and return the pan to the oven for eight to 10 minutes. When the squash is browned and the walnuts are aromatic, remove the pan from the oven and let it cool slightly.

In a large bowl, place the chopped mustard greens and top with the remaining ½ tablespoon olive oil and ½ teaspoon sea salt. Use your hands to firmly massage the greens for one to two minutes, until the oil and salt are distributed and the leaves are softer and darker in color. Cut the lemon in half. Add the zest and juice of half the lemon; cut the remaining lemon half into wedges for serving.

Add the cooked farro, squash, and walnuts to the bowl of greens and gently toss to combine. Top with the crumbled feta and chopped cranberries. Serve with lemon wedges on the side.

PHOTOS: TERRY BRENNAN; FOOD STYLING: BETSY NELSON

KAELYN RILEY is *Experience Life*'s editorial director of food and nutrition.

Focus on Fiber

Try these five strategies to get more of this critical nutrient in your diet.

BY **JOSE GUZMAN, RDN**

FOR YEARS, protein has dominated the nutrition conversation. Protein-packed products are everywhere, from enriched lattes to fortified snack foods. No matter how much you're getting, the thinking seems to be, more protein must be better.

In my nutrition practice, my top concern is fiber. It doesn't get as much buzz as protein — and maybe that's why most people still aren't getting nearly enough.

"Fiber, to me, is an unsung hero," says functional dietitian Kellie Blake, RDN, LD, IFNCP, co-owner of NutriSense Nutrition Consulting. "People don't pay a lot of attention to it, but it's so vital to the gut microbiome and maintaining a healthy gastrointestinal tract."

It's important to know that fiber isn't just one thing. There are three types:

- **Soluble fiber** is found in foods like beans and oats and helps control cholesterol and blood sugar.
- **Insoluble fiber** is in whole grains and seeds; it supports bowel regularity.
- **Fermentable fiber** from foods like garlic and asparagus feeds beneficial gut bacteria.

Guidelines recommend about 25 to 38 grams of fiber per day depending on age, sex, and overall calorie intake, but don't try to reach that goal overnight. Start by determining where you are now.

"Most people have no idea how much fiber they're actually getting," Blake says. "We have to figure that out first before we start adding things."

Once you've determined your baseline, gradually increase fiber intake by incorporating a range of foods. Make these small changes consistently to help get you there.

How to Eat More Fiber

1. CHOOSE WHOLE FOODS

In a food environment with so many fiber-fortified breads, cereals, and prebiotic sodas, it's easy to assume you're getting enough. Some of these products pack 15 grams of fiber or more per serving, yet this number doesn't tell the whole story. "You might be meeting your target, but what are you missing?" Blake asks.

She frames it this way: You're not just feeding yourself; you're feeding the bacteria that live inside you. Whole foods provide you with a range of vitamins, minerals, and polyphenols that your microbiome needs to function properly. You can't get that from a keto tortilla.

2. INCREASE GRADUALLY

Just as you wouldn't go from being a couch potato to a gym rat overnight, don't jump from taking 5 grams to 20 grams of daily fiber: This can lead to gas, bloating, and discomfort. That's why you want to add more fiber to your diet slowly, explains digestive-health dietitian Renee Euler, MS, RD, owner of Nutrition Redefined.

"We want to increase slowly to allow those gut bacteria to shift," Euler says. "If we increase too quickly, we can get a lot of uncomfortable symptoms." She refers to this gradual process as "fiber training."

Blake concurs. "If you're eating 10 grams per day now, you don't want to jump to 35 tomorrow," she says. "Start with an additional 2 to 3 grams a day for seven days, and then add on 2 or 3 more grams a day for another seven days, and increase your hydration along with it."



3. DRINK MORE WATER

Fiber and hydration work together, and increasing one without the other can create problems.

"Without adequate hydration, fiber can become thick and sluggish and lead to bloating and discomfort," Blake says. This may even cause someone to determine that they can't tolerate a particular food when, in reality, they just need more water.

This is especially true for patients taking supplements, Euler explains. "Without enough fluid, fiber supplements can turn to concrete in the bowel."

A good rule of thumb is to drink at least half your body weight in ounces of water as a daily baseline. As you add more fiber, increase your water intake.

4. GO FOR VARIETY

Most whole foods contain a mix of fiber types, but rather than tracking specific types in your diet, Euler and Blake recommend consistently eating a wide variety of plant foods.

Euler sees one specific imbalance regularly: people relying on large salads with lots of roughage, or insoluble fiber, while avoiding what they think are "bad" carbohydrates.

"Some patients are eating a lot of fiber, but they're not balancing soluble fiber with insoluble fiber, and that can lead to GI symptoms," she says. "Don't be afraid of carbohydrates, because that's where you're going to get more soluble fiber to balance all the roughage." She suggests adding potatoes, beans, apples, or pears to your salad for more soluble fiber.

Rather than repeating the same foods daily, rotate different fruits and vegetables throughout the week. Swap in whole grains like farro, quinoa, or amaranth, and keep a variety of legumes on hand, including chickpeas, lentils, and black beans. Seeds add diversity too — chia, flax, hemp, pumpkin, and sunflower all contribute different types of fiber and micronutrients.

Blake's go-to meal is a quinoa bowl with chickpeas and green peas topped with barbecue chicken — an easy way to combine grains, legumes, vegetables, and protein in one dish.

Euler often opts for beans over animal protein. In one of her favorite recipes, she sautés two cans of white beans with garlic and onion, cherry tomatoes, spinach, and Parmesan cheese. "I will take any recipe that calls for a pound of chicken, and I will substitute two cans of chickpeas," she explains. "Especially for one-pot meals: Drain, rinse, and we're putting that in instead."

5. LISTEN TO YOUR BODY

Not everyone tolerates a fiber increase the same way. Euler sees a lot of her patients' irritable bowel symptoms worsen when they incorporate certain fiber-rich whole foods. These foods typically fall into the category of FODMAPs, or fermentable carbohydrates, which can lead to gas, bloating, and irregular bowel movements. Common FODMAP triggers include apples and pears, watermelon, stone fruits, artichokes, asparagus, garlic, and onions.

"In those cases, it's not just about adding more whole foods or fiber," Euler says. "It's about finding the right types and amounts that the person can tolerate."

With her patients, she focuses on finding the right portions, introducing these foods gradually, and even using a fiber supplement to improve stool quality without worsening symptoms. If you have IBS or other gastrointestinal concerns, it's especially important to gradually increase portion sizes of fiber-rich foods.

Your Fiber-ful Day



BREAKFAST:
LOADED YOGURT BOWL

- 1 cup plain, full-fat Greek yogurt
- ½ cup mixed berries
- 1 tbs. ground chia seeds
- ¼ cup mixed nuts

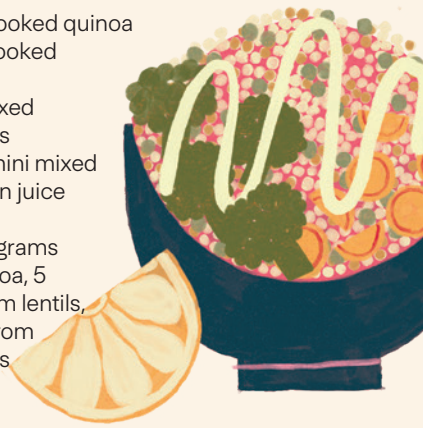
FIBER: 3 grams from berries, 4 grams from ground chia, 3 grams from mixed nuts



LUNCH:
BUILD-YOUR-OWN SNACK BOARD

- ¼ cup hummus
- 1 cup veggie sticks (carrot, cucumber, celery, or any on hand)
- 1 oz. whole-grain crackers
- 1 sliced apple or pear
- 1 oz. cheese of choice

FIBER: 4 grams from hummus, 3 grams from veggies, 3 grams from crackers, 3 grams from fruit



DINNER:
QUINOA AND LENTIL BOWL

- ½ cup cooked quinoa
- ⅓ cup cooked lentils
- 1 cup mixed vegetables
- 2 tbs. tahini mixed with lemon juice

FIBER: 3 grams from quinoa, 5 grams from lentils, 3 grams from vegetables

ILLUSTRATIONS: REBECCA SANTO

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

Cozy Cast-Iron Meals

Celebrate the versatility of this go-to kitchen workhorse with these comforting one-pan recipes.

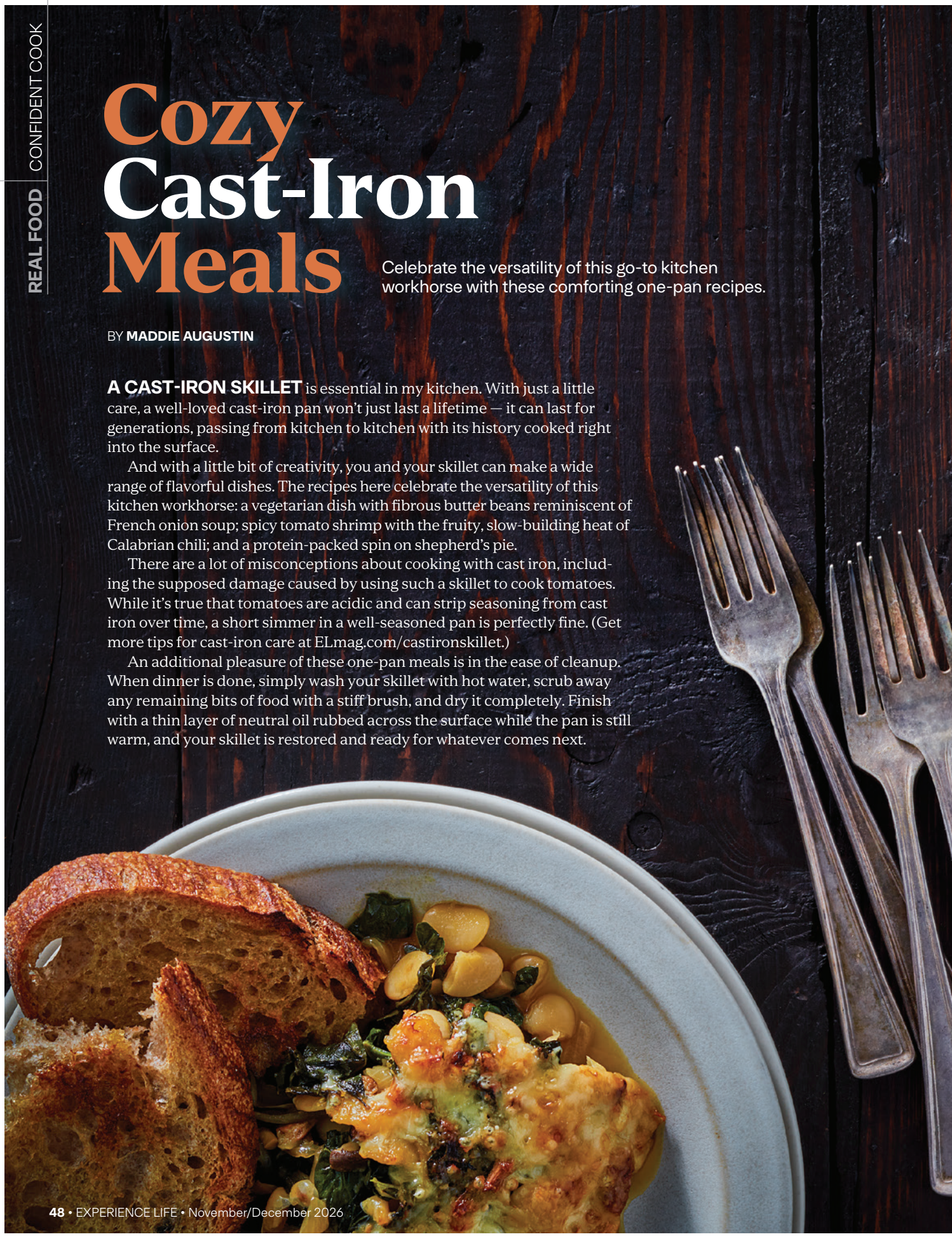
BY **MADDIE AUGUSTIN**

A CAST-IRON SKILLET is essential in my kitchen. With just a little care, a well-loved cast-iron pan won't just last a lifetime — it can last for generations, passing from kitchen to kitchen with its history cooked right into the surface.

And with a little bit of creativity, you and your skillet can make a wide range of flavorful dishes. The recipes here celebrate the versatility of this kitchen workhorse: a vegetarian dish with fibrous butter beans reminiscent of French onion soup; spicy tomato shrimp with the fruity, slow-building heat of Calabrian chili; and a protein-packed spin on shepherd's pie.

There are a lot of misconceptions about cooking with cast iron, including the supposed damage caused by using such a skillet to cook tomatoes. While it's true that tomatoes are acidic and can strip seasoning from cast iron over time, a short simmer in a well-seasoned pan is perfectly fine. (Get more tips for cast-iron care at ELmag.com/castironskillet.)

An additional pleasure of these one-pan meals is in the ease of cleanup. When dinner is done, simply wash your skillet with hot water, scrub away any remaining bits of food with a stiff brush, and dry it completely. Finish with a thin layer of neutral oil rubbed across the surface while the pan is still warm, and your skillet is restored and ready for whatever comes next.





Skillet Butter Beans With Caramelized Onions

Makes four servings
Prep time: 15 minutes
Cook time: 80 minutes

- 1 tbs. extra-virgin olive oil
- 2 tbs. butter
- 2 large yellow onions, sliced
- 1½ tsp. sea salt, divided
- 8 oz. mixed mushrooms, chopped
- 1 tbs. fresh thyme
- 1 bunch lacinato (dinosaur) kale, stemmed and chopped
- 2 cans butter beans, drained and rinsed
- 2 cups vegetable broth
- 4 oz. Gruyère (or other Swiss cheese), grated
- Toasted sourdough bread or brown rice, for serving

Preheat a 12-inch cast-iron skillet over medium-low heat, then add the oil and butter. Add the onions and ½ teaspoon of the salt. Cook until the onions are deeply caramelized, about 50 to 60 minutes, stirring occasionally. If the onions begin to burn, reduce the heat, and remove any crispy bits if desired. If the onions appear dry, add a splash of water or additional oil. (Note that the onions can be prepped ahead of time and stored in the fridge for up to a week.)

Once the onions are caramelized, push them to one side of the skillet. Add the mushrooms and thyme and increase the heat to medium. Cook until the mushrooms are lightly browned, about 10 to 12 minutes. Stir the onions and mushrooms separately during this window to keep them from burning.

Place an oven rack in the top third of the oven and preheat the broiler.

To the skillet, add the kale, beans, vegetable broth, and remaining 1 teaspoon of salt. Stir to combine and bring the mixture to a simmer. Cover and cook until the kale is wilted, about five minutes.

Uncover the skillet, top with freshly grated Gruyère, and place under the broiler. Broil for two to three minutes, or until the cheese is melted and golden brown. Cool before serving.

Serve with toasted sourdough or over a bed of brown rice.

Spicy Tomato Shrimp Skillet

Makes four servings
Prep time: 15 minutes
Cook time: 30 minutes

- 1 tbs. extra-virgin olive oil
- 2 tbs. butter
- 2 lb. large shrimp, peeled and deveined and tails removed
- 1½ tsp. sea salt, divided
- 5 tomatoes on the vine, quartered
- 1 large shallot, sliced
- ½ tbs. chopped Calabrian chili peppers (or chili paste)
- 6 cloves garlic, minced
- 1 tsp. dried oregano
- 4 oz. crumbled feta cheese
- Chopped fresh parsley, to garnish
- Couscous or pita, for serving

Preheat a 12-inch cast-iron skillet over medium-high, then add the oil and butter. Add the shrimp, season with ½ teaspoon of the salt, and cook until pink on both sides but not quite cooked through, about two minutes per side. Remove the shrimp from the skillet and set aside.

Reduce the heat to medium, then add the tomatoes and shallot and cook until softened, stirring occasionally, about eight to 10 minutes. Push the tomatoes and shallot to one side of the skillet, then add the Calabrian chilies, garlic, oregano, and remaining teaspoon of salt. Cook until fragrant, about one minute, then stir to combine the chilies with the tomatoes and shallot.

Stir the shrimp into the tomato mixture, then top the skillet with the crumbled feta. Bring to a simmer, then cover and cook for eight to 10 more minutes, or until the feta is softened and the shrimp is fully cooked through.

Garnish with fresh parsley and serve with pita or over a bed of couscous.



SAVOR MORE

Download a mobile-friendly version of these recipes — plus one for Gooey Pecan-Pie Bars — at **ELmag.com/castironrecipes.**



Swedish Meatball Shepherd's Pie

Makes four servings
Prep time: 15 minutes
Cook time: 90 minutes

- 1 small sweet potato
- 1 cup cottage cheese
- ½ cup chicken broth
- 1 tbs. Dijon mustard
- ¼ tsp. ground allspice
- ⅛ tsp. ground ginger
- ⅛ tsp. ground nutmeg
- Pinch of ground cloves
- 2 tbs. butter, divided
- 1 lb. ground turkey
- ½ tsp. freshly ground black pepper
- 1 tsp. sea salt, divided
- 1 large onion, diced
- 2 medium carrots, diced
- 3 ribs celery, diced
- 2 tbs. cornstarch
- 1 cup frozen peas

Preheat the oven to 375 degrees F. Use a mandoline or a sharp kitchen knife to slice the sweet potato into disks ⅛ inch thick.

Prepare the sauce. Add the cottage cheese, chicken broth, mustard, allspice, ginger, nutmeg, and cloves to a blender, and blend until smooth.

Preheat a 12-inch cast-iron skillet over medium-high. Add 1 tablespoon of the butter, followed by the turkey, pepper, and ½ teaspoon of the salt. Cook the turkey, breaking it up into small pieces, about 10 to 12 minutes or until browned. Remove the turkey from the skillet and set it aside.

Place the remaining 1 tablespoon of butter in the skillet, then add the onion, carrots, celery, and remaining ½ teaspoon of the salt. Cook until tender, stirring occasionally, about eight to 10 minutes. Sprinkle the cornstarch over the vegetables and stir until they are evenly coated, then remove the skillet from the heat.

Add the frozen peas, turkey, and cottage-cheese sauce to the skillet, and stir until combined. Top this mixture with a slightly overlapping layer of the thinly sliced sweet potatoes, cover the skillet with foil, and place in the oven for 30 minutes. Remove the foil and continue to bake for an additional 15 to 20 minutes, or until the mixture is bubbly and the sweet potatoes are tender and golden. Allow to cool for 10 minutes before serving.

MADDIE AUGUSTIN is a Minneapolis-based recipe developer.

MADE TO MOVE

HOW PHYSICAL ACTIVITY BENEFITS EVERY PART OF THE BODY.

BY **MICHAEL DREGNI** AND **MAGGIE FAZELI FARD, RKC, MFT-1, ALPHA, CSMC**

IT WORKS LIKE MAGIC, yet it's scientifically proven in study after study. It's medicine prescribed by a doctor, yet it's fun. It's astonishingly powerful, yet it's all natural with no added sweeteners. And it's ridiculously simple — yet it's not always easy.

"It" is exercise, and it's all these things and more.

Moving your body can transform you from your head to your heart and down to the very tips of your toes. You're made to move, and activity keeps you healthy and spurs your growth, including your brain's development.

The reverse is also true: Not moving can undermine your health. According to the World Health Organization (WHO), exercise lowers the risk of coronary heart disease, high blood pressure, stroke, type 2 diabetes, metabolic syndrome, colon and breast cancers, depression, and general premature death.

Movement has more subtle benefits too. And once you read this, you won't want to stay sitting for long.



BRAIN & MENTAL HEALTH

SHARPER MIND

Moving your body improves your gray matter, making you smarter, happier, and more resilient. In fact, some scientists believe building muscles and conditioning your heart and circulatory system are but side effects: Exercise is really about your brain.

"The real reason we feel so good when we get our blood pumping is that it makes the brain function at its best," says John Ratey, MD, associate clinical professor of psychiatry at Harvard Medical School and author of *Spark: The Revolutionary New Science of Exercise and the Brain*. "The point of exercise is to build and condition the brain." Here's how:

- It heightens alertness and perception.
- It reinforces movement and coordination.
- It enhances attention and concentration.
- It aids learning and memory.
- It supports mental health.
- It protects cognitive health.
- It keeps the brain young.

All the processes that physical activity triggers in the brain add up to one sum: Moving your body keeps your brain vital. "Everything we've learned continues to confirm that exercise helps prevent cognitive decline as we age," Ratey says. "All the antiaging protocols include exercise in a big way — it's often the No. 1 lifestyle change to help people prevent aging and cognitive decline."

(Learn more about the ways exercise benefits the brain at ELmag.com/brainonexercise.)

LESS STRESS

Exercise boosts energy while easing stress. Consider cortisol, the hormone that regulates your energy during the day. Under normal conditions, cortisol levels peak in the morning and then gradually decline, leaving you mellowed out and prepped for sleep at bedtime.

Chronic stress, though, can flip the daily cortisol cycle in such a way that you're barely able to drag yourself out of bed in the morning but you're too keyed up to sleep at night. Exercise can come to the rescue.

Easy movement, like walking or yoga, can nudge your parasympathetic nervous system into gear, helping you calm down. This can save you from tossing and turning at night. Exercise can transform a vicious cycle of stress into a relaxed — and rewarding — circle of health benefits.

(For more on the interplay of exercise and cortisol, visit ELmag.com/exercisecortisol.)

CARDIOVASCULAR HEALTH

HEART SUPPORT

Cardiovascular disease is the leading cause of death worldwide. That's why, at least in part, the WHO recommends that people ages 18 to 64 get 150 minutes per week of moderate-intensity aerobic activity. Researchers estimate that 8 percent of all deaths could be prevented if everyone met that recommendation.

The benefits of exercise show up throughout your cardiovascular system:

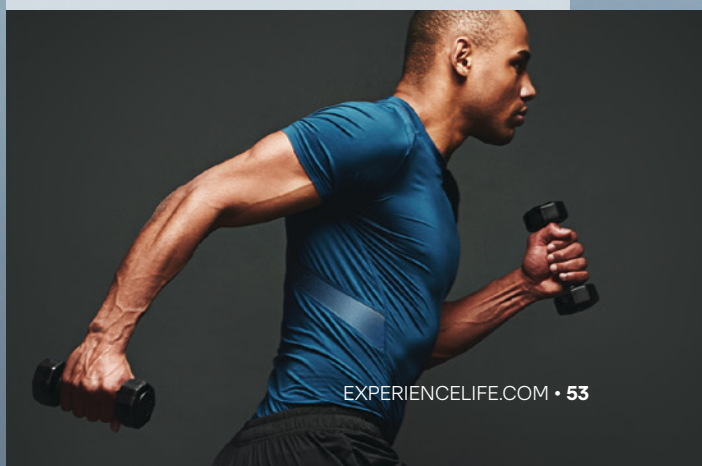
- It promotes healthy blood vessels.
- It protects against chronic disease.
- It lowers blood pressure.
- It reduces heart-disease risk.
- It makes the heart bigger and stronger.

> "The heart is a muscle, so just like other muscles, weightlifting makes the heart muscle get stronger."

Endurance activities like running and rowing enlarge the heart chambers in a process called eccentric remodeling; this increases the amount of blood the heart pumps with each beat. Strength training, meanwhile, enhances concentric remodeling; it makes the heart's walls thicker and stronger.

"The heart is a muscle, so just like other muscles, weightlifting makes the heart muscle get stronger," says Brad Dieter, PhD, exercise physiologist, molecular biologist, and biostatistician.

(Find more tips to keep your heart healthy at ELmag.com/hearthealth.)



BODY STRUCTURE

GOOD BONES

Bone density deteriorates as we age. And for roughly 10 million Americans, about 80 percent of whom are women, normal bone loss becomes osteoporosis.

Researchers have found that athletes, particularly those who do weight-bearing exercise, have greater bone density than their nonactive peers. "Tension against the bone keeps it strong and growing," explains functional-medicine practitioner and arthritis expert Susan Blum, MD. "When there's stress on the bone, the body responds by laying more [bone] down."

Both high- and low-impact weight-bearing exercise are essential for bone health. High-impact options include team sports like basketball, as well as strength training, running, jumping rope, jumping jacks, or a vigorous yoga practice. For some low-impact options, try walking, elliptical machines, or stairclimbing. Of all of them, strength training is the winner for building sturdier bones.

(Find a bone-strengthening workout routine at ELmag.com/goodbones.)

MUSCLE-MASS MAINTENANCE

Most people begin steadily losing muscle mass sometime in their 30s. Unchecked, muscle loss can claim up to 50 percent of an inactive adult's muscle tissue by the time they reach 70, research shows.

That's bad news for almost every system in the body. Age-related loss of muscle mass, or sarcopenia, is linked to bone loss, obesity, type 2 diabetes, hypertension, and coronary artery disease.

The top prescription for preventing and reversing age-related sarcopenia, experts say, is resistance training, including lifting weights and bodyweight exercise.

Resistance training can support muscular hypertrophy and the cascade of benefits that come from maintaining muscular strength, including the preservation (or even improvement) of day-to-day function, metabolic health, bone health, balance, and longevity.

(Learn more about the unsung benefits of muscles at ELmag.com/skeletalmuscle.)

FLEXIBLE FASCIA

If you could peek beneath your epidermis, you'd first see fascia — a white, elastic connective tissue made of collagen fibers similar to the material in your ligaments and tendons. The meshlike substance weaves through and around your muscles and bones, supports your organs, and shrink-wraps your entire internal structure.

Because of the interwoven nature of muscles and fascia, exercise can be a great way to keep your fascia lubricated, loose, and functional. Full-body movements that require a dynamic transfer of force from the ground through the body and out through the limbs — think battle-rope waves, kettlebell swings, and medicine-ball slams — are ideal for restoring and preserving fascial health.

Rotational work, bouncing (skipping rope and jogging, for example), and strength training in general are also beneficial. Variety and diversity of movement are perhaps the most important factors for your fascia.

(For more on the fascia-fitness connection, go to ELmag.com/fasciafitness.)

Targeted strength and mobility work — as well as an overall active lifestyle — can go a long way toward treating or preventing back pain and postural issues.

A BETTER BACK

Americans spend billions each year treating lower-back pain, according to the National Institutes of Health. It's the most common cause of job-related disability and a leading contributor to missed work.

For such a widespread problem, relief is not out of reach: Targeted strength and mobility work — as well as an overall active lifestyle — can go a long way toward treating or preventing back pain and postural issues.

Building strength through the posterior chain as well as improving mobility in the hips and spine can effectively treat and prevent discomfort.

(Strengthen your spine with the fitness tips at ELmag.com/backhealth.)







JOINT PRESERVATION

Staying active is one of the best ways to preserve, and even improve, joint health as we age. While all full-body activity helps keep the joints supple and lubricated, focusing on biomechanics, muscular imbalances, and neuromuscular inefficiencies can be particularly helpful for reducing strain on the joints.

The key to joint health lies in identifying and correcting muscle malfunctions that could manifest as joint pain down the road. Additionally, emphasizing the eccentric, lowering phase of a lift has been shown to strengthen connective tissues over time.

(For a joint-friendly, eccentric-lifting program, head to ELmag.com/slowstrength.)

HAND AND WRIST MOBILITY

If you deal with painful hands, don't shy away from exercise; experts say it can help relieve the pain.

"When people get wrist pain during weight-bearing exercises, they tend to assume that the problem is weakness," says chiropractor and movement expert Eric Cobb, DC. "But the real issue is often mobility or stability."

Regularly mobilizing your hand joints may alleviate pain — even pain caused by chronic issues like osteoarthritis — while increasing circulation and range of motion.

(Keep your wrists functional and pain-free with the moves at ELmag.com/wristsupport.)

Get ahead of knee pain with strength and mobility exercises that work your ankles, legs, and hips, such as single-leg glute bridges, squats, and banded lateral walks.

STRONG KNEES

Knees are complex joints, and with this complexity comes the myth that the bones, tendons, ligaments, and cartilaginous tissues that flex, extend, and propel you are destined to deteriorate — destined for discomfort, for pain, for immobility, for surgery.

Many of the joint issues we consider chronic and a result of aging can be prevented or improved by strengthening and mobilizing the entire leg, from hip to foot and everything in between.

Get ahead of knee pain with strength and mobility exercises that work your ankles, legs, and hips, such as single-leg glute bridges, squats, and banded lateral walks. Find ways to stay active throughout the day while seeking out natural surfaces — think sand, grass, dirt, and snow — to stand and walk on.

(Improve your knee strength and mobility with the five-move routine at ELmag.com/kneeresiliency.)

POWERFUL FEET

Foot issues can be plentiful and painful: Flat arches, bunions, plantar fasciitis, and arthritis are all common complaints. As we age, these conditions can have a debilitating effect on our quality of life.

But foot complaints are rarely isolated to the feet. They can cause, or be caused by, issues elsewhere in the body. Once foot pain sets in, it can limit mobility and contribute to a sedentary lifestyle, which is associated with many chronic illnesses.

The cycle is vicious but preventable. With intentional stretches and strength moves that target not just the feet but also the lower legs, hips, and core, it's possible to reclaim foot health and prevent further issues.

(Find ideas to strengthen and support your feet at ELmag.com/footstrength.)

GASTROINTESTINAL HEALTH

REGULAR MOTILITY

Constipation is a chronic issue that undermines the health of some 63 million Americans. A sedentary lifestyle is a setup for a sluggish gut; exercise stimulates blood flow, which improves gastrointestinal motility.

A short walk is often all it takes to convince your body that it's time to go. (Learn how a postmeal stroll can stimulate the digestive process at ELmag.com/postmealwalk.)

Certain yoga asanas are also helpful for nudging sluggish systems into gear. Simply put, moving helps keep things moving. (For eight poses that support digestion, visit ELmag.com/yogafordigestion.)

MICROBIOME BOOST

A healthy gut microbiome has a rich blend of bacteria, and it thrives on a nutritious diet. But it may also get a boost from a good workout.

Finnish researchers found that for a group of previously sedentary higher-weight women, endurance training increased levels of a type of gut microbe that improves metabolic function; it also reduced levels of another type of gut microbe, which in turn decreased the inflammation-producing action of certain lipids.

Animal studies suggest further effects: Both high-intensity interval training (HIIT) and basic aerobic exercise nurture the microbiome.

(Discover how the gut microbiome is connected to athletic performance at ELmag.com/microbiomefitness.)





IMMUNE HEALTH

INFLAMMATION FIX

Inflammation is one of the body's key responses to injury and infection, but chronic inflammation can have an adverse rather than protective function. It can play a role in conditions such as heart disease, type 2 diabetes, stroke, cancer, and Alzheimer's, as well as in depression and other mental-health issues.

Over the years, multiple studies and numerous health experts have heralded physical activity as one of the best ways to keep inflammation at bay.

(For more strategies to manage chronic inflammation, visit ELmag.com/inflammationtips.)

Over the years, multiple studies and numerous health experts have heralded physical activity as one of the best ways to keep inflammation at bay.

HEIGHTENED DEFENSES

Exercise supports the lymph system, a network of organs, tissues, and vessels that transport lymph fluid throughout the body, balancing fluids and producing white blood cells to fight off infection.

The body has hundreds of lymph nodes — nodules of tissue that take out metabolic trash. But the nodes can't haul garbage to the curb without the help of muscles contracting during exercise and putting the squeeze on lymph nodes, which allows them to pump waste out of your system. Increased circulation is key to distribution of white blood cells as well as better lymph drainage.

(Learn how exercise improves lymph and blood circulation at ELmag.com/circulation.)

CANCER FIGHTER

It's long been known that exercise can prevent and treat heart disease. In 2019, an international team of researchers and practitioners suggested that it can also help prevent and protect the body from cancer.

The American College of Sports Medicine convened the panel, which included representatives from the American Cancer Society, the National Cancer Institute, and 15 other organizations. Experts reviewed the latest research and concluded in a paper, published in *CA: A Cancer Journal for Clinicians*, that an "exercise prescription" could lower the risk of developing colon, breast, endometrial, kidney, bladder, esophageal, and stomach cancers.

(For a guide to exercising through cancer care, visit ELmag.com/cancerandexercise.)

TOTAL HEALTH

BETTER SLEEP

Millions of Americans wrestle with insomnia. A slew of studies show that exercise can elicit longer, more restful sleep.

Why? Well, an intense workout may leave you hungry for restful recovery time, but there's more to it than that. Exercise helps regulate the stress hormone cortisol, allowing you to sleep more soundly and greet the day more refreshed. Your body can then use the downtime for tissue-repair work that keeps you looking and feeling great. (Find a bedtime yoga routine at ELmag.com/yogaforcalm.)

FIT PREGNANCY

Exercise and pregnancy used to be deemed a bad combination. Times have changed, and it's now common to see pregnant women running, lifting weights, and practicing yoga, not to mention hoisting toddlers into shopping carts without hesitation. This shift comes thanks to ample research suggesting that most exercise during pregnancy is safe — and offers a number of health benefits.

Staying active helps reduce common discomforts like back pain and lower the risk of complications like gestational diabetes and preeclampsia. It also reduces stress, boosts energy, and improves sleep.

It can also help the body prepare for and recover from childbirth, both physically and mentally. (Find prenatal and postpartum training tips at ELmag.com/fitfortwo.)

INCREASED LONGEVITY

Let's face it: With age, body fat increases, aerobic capacity decreases, and muscles shrink. But the good news is that with consistent exercise and healthy lifestyle habits, you can minimize — and even reverse — these symptoms of aging and remain fit and active.

"An active lifestyle has a powerful influence on physiology and longevity," explains Joe Friel, elite triathlon and cycling coach and the author of more than a dozen books, including *Fast After 50: How to Race Strong for the Rest of Your Life*. "Longitudinal studies show that reduced workout and training intensity can result in significant declines in the performance-related physiology of athletes over time."

Exercise is powerful medicine: The more you move, the longer you're likely to live — and the longer you're likely to be healthy. None of us will be around forever, but a consistent movement practice focused on mobility and vitality can help you make the most of the years ahead.

MICHAEL DREGNI is an *Experience Life* deputy editor.
MAGGIE FAZELI FARD, RKC, MFT-1, ALPHA, CSMC, is *Experience Life*'s editorial director of fitness.



Exercise helps regulate the stress hormone cortisol, allowing you to sleep more soundly and greet the day more refreshed.



MEET YOUR MITOCHONDRIA

These energy-producing parts of your cells support nearly every aspect of your health.

BY **MO PERRY**

EVERY ONE of the body's trillions of cells is a busy, self-contained little world.

Just as the body contains life-sustaining organs, like the heart, brain, and liver, its cells are filled with microscopic organelles. These tiny specialized structures are like miniature organs, performing specific roles that keep the body humming.

While the nucleus has long been understood as the brain of the cell, holder of DNA, and director of gene expression, researchers now suspect another cellular component — the mitochondria — is running more of the show than we realized.

Unlike most organelles, mitochondria have their own DNA, their own membranes, and their own ancient history. These tiny structures originated about 1.5 billion years ago in ancient bacteria that were engulfed by archaeal cells, a process that gave rise to all complex life on Earth. Each human cell now contains hundreds to thousands of mitochondria, adding up to about 10 million billion throughout the body.

Mitochondria are often called the cell's powerhouses, but Columbia University mitochondrial psychobiologist Martin Picard, PhD, prefers to describe them as transformers. "The food you eat and the oxygen that you breathe converge somewhere in the body, and that somewhere is in your mitochondria," he explains.

> "The food you eat and the oxygen that you breathe converge somewhere in the body, **and that somewhere is in your mitochondria."**

Through a cascade of chemical reactions, mitochondria convert these raw materials into adenosine triphosphate (ATP), the energy currency that powers virtually every biological process. The cells with the highest energy demands — neurons and heart, muscle, and liver cells — pack in the most mitochondria.

And because mitochondria are effectively the engines that produce our energy, learning to support them may be one of the most powerful things we can do for our long-term health.

ILLUSTRATIONS: STUART BRIERS



MIGHTY MULTITASKERS

IN 2004, University of Iowa clinical professor Terry Wahls, MD, was reliant on a wheelchair. She was also losing her ability to sit upright. Diagnosed with multiple sclerosis several years earlier, she had declined steadily despite the best treatments conventional medicine had to offer.

A dedicated researcher, Wahls began experimenting on herself with supplements known to support mitochondrial function — a protocol she came to refer to as her "mitochondrial cocktail." Years later, she came upon research from the Institute for Functional Medicine and added more supplements to her cocktail. Then she redesigned her paleo diet to emphasize mitochondria-supportive nutrients.

This was her *aha* moment. Within a few months, she was walking without assistance. Within a year, she was enjoying 18-mile bicycle rides.

Wahls's exceptional recovery was the starting point for her development of a research program to study the dietary intervention that helped her. She wanted to understand whether focusing on mitochondria could help others with MS or related disorders.

Broader research now supports Wahls's thesis: Our mitochondria provide a powerful point of intervention for a range of health conditions.

> Our mitochondria provide a powerful point of intervention **for a range of health conditions.**

While energy production is their primary mission, mitochondria don't stop there. They send signals that regulate cell activities, coordinate immune responses, discard damaged cells, and stimulate key building blocks for new cells. They help determine how clearly we think and how well we feel and move.

Mitochondria are "the ultimate multitaskers," write Daria Mochly-Rosen, PhD, and Emanuel Rosen in *The Life Machines: How Taking Care of Your Mitochondria Can Transform Your Health.*

Mitochondria even power our ability to heal. When you cut your finger, skin cells around the edges of the wound need to come together for it to close. Mitochondria enable that process by traveling to the outer reaches of these cells and supplying them with energy to expand and close the gap.

Because mitochondria are involved in such a range of physiological processes, researchers have begun to explore the role they play in the development of age-related conditions like type 2 diabetes and dementia as well as autoimmune disorders and mental health challenges.

These are some other conditions in which mitochondria play a prominent role.



CARDIOMETABOLIC HEALTH

Because mitochondria are the hubs of energy metabolism in our cells, they play a central role in metabolic disorders, including prediabetes and type 2 diabetes.

To illustrate how, functional-medicine physician Robert Rountree, MD, points to what he calls the "energy paradox" — why someone with metabolic syndrome can eat thousands of calories a day yet feel a lack of energy.

"The answer lies in the mitochondria," he says. "If you do a biopsy of the muscles of these people, their mitochondria are smaller, and the little factories within them that make ATP aren't there."

When mitochondria are working well, they're efficient at converting food into ATP, drawing on both glucose and fat as fuel sources, depending on what the body needs.

But when the mitochrondria are struggling, a lot can go wrong. Poorly functioning mitochondria can get stuck in glucose-burning mode and lose their ability to burn fat. Unburned fat accumulates in the liver and muscle tissue. And fatty liver can eventually lead to type 2 diabetes.

When fat accrues inside cells, mitochondria become overwhelmed, producing less ATP and more free radicals. The free radicals, in turn, make the mitochondria even less efficient.

"The whole process just builds up and builds up," Rountree says.

And because heart cells are up to 40 percent mitochondria by volume, the overall health of the cardiovascular system is particularly vulnerable to the effects of this harmful spiral.



AGING

Perhaps unsurprisingly, mitochondrial function also shapes how we age — which is about more than wear and tear.

In parts of the body that require a lot of energy, like the brain and heart, the mitochondria are essentially high-output furnaces, burning hot around the clock. This means they're constantly generating free radicals as a byproduct. And their own DNA are especially vulnerable to damage from these reactive molecules.

That damage multiplies over time. Injured mitochondrial DNA affects the enzymes the body uses for energy production, leading to less ATP and more free radicals that cause further harm.

Meanwhile, the body's repair mechanisms, which normally patch up these dings, begin to lose their edge. "As we age, we lose mitochondria," says Rountree. "They just start going away."

Part of the reason for this loss, he explains, is that the body's ongoing cycle of breaking down damaged mitochondria and generating new ones begins to wind down.

"Our mitochondria are being recycled all the time," Rountree says. "As we age, that process gets less and less efficient."

A 2016 review in *Molecular Cell* found that declining mitochondrial health may drive some of the most significant consequences of aging, including loss of muscle mass, chronic inflammation, and a weakened capacity for tissue repair.

The good news, says Rountree, is that these issues aren't inevitable. Deliberate lifestyle choices can actively support mitochondrial renewal well into later life. (More on that shortly.)



BRAIN HEALTH

The brain's mitochondria are almost always running near full capacity, monitoring heart rate, temperature, digestion, and other internal signals. One report estimates that the brain uses about 16 times more energy than skeletal muscle at rest — about as much energy as leg muscles use running a marathon.

So it makes sense that anything placing a high energy demand on the body and brain — such as infections, stress, and hormonal transitions, like puberty — is often accompanied by mental fogginess.

"How we feel depends on energy flowing through the brain," Picard says. "When energy can't flow properly or coherently, that changes our experience."

In this framework, depression, anxiety, and bipolar disorder can all be understood as disruptions in the brain's energy flow rather than fixed biochemical deficits.

Still, it's not just the brain's mitochondria that affect cognitive health. Mitochondria can migrate beyond the cells where they originate, and studies suggest the condition of mitochondria in skeletal muscles may be a predictor of cognitive impairment. Researchers at the National Institute on Aging found, in a study of 469 people published in 2023, that lower mitochondrial function in the participants' muscles was associated with an increased risk of mild cognitive impairment or dementia.

Conversely, participants with higher muscle mitochondrial function were less likely to develop cognitive impairment, suggesting that improving mitochondrial function in muscle may be beneficial for brain health. Yet another good argument for strength training.

THREATS TO MITOCHONDRIA

THE EARLY SIGNS of mitochondrial dysfunction are easy to mistake for normal aging or poor fitness. Fatigue is the most common symptom, though it's often accompanied by low exercise tolerance, brain fog, memory problems, and a general sense of diminished vitality. Insulin resistance and elevated blood sugar are other signals that mitochondrial function may be faltering.

Symptoms tend to be most pronounced in the systems with the highest energy demands. Mitochondrial dysfunction in the brain can be signaled by cognitive fog or mood disturbances. In the heart or skeletal muscle, it often shows up as exercise intolerance and fatigue.

Still, there are things you can do to intervene and protect your mitochondrial health. Wahls offers a simple two-part directive: "One is stop poisoning your mitochondria," she says, "and two is start nourishing your mitochondria."

Mitochondrial poisons are rampant, with free radicals being the most prevalent. Counterintuitively, mitochondria generate these harmful molecules as a byproduct of energy production, and they can damage mitochondrial DNA and enzymes when they accumulate unchecked. This makes mitochondria progressively less efficient.

Environmental toxins compound this damage. These include heavy metals like mercury, arsenic, and lead, as well as pesticides, microplastics, and air pollutants. "We live in such a chemical-rich environment, and many of these compounds are toxic to our mitochondria," says Wahls.

Mitochondrial poisons are rampant, **with free radicals being the most prevalent.**

Caloric overconsumption also taxes mitochondrial health. "If you overload the mitochondria with too much sugar and too much fat, especially in combination, they get overwhelmed," Picard explains. "It's called metabolic oversupply."

Some antibiotics, certain antidepressants, and some statins have also been shown to interfere with mitochondrial function. Poor sleep and early-life adversity can take a toll as well.

Finally, chronic psychological stress has an outsize impact on mitochondria. Picard's research points to a two-way street between mental states and mitochondrial biology: Just as damaged mitochondria can drag down mood and cognition, chronic psychological stress can reshape the energy of the body at a cellular level.

In a study from Picard's lab, human cells exposed to cortisol-like stress signals increased their energy expenditure to roughly 60 percent above baseline, taking energy from processes needed for cellular maintenance and repair. This could be one way that chronic stress literally wears the body down over time.

In other research, Picard found that simply telling study participants they were about to be judged on a public-speaking task was enough to raise levels of the protein marker GDF15 in their blood.

This mitochondrial stress signal is an indicator of what Picard calls energy resistance, a state in which electrons flow with too much resistance through metabolism.

"State of mind can really change the energetics of the body," he says.

Separate research has found elevated GDF15 levels in people who are lonely or socially isolated. Over time, these energetic disruptions may eventually lay the groundwork for chronic disease.

MITOCHONDRIAL TESTING

A handful of at-home tests now claim to measure mitochondrial health, but experts are divided about their utility.

Functional-medicine physician Robert Rountree, MD, considers concrete measures such as VO_2 max, hemoglobin A1C, fasting glucose, and liver panels to be the most reliable readouts of metabolic function.

Integrative-medicine physician Kurt Woeller, DO, recommends the Organic Acids Test (OAT). This is a urine-based screen for mitochondrial imbalances and related nutrient deficiencies.

And functional-medicine physician Terry Wahls, MD, points to a simple, free option: the Medical Symptoms Questionnaire (widely available online). A score under 20, she says, generally suggests your mitochondria are functioning well; over 20 is a flag worth heeding.

Meanwhile, Martin Picard, PhD, a mitochondrial psychobiologist at Columbia University, is developing a research platform around what he calls "mitoception": the body's capacity to perceive its own mitochondrial energy flow.

"We hope this platform will eventually help people tune in to their energetic state," he says. For now, he believes we can get useful insight simply by turning our attention inward to ask, *How do I feel? How is my energy?*

"Our ability to feel, tune in — that is the best instrument we have," he says.

HOW TO DEFEND YOUR VITALITY

THE SAME LIFESTYLE factors that support overall health — eating well, moving regularly, managing stress, sleeping enough — turn out to be exactly what your mitochondria need. The following levers are among the most meaningful for mitochondrial support.



NUTRITION

Mitochondria depend on a steady supply of nutrients to run their energy-producing machinery. B vitamins are essential cofactors, along with the minerals magnesium and zinc, says integrative-medicine physician Kurt Woeller, DO.

The inner membranes of mitochondria are made partly of fat. That means they require a good supply of healthy lipids: cholesterol, omega-3s, omega-6s, and phospholipids. Wahls notes that phospholipids are most easily obtained from animal foods, so if you're vegan, you'll have to seek them out from other sources.

Overall diet matters too. Eating a diverse diet with plenty of vegetables supports the vitamins and minerals mitochondria need. To avoid metabolic oversupply, steer mostly clear of calorically dense combinations of fat and sugar.

Intermittent fasting can also help. It appears to trigger mitophagy — the body's process of purging damaged mitochondria — while stimulating the growth of healthier mitochondria. "When you're hungry, the body weeds the garden of bad mitochondria, and then the good ones can actually grow and flourish," Picard explains.



EXERCISE

If there is a single most powerful intervention for mitochondrial health, it may be movement. Anything that makes you breathe harder — cardio and endurance work, including brisk walking — drives mitochondria to consume more oxygen. This signals your body to produce more mitochondria.

"If you breathe harder, energy is flowing through your system. And when that happens, the system says, 'The next time this happens I need to be ready,'" Picard says. If you were to go from being completely sedentary to eventually training for a marathon, "you can double the number of mitochondria in your muscles."

Cardio exercise also stimulates autophagy — the larger cellular process by which damaged cell structures are recycled into new components — and prompts cells to bolster their antioxidant defenses.

Resistance training is also key. "If you're really interested in your mitochondria, you need to build muscle mass," says Rountree. Current research supports combining cardio and strength training, as each contributes to mitochondrial health in complementary ways.



MINDSET

Picard believes the things that energize us, such as a sense of purpose and meaningful human connection, may be acting on mitochondria at a deeper level.

Evidence for this view is building.

A study from one of Picard's colleagues, Caroline Trumpff, PhD, found that people who reported greater well-being, social engagement, and purpose in life had greater mitochondrial energy capacity in the prefrontal cortex.

Meanwhile, those reporting more negative experiences, loneliness, and feelings of stress had less capacity.

While none of us can eliminate stress completely, cultivating positive, relaxed states does appear to be helpful for our mitochondria.

A 2024 paper proposes that contemplative practices, like meditation, yoga, and prayer, can benefit the body in concrete ways, in part by inducing a state of genuine rest through safety signaling. When the body feels safe and secure, it enables mitochondria to redirect energy away from the demands of the stress response and back toward cellular repair and maintenance.



SUPPLEMENTS

Both Picard and Rountree view supplements as one spoke in the wheel of mitochondrial health. "There's not any one substance that's going to do the trick," Rountree says.

That said, there are compounds that can be useful for mitochondrial support. Picard points to NAD+, a critical coenzyme for mitochondrial energy flow that declines with age.

Rountree notes that creatine has shown some benefits for brain function and post-COVID fatigue. He also sees promise in berberine, a plant compound used in Traditional Chinese Medicine. Berberine may stimulate mitochondrial biogenesis by activating the same cellular mechanism that's triggered by exercise and fasting.

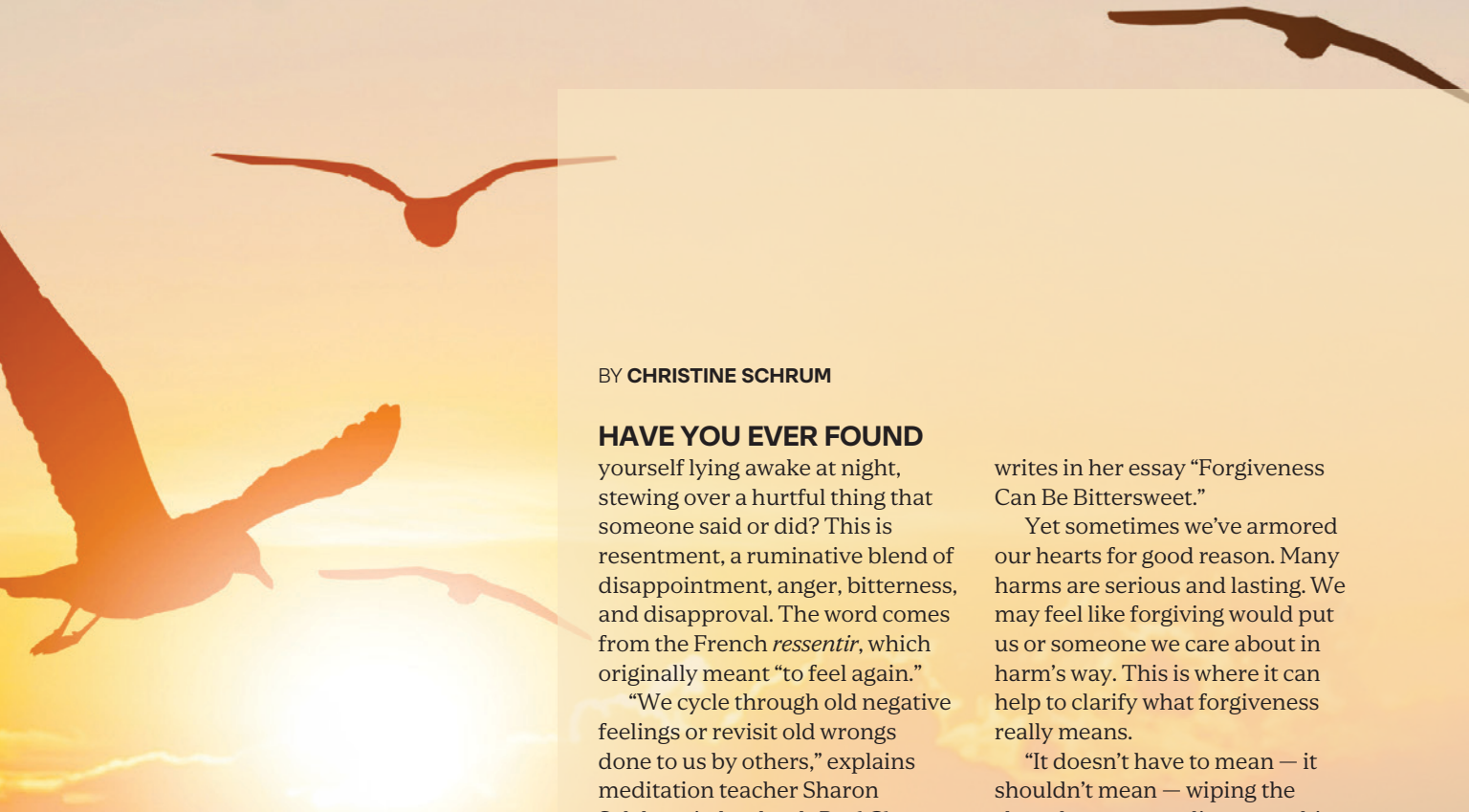
CoQ10, another potent antioxidant, may be valuable as part of a broader protocol, particularly for those with mitochondrial dysfunction, Rountree says.

Still, for most of us, the most meaningful support comes from honoring the fundamentals — diet, movement, sleep, and emotional health. Our mitochondria, it turns out, are listening. They respond to how we live.

MO PERRY is an *Experience Life* contributing editor.



UNBURDEN YOUR



HEART

LETTING GO OF GRIEVANCES CAN BE AN IMPORTANT STEP TOWARD HEALING, BUT FORGIVENESS ISN'T ALWAYS WHAT WE THINK.

BY **CHRISTINE SCHRUM**

HAVE YOU EVER FOUND yourself lying awake at night, stewing over a hurtful thing that someone said or did? This is resentment, a ruminative blend of disappointment, anger, bitterness, and disapproval. The word comes from the French *ressentir*, which originally meant "to feel again."

"We cycle through old negative feelings or revisit old wrongs done to us by others," explains meditation teacher Sharon Salzberg in her book *Real Change: Mindfulness to Heal Ourselves and the World*. "And do it again. And again. It's as if each offending incident is captured on a video that loops in our minds."

There can be satisfaction in holding on to grievances. It may offer a feeling of security — as if keeping these memories fresh could protect us from being hurt in the same way again. Yet the walls of resentment can also leave us trapped, unable to connect with others or grow past the harms we've experienced.

That's why Salzberg believes that when we can forgive others, we free ourselves. "Forgiveness is the way we break the grip resentment has on our hearts," she writes in her essay "Forgiveness Can Be Bittersweet."

Yet sometimes we've armored our hearts for good reason. Many harms are serious and lasting. We may feel like forgiving would put us or someone we care about in harm's way. This is where it can help to clarify what forgiveness really means.

"It doesn't have to mean — it shouldn't mean — wiping the slate clean, pretending something didn't happen, pretending something didn't hurt," says Salzberg. "Maybe it really hurt a lot, and it's consequential."

But when we become consumed by thoughts of people who have hurt us, they live rent-free in our minds, she says. This only adds to our burden.

Forgiveness can allow us to lighten our own load without sanctioning others' mistakes.

"If we decide to embark on a path of forgiveness, a great deal of it is for the sake of our own relief from suffering," says Salzberg. "And it doesn't mean you may not take strong action to protect yourself or protect others."

Here's how that looks in practice.

FORGIVENESS IS A PROCESS

While the classical model of forgiveness involves one party apologizing and the other party accepting that apology, the real experience doesn't have to mean letting someone off the hook.

"Although frequently confused with forgetting, acceptance, condoning, excusing, pardoning, and denying anger, forgiveness is none of these," writes Suzanne Freedman, PhD, an expert on interpersonal forgiveness, in an article for the online magazine of the Greater Good Science Center at the University of California, Berkeley.

"When we forgive, we decrease our negative thoughts, feelings, and behaviors toward the offender," she explains. "Depending on the situation, sometimes forgiveness involves simply wishing the offender well."

Many of us were raised to forgive and forget, which makes perfect sense for minor squabbles. But that strategy is often not possible and sometimes not advisable for more serious harms.

"I would hesitate to buy into systems that sort of say you have to forgive," says Salzberg, adding that her friend and colleague Sylvia Boorstein, PhD, a psychotherapist and Buddhist teacher, has a useful phrase: *Forgiveness does not mean amnesia*.

"Forgiveness is not something we can demand, perform, or bestow on command," says clinical psychologist Yvette Erasmus, PsyD, who hosts a podcast called *Conversations From the Heart*. "It is a shift in perspective that may emerge as we metabolize our pain and come to understand what drives harmful behavior, both in ourselves and in others."

RECONCILIATION AND REPAIR ARE RELATIONAL ACTS THAT REQUIRE TWO PARTIES TO PARTICIPATE. FORGIVENESS, BY CONTRAST, IS AN INTERNAL STATE.

And while forgiveness can mean reconciling, it does not need to.

Erasmus notes that you might picture people shaking hands or hugging when you hear the term "forgiveness," but that's actually a different process. These are gestures of repair, a further step that you may or may not want to take.

Reconciliation and repair are relational acts that require two parties to participate. Forgiveness, by contrast, is an internal state. "I can do it without the participation of the other person," Erasmus says. "I don't need the other person necessarily to see what they did wrong or to change."

(continued on page 68)





PREVENTING RESENTMENT

We all benefit from emotional honesty and authentic, respectful self-expression — not least because they can help prevent resentments from developing. Some tools can help you head off resentment at the pass.

GIVE YOURSELF PERMISSION TO FEEL. If a friend shows up late and you feel a flicker of resentment, see what happens if you gently investigate the feeling. Sometimes, according to mindfulness meditation experts, simply noticing an emotion allows it to dissipate like a cloud passing in the sky. Other times, resentment could be a cue that we need to advocate for ourselves.

ASK FOR WHAT YOU NEED. Feeling helpless and fixating on someone else's misstep may be a sign that you need to address things, especially if it's a pattern. When bringing up sensitive topics, avoid judgment and blame: *You're never on time!*

Instead, keep it focused on feelings, needs, and solutions: *I feel a little hurt when you're late. I need to keep my lunch breaks under an hour. Can you please be on time next week?*

"We're going to bat for care," notes therapist Yvette Erasmus, PsyD. "We're not going to bat for rightness or wrongness. And when we're asking for care, we're in a relational frame."

NIP GRUDGES IN THE BUD. Some of us hold on to hurt feelings hoping they'll go away, but this usually has the opposite effect: They get bigger.

"We have to start talking about stuff sooner," says licensed therapist and relationship expert Nedra Glover Tawwab, author of *Set Boundaries, Find Peace*. "When we don't, sometimes our gripes are as long as a CVS receipt."

If you find yourself avoiding a loved one or colleague who offended you, or talking about their behavior to others, clearing the air can often help you relate to them again.

WAIT TO RESPOND. Slow down and take a beat before you react to a slight. Take a few deep breaths to regulate yourself. Then, instead of feeling helpless or assuming the worst about the other person (both of which are usually efforts to protect yourself from more pain), remind yourself about some of their good qualities. All of this can set you up to represent yourself during a hard conversation in a way that's relational rather than defensive.

HOW TO FORGIVE

Authentic forgiveness can be powerful, but it may take some time. These guidelines can help.

SLOW DOWN. It hurts to be in conflict — especially with those we love. And many of us were taught to say we're sorry or offer forgiveness automatically, without considering whether those actions match the feelings we still have.

When we try to forgive too quickly, we may be bypassing things that need our attention, says Erasmus. "We need to learn and understand about our own boundaries, other people's boundaries, and what needs to be recalibrated."

If you feel compelled to forgive someone before you're ready, take a beat. You can be kind when you tell them you're not quite there yet. You are doing what's best for the relationship when you take the time you need.

TAKE CARE OF YOURSELF. In the aftermath of a significant painful event, your own healing is the top priority, says Erasmus. The relationship can wait.

"With larger, more traumatic experiences, forgiveness is never the first step, and whether it becomes the goal is really up to the individual," she explains. "First we need to grieve and metabolize the harm that was done."

This can play out in any number of ways. You can take time off from the relationship, talk to a professional counselor or coach, or even seek out focused trauma treatment.

Studies find that meditative practices like mindfulness and lovingkindness meditation, in which you wish yourself and other people well, have helped some veterans relieve symptoms of PTSD. Even something as straightforward as exercise may help heal trauma.

DECIDE WHAT FORGIVENESS MEANS TO YOU. You could call your gesture forgiveness or letting go — or neither of these things. A friend of mine shares the story of how, after a painful divorce, she was relieved when her rabbi told her she wasn't required to forgive her ex-husband.

"Moving on? Yes. Freeing myself from focusing on it? Yes. But forgiveness? Not my problem," my friend says.

"No one owes forgiveness to somebody else as part of their recovery," Erasmus notes, pointing out that the deepest work of reclaiming is about setting ourselves free, whatever we decide to call it.

YOU MAY NEED TO LET GO MORE THAN ONCE. "If the pain was deep, you will have to let it go many times," the poet Yung Pueblo has written. Healing from deep emotional pain is not a one-time event, he explains, but a nonlinear unfolding.

"Unloading the mental weight of past hurt is never easy, but it is possible, especially when we feel ready for a great transformation," he writes.

DECIDE YOUR OWN COURSE. Forgiveness might mean telling someone you forgive them, or not. It can open the door to reconciliation, but that isn't required. The words you use and the actions you take are up to you. The goal is simply to set yourself free from the grievance.

"I think it's important to understand that something like forgiveness or working on compassion toward someone doesn't mandate a certain course of action," says Salzberg. "It doesn't mean you have to visit them, doesn't mean you have to spend time with them, doesn't mean you have to let them move back in."

SET YOUR BOUNDARIES. Some people in our lives require us to have stronger boundaries if we're going to spend time around them. Forgiving these people for their mistakes doesn't mean we give up our discernment or choose their needs over ours.

"When we forgive somebody, it doesn't remove our need to be protected or to be safe," Erasmus notes. "We need to be able to set limits to nurture the kind of relationship we actually want to be in."

This might mean scaling back how often you see someone who is prone to self-centered behavior. Or sticking to safe public topics with a friend or family member who can't resist gossiping.

Advocating for yourself builds self-trust. It's also the foundation for healthier, more authentic relationships with others.

EMBRACE THE LESSONS

The satisfaction and freedom found in forgiving others is often hard-won, like many forms of wisdom. It involves discovering how the imperfections and difficulties in relationships can make us who we are — and who we want to be.

"If we can find a way to forgive and free our hearts," writes Salzberg, "we are saying life is bigger, we are bigger, we are stronger than the hurt and the feelings around it." ◒

CHRISTINE SCHRUM is a writer based on Vancouver Island, British Columbia.

PRACTICING SELF-FORGIVENESS

We all make mistakes — some are small, others more consequential. At these times we often judge ourselves far more harshly than we would other people, says meditation teacher Sharon Salzberg. "We would never speak to a friend or even a stranger in the way we speak to ourselves," she notes.

Our mistakes can also be excellent opportunities to learn, both how we want to be and how we don't. And getting stuck in shame prevents us from learning. So next time you find yourself down the rabbit hole of self-recrimination, try these tips. They can put your actions in a healthier perspective.

LET YOURSELF FEEL GUILTY.

In healthy doses, guilt can be an adaptive emotion, moving us to be accountable and to make amends. So don't be in too big a hurry to let yourself off the hook when someone shows you that they're hurt. Take some time to feel the impact of that. From there, any amends you offer are apt to be more genuine — and you might be less likely to make the same mistake again.

EXPLORE YOUR NEEDS AND MOTIVATIONS.

When we lash out or engage in other regrettable behavior, we're often operating from unconscious self-protective strategies, explains therapist Yvette Erasmus, PsyD.

So if you've gone beyond healthy guilt and are stuck in a cycle of shame and blame, see if you can investigate your missteps with curiosity instead. Some questions you might ask yourself: *When I did this thing, what did I need? How did I feel? What, or who, was I trying to protect? What mattered to me?*

MAKE AMENDS.

Forgiving yourself can become easier once you've taken responsibility for your actions and offered your apologies. This could mean making a phone call or writing a long-overdue email.

If you have reason to believe it would be more harmful than helpful for someone to hear from you, you can also consider a "living amends" — practicing new behaviors with others based on what you've learned from your mistakes. Whichever path you choose, hold yourself in compassion.

"Nothing is unforgivable," mindfulness teachers Valerie Mason-John, MA, and Paramabandhu Groves, MBBS, MRCPsych, write in *Eight Step Recovery: Using the Buddha's Teachings to Overcome Addiction.* "We have to start from where we are, and spring-clean our minds."

PRACTICE LOVINGKINDNESS TOWARD YOURSELF.

We always can turn a more forgiving eye toward ourselves by practicing lovingkindness meditation, Salzberg explains in *Finding Your Way: Meditation, Thoughts, and Wisdom for Living an Authentic Life.*

This practice involves the silent repetition of phrases intended to cultivate warmth and compassion for oneself and others, such as: *May I be safe, may I be happy, may I be healthy, may I live with ease of heart.*

"There's nothing special you need to do to deserve this kind of acknowledgment or care," Salzberg writes. "You deserve it simply because you exist."

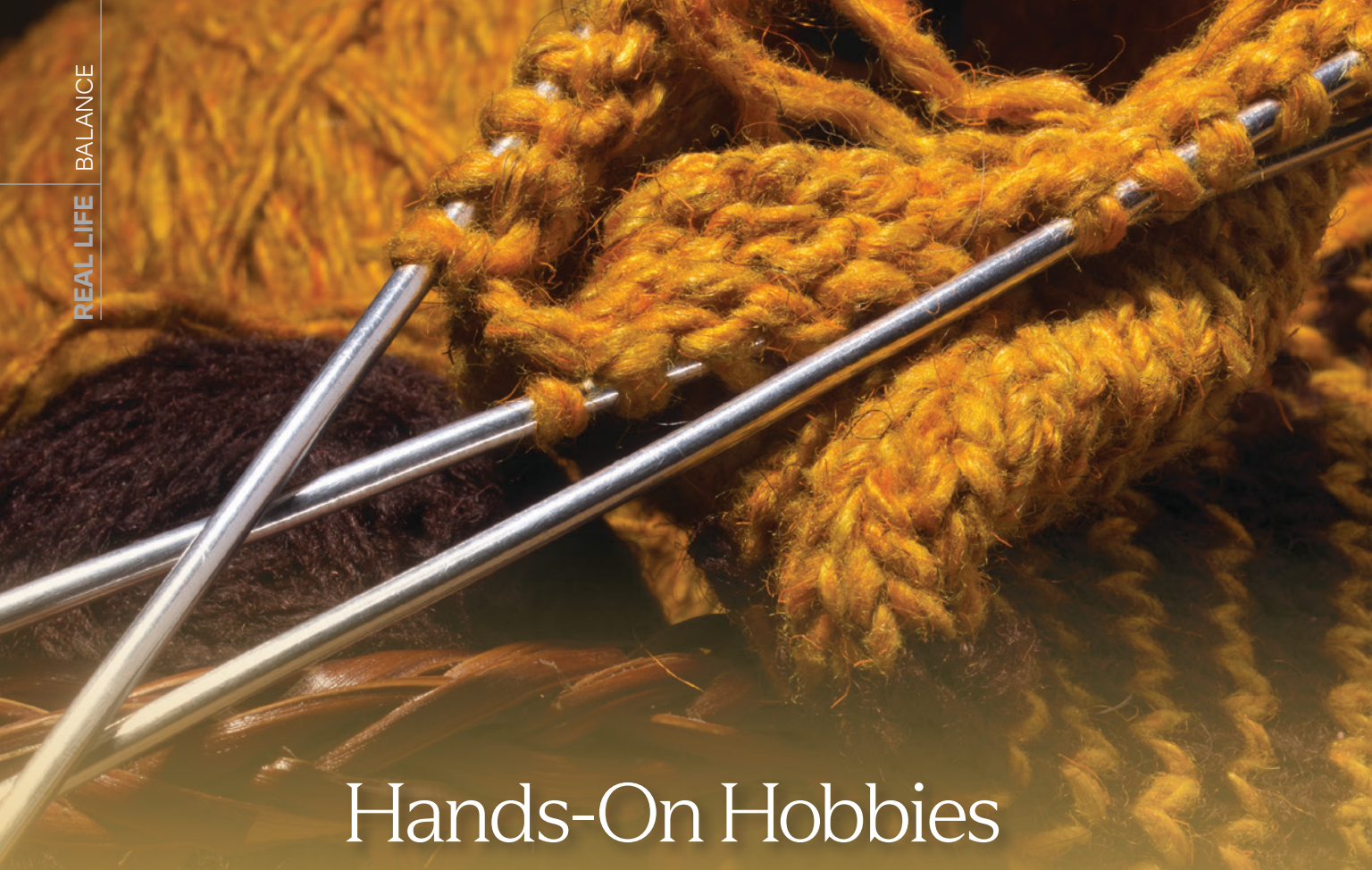


©2026 LIFE TIME, INC. All rights reserved. trmg261164113



REAL LIFE

WHAT MAKES ONE COUNTRY HAPPIER than another? While scientists have struggled to quantify the factors that contribute to society-wide happiness, recent research suggests they may need to ask different questions. Discover what really matters on **page 80.**



Hands-On Hobbies

Scrolling is an easy, though rarely fulfilling, form of entertainment. Try one of these screen-free activities when you need a break.

BY **ALEXANDRA FROST**





Jacobson, left, at a local stained-glass workshop with coworker Molly Tynjala King in May 2025.

IN 2025, Jennifer Jacobson needed something to keep herself busy. She was managing postconcussion symptoms and having a hard time with computer screens, which complicated both her daytime work as an art director at *Experience Life* and her evenings watching her favorite shows. She wanted an analog activity to fill her time.

On a whim, she signed up for a stained-glass art class, where she assembled and soldered colored shards of glass. She was surprised to find that she had a knack for the medium. Her first class led to another, and another, and soon enough Jacobson had bought her own equipment and started making designs at home. The best part? No screens required.

Many of us spend a lot of time on our digital devices, which can take a toll on our physical and mental health. Excessive screen time has been associated with heightened anxiety and depression, as well as with physical complaints like eye strain and upper-back pain.

Meanwhile, taking a break from our devices creates space for analog activities that can stimulate our minds and enrich our lives. Research suggests that engaging in creative arts can reduce stress and slow brain aging. And, as Jacobson learned, it can even help us discover hidden parts of ourselves.

"As a creative person whose typical outlet involved computers, restricting my screen time after my concussion felt like losing part of myself," she says. "Stained glass gave it back — this time through my hands instead of a mouse."

Analog hobbies come in all shapes and sizes, so there's sure to be an activity that suits your skills and interests. The only requirement is that you find it fun. If you need some inspiration, consider the following ideas.

1. CREATE SOMETHING.

There's something inherently compelling about a creative activity, whether it's spending an evening knitting a cozy scarf or a weekend shaping and sanding a cribbage board in your garage. A systematic review published in 2025 found that crafting may reduce anxiety, ease depression, improve self-efficacy, and increase life satisfaction.

Traditional crafts, such as needlework, knitting, and crocheting, are only some of your options; you could also try your hand at leather tooling, woodworking, basket weaving, jewelry design, soapmaking, or candle pouring.

Get started: Visit a local craft store for basic materials. Consider perusing secondhand stores or websites for starter kits.

2. DANCE.

Not only is dancing fun, but it can also release endorphins and improve your self-confidence. You can find classes in a wide range of styles or just choreograph your own moves in the kitchen after dinner.

"Unlike other workouts, dancing requires me to put my phone away and be fully present," says Amanda Guillen, chief creative officer at Creative Junkies Agency. Guillen reconnected with her childhood love of dance at age 33. "Interestingly, I find that I am a better dancer now than I was in my youth, because I have a much deeper understanding of my body and muscle mechanics."

Get started: If the idea of dance classes sounds motivating, check out your community education offerings or see what's available at your fitness club. But you don't need a formal lesson to dance; just crank your favorite song and start moving.

3. MAKE MUSIC.

Playing music offers multiple benefits, from stress relief to greater happiness. And a study published in 2022 found that longtime musicians may enjoy more cognitive resilience later in life.

You could learn to play a new instrument, return to one you played in school, or improve your vocal skills. At a party, it's great to be able to sit at a piano or grab a guitar and play someone's favorite song.

Get started: Music lessons aren't just for kids. Search online for music instruction in your city. Some music stores offer free lessons.



4. PLAY A GAME.

If you can get three of your friends to join you, you'll have the makings of a Catan, bridge, or mahjong group. Originating in 19th-century China, mahjong might remind you of rummy, and it serves as a great memory builder.

A narrative review published in 2025 shows that playing board games can also improve knowledge retention, motivation, and well-being.

Get started: Ask friends if they need an extra person for their next game night or trivia contest. Or pick up some board games and cards at the thrift store and host a game night of your own.

5. CONNECT WITH ANIMALS.

You don't need a pet of your own to experience the benefits of spending time with animals. Laura Stratton took up horseback riding at age 50 and was delighted by the activity's physical and emotional rewards. "Be prepared to get stronger," she says, and to discover the deep connection you can build with a horse.

You could also volunteer at a local animal shelter, foster animals waiting for their forever homes, start a dog-walking service, pet-sit for friends and neighbors, or grab your binoculars and go birding.

Get started: Reach out to your city's animal shelter or a pet-rescue organization if you'd like to adopt a pet or volunteer to foster. Find a nearby stable and inquire about riding lessons. If you want to offer pet services, consider creating a profile on an app like Rover.

6. LEARN TO SEW.

It's frustrating when clothes don't fit quite right. For those who know how to sew, these problems turn into fun projects rather than chores. Altering clothes can double as a side hustle if your skills are sharp and you're eager for new projects.

Sewing is best learned from someone who knows it well. See if a mending expert, whether a relative of yours or a professional, would teach you some basic stitches and show you around a sewing machine. (In a pinch, there are plenty of skilled sewists to learn from online.)

Get started: Fabric stores in your area might offer classes that teach the basics. Buy a sewing kit and work on an old pair of pants before committing to a sewing machine or altering an expensive garment.

7. BE A KID.

If you loved to paint, draw, use Play-Doh, or skip rocks as a kid, why not lean into those early loves? They aren't just for children. If you have kids of your own, these activities can help you connect with them and your younger self.

For a more active option, try experimenting with a sport you once loved — or one that you wanted to try but never did. Think skateboarding, gymnastics, ice-skating, martial arts, or obstacle-based fitness training.

Get started: Buy some fresh Play-Doh and build something. Get some crayons or pastels and start coloring. Dig out the LEGO sets, Kinetic Sand, or other traditional kids' toys. And scan the local offerings for instruction in your favorite childhood activity. Your skateboard awaits.

ALEXANDRA FROST is a journalist and content strategist based in Cincinnati.



For those who train to live.

TEN THOUSAND

TENTHOUSAND.CC



Grief and Mental Health

Loss can be taxing. An integrative psychiatrist shares ways to support your resilience.

BY **HENRY EMMONS, MD**

WE'VE ALL GRIEVED the loss of loved ones, or we will someday. But grief doesn't arrive only through death or a devastating diagnosis. We also grieve lost relationships, lost futures, lost versions of ourselves. And when disasters happen, we grieve collectively for our communities and for our world.

Grief is more than just an emotion. It's a full-body, whole-brain experience. And it affects our mental health in profound ways.

When we're grieving, levels of cortisol and other stress hormones are elevated. Serotonin and dopamine may be dysregulated. This is why grief is often coupled with fatigue, difficulty concentrating, and a loss of interest in things that used to bring joy.

Acute grief can effectively shut down the brain's prefrontal cortex, affecting our ability to plan and make decisions. The amygdala, which is the brain's alarm system, may stay activated, and we can become hypervigilant or shut down entirely. Both are examples of the nervous system trying to protect us from overwhelming pain.

"Grief brain" also includes forgetfulness, confusion, and trouble following conversations. But you're not losing your mind; your brain is redirecting enormous resources toward processing your loss.

WE ALL GRIEVE DIFFERENTLY

Not everyone experiences grief the same way. Some of this is temperament. In my psychiatry practice, I find it helpful to think about three basic nervous-system types.

Some people are naturally more activated — they tend toward anxiety, restlessness, racing thoughts. For them, grief often shows up as agitation, insomnia, and an inability to settle.

Others have a calmer baseline, but they become rigid or stuck when stressed. Their grief might look like withdrawal and difficulty adapting to the new reality. They may get caught in repetitive thoughts about their loss.

Still others are naturally more sluggish. These types tend toward low energy and can easily slip into depression. For them, grief can feel like being underwater, and the world feels slowed down and muffled.

None of these responses is better or worse. But knowing your own tendency can help you choose the strategies that best support your system rather than fight against it.

SUPPORT WITHOUT SUPPRESSING

When it comes to protecting your mental health, the goal isn't to get over grief quickly. It's to support yourself so you can move through it without it completely depleting your resilience. These approaches can help all nervous-system types.

Protect your sleep. When grieving, you need rest. Keep a consistent bedtime. Limit screen time in the evening. If you're prone to lying awake with racing thoughts, get up and do something soothing — make tea, read a comforting book, sit quietly. Then try again.

Nourish your nervous system. Omega-3 fatty acids from fish oil help support brain function and mood regulation. B vitamins, especially their methylated forms, help your body manage stress. Magnesium can ease the physical tension that grief creates. These nutrients aren't quick fixes, but they provide building blocks for your depleted system.

Move your body gently. You don't need intense workouts when you're already drained, but do try to keep moving so grief doesn't get stuck in your body. Walking, gentle yoga, or simple stretching can help move that stagnant energy through.

Create boundaries for your grief. This might sound strange, but you can't actively grieve all the time. Set aside time daily to intentionally feel and process — maybe 20 minutes in the morning to journal or just be with the sadness. Then gently redirect your attention to the tasks of the day. This isn't avoidance; it's giving yourself permission to not be consumed.

Let others in, even a little. Isolation makes everything harder. Yet connecting with others doesn't have to mean explaining yourself or accepting unwanted advice. Let someone sit quietly with you or bring you food. Let a friend or family member know you're struggling. Grief is not meant to be processed alone.

Savor what remains. Take in a beautiful sunset, your child's laugh, a good cup of coffee. Let yourself notice them without guilt. This isn't about toxic positivity. These moments of sweetness don't diminish your loss. They sustain you through it.

HENRY EMMONS, MD, is an integrative psychiatrist and the author of *The Chemistry of Joy*, *The Chemistry of Calm*, and *Staying Sharp*.



Diffusing Defensiveness

Learn to stay calm and diffuse tension when defensiveness rears its head.

BY **JON SPAYDE**

WHEN YOU FIND yourself on the receiving end of a defensive reaction — after asking your partner to do the dishes or pointing out a mistake in someone's work, for example — it's tempting to snap back or walk away. When defensiveness comes through as deflection, sarcasm, denial, or dismissal, it can feel like the communication has hit a brick wall, and that relating with this person is impossible.

All that makes it hard to keep the dialogue going.

Yet it's possible to calm a conversation that's been roiled by a reactive response, says clinical psychologist Yvette Erasmus, PsyD, host of the podcast *Conversations From the Heart*. Erasmus specializes in communication skills, emotional regulation, and peaceful conflict resolution. She has some encouraging ideas for dealing with defensiveness — whether it's someone else's or your own. "It's just about making sure that both of you feel safe and feel seen," she says.

STRESS SOURCES

You're confused about what you did to trigger the defensive response. This is especially relevant when the other person's defensiveness is a reaction to you expressing your feelings, and you've done your utmost to state your position without judgment.

You're afraid to escalate the situation. The last thing you want to do is run the conversation aground by prompting more reactivity.

You feel guilty about activating the other person's defensive instincts. In the face of someone's strong response, you might question yourself for speaking up in the first place — even though that would mean leaving your feelings unaddressed.

Your own defensive response is triggered by theirs. This can happen almost instantaneously, says Erasmus. "Defensiveness can trigger defensiveness. Our bodies tighten instinctually, and suddenly both people are trying to protect themselves at the same time."

The other person disregards or minimizes your concerns, issues, or feelings. When someone plays down your concerns, it's natural to feel that you need to emphatically justify them — but that usually leads nowhere.

The other person shuts down and goes silent, or you reach your limit and shut down yourself. "Shutdown, as a response, is the bodily system trying not to get overwhelmed," says Erasmus. The result is no communication and no resolution.



SUCCESS STRATEGIES

Understand what defensiveness is. While we may see defensiveness as an attack or a willful avoidance of an important issue, Erasmus reminds us that it is a protective mechanism:

"Defensiveness is self-protective. We become defensive when we feel threatened, unsafe, ashamed, unseen, powerless, or misunderstood, and especially when we are fielding judgment and criticism.

"Most people are not trying to be difficult. Our self-protectiveness tends to activate before our curiosity or connection systems."

Pay attention to what's going on in yourself. You don't need to stay perfectly calm — the goal is to simply stay mindful enough to avoid escalation, Erasmus says. "What helps most in those moments is shifting our attention from winning the argument to noticing our feelings, sensations, needs, and wants."

Slow down your thoughts, breathe, direct your attention to the state of your nervous system, and track your sensations, she suggests. Some useful intentions: "connection before correction" and "empathy before explanation." These can even be silent mantras during tough moments.

Extend empathy to the other person. Diffusing defensiveness requires creating safety, Erasmus notes. This helps the other person's defensive, self-protective system to relax. And the best way to do that is to let them be seen and known for who they are.

"People tend to soften when they feel less judged and more understood," she says. "That doesn't mean abandoning yourself or agreeing with everything they say. It means approaching the conversation with curiosity, empathy, and enough groundedness that both people have a better chance of staying connected while working through something difficult."

Connect before you try to solve the problem. "People are far more open to problem-solving once they feel understood," says Erasmus. "If you slow down long enough to connect with their feelings, concerns, and perspective first, the conversation often becomes more collaborative and much less adversarial.

"But when people feel emotionally threatened or misunderstood, they're less able to take in solutions or feedback," she explains. "If you move too quickly into fixing, correcting, or persuading before there's enough connection, the other person will often become even more defensive because their nervous system still feels under threat."



Reflect the other person's perspective back to them. One of the best ways to find connection and empathy is to try describing in your own words what you think is making the other person defensive — then check to see if what you said rings true.

This approach is cognitive, not emotional: You're not replaying what you think they are *feeling* but rather becoming curious about their *understanding* of the situation. Erasmus suggests language like "It sounds like my words landed as criticism; am I getting that right?"

"When we make room for the other person to clarify or correct our understanding," she explains, "conversations often become much safer and more collaborative."

Frame the conversation as cooperative — even if the other person isn't cooperating. Surprisingly, you don't need the other person to join you in this process, Erasmus notes.

"Even if the other person remains reactive, you can still shift the emotional tone of the interaction. When you respond with curiosity, steadiness, and a genuine effort to understand rather than counterattack, people often become less defensive over time."

Call for a postponement. If the other person is standing firm behind a brick wall of defensiveness, you may want or need to withdraw. Erasmus suggests you do it with gentle "I" statements, rather than making it about them.

"Sometimes the most constructive thing you can do is pause the conversation before it becomes more harmful," she says. "Rather than attacking the other person or storming off, try naming what's happening inside you with honesty and care."

Erasmus suggests a statement like this: "I want us to understand each other, but I'm getting too activated to communicate in the way I want to right now. I think I need a little space to settle before continuing this conversation."

Set a firm boundary. If the defensive person becomes aggressive after you call for a pause, or at any other time during the encounter, "you're no longer in a collaborative conversation; you're in a reactive control dynamic," says Erasmus.

At that point, she adds, continuing to engage often escalates things further, and you need to be clear that you will no longer take part. "Compassion does not mean staying in a conversation that is no longer constructive."

This can be difficult, but it's important to follow through.

"One of the hardest parts is tolerating being misunderstood," she explains. "The other person may experience your boundary as rejection or abandonment, and you may not be able to repair that immediately. But you can acknowledge their feelings while still honoring your own limits."

JON SPAYDE is an *Experience Life* contributing editor.

ILLUSTRATIONS: CAREY SOOKOCHEFF


KIEHL'S
SINCE 1851
SINCE KIEHL'S 1851
BATH and SHOWER
LIQUID BODY CLEANSER
"GRAPEFRUIT"
With Plant Protein and Sodium PCA
16.9 fl. oz. - 500 ml
SINCE KIEHL'S 1851
HAIR CONDITIONER
and GROOMING AID
FORMULA 133
for all hair types
16.9 fl. oz. - 500 ml
SINCE KIEHL'S 1851
AMINO ACID
SHAMPOO
with Pure Coconut Oil
for All Hair Types
16.9 fl. oz. - 500 ml
FORMULAS THAT DO
THE HEAVY LIFTING.



The Done List

What if you're already on top of things?

BY **OLIVER BURKEMAN**

MANY OF US (by which I mean me) start each morning feeling as if we're in a kind of productivity debt, one we must struggle to pay off throughout the day in hopes of a zero balance by the time evening comes.

Few things feel more basic to my experience of adulthood than this vague sense that I'm falling behind and need to claw my way back up to some minimum standard of output. It's as if staying on top of things will not only justify my existence but also stave off some ill-defined catastrophe.

This feeling of indebtedness doesn't just apply to work tasks. In times like these, it's equally easy to feel in debt when it comes to political activism, donations, and community service. Not to mention trying to be a good-enough partner, parent, and friend. There's just so much that needs doing. So, naturally, one really has to buckle down to have any hope of getting to feel like a decent person.

I recently suggested on social media (again, a suggestion directed mainly at myself) the idea of trying another perspective: What if you began each day at a zero balance, so that everything you accomplished — every task you got done, every tiny thing you did to address the world's troubles or the needs of your household — put you into the black?

What if (and, personally, I find this thought almost unthinkable in its radicalism, but here goes) there's nothing you ever had to do to earn your spot on the planet? What if everything you do get around to doing, on any given day, is surplus to the minimum requirements?

There's an obvious objection here. To achieve certain outcomes, there are things we have to do. To get you this column, I had to write it. To have a clean kitchen, I have to clean the kitchen, or else passive-aggressively comment on its disastrousness until my partner cleans it. To pay the mortgage, I have to generate an income. This is where inequality enters the picture, too, because of course some of us have to do a lot more than others to stay afloat.

Yet many of us overlay this instrumental obligation with an existential one: The feeling that we must get things done not merely to achieve certain ends but because it's a cosmic duty we've somehow incurred in exchange for being alive.

WRITE IT DOWN

This is why I'm such an enthusiastic proponent of keeping a "done list." It starts empty in the morning and then gets filled with whatever you accomplish throughout the day. Each entry is a cheering reminder that you could have spent the day doing nothing — yet look what you did instead! (If you're in a serious psychological rut, just lower the bar for what counts as an accomplishment; nobody else needs to know that you added "brushed teeth" or "made coffee" to the list.)

A done list isn't merely a way to feel better about yourself. Giving up the impossible quest to pay off your productivity debt and thinking of each day as a chance to move a small-but-meaningful set of items to the done list allows you to make better choices about what to focus on. And you'll make more progress on them, too, because you'll waste less time and energy being stressed about the stuff you're unavoidably neglecting.

What's more, paying off your imaginary productivity debt (in other words, working so hard and so efficiently that you no longer feel like you're falling behind) is not just grueling and unpleasant, it's literally impossible. In the modern world of work, there's no limit to the number of emails you might receive, the demands your boss might make, or the ambitions you might have for your career. So there's no reason to believe you'll ever get to the end of them.

Whenever I manage to remember that the cosmic debt I imagine I must pay off is, in fact, unpayoffable, I find I'm far better able to relax in the midst of having too much to do — as opposed to making relaxation dependent on getting on top of it all, which I never will.

I'm also far better placed to actually do things, both the productive things and the good-citizen things, that were the focus of all my angst in the first place. Look! There they are, on the done list! Not many of them, perhaps, at least by comparison to the immeasurable galaxy of things that need doing, but there are generally quite a few by the time 6 p.m. rolls around.

At which point I usually mix a gin and tonic, though I tend not to add that to the list.

OLIVER BURKEMAN is the author of the best-selling book *Meditations for Mortals* as well as the newsletter *The Imperfectionist*, from which this column is adapted.



Happy Places

Can science aid us in the search for happiness? Or are we looking in the wrong direction?

BY **MICHAEL DREGNI**

HAPPINESS: Dictionaries define it as somewhere in the ballpark of "a state of well-being, joy, and contentment." But those are evasive, fleeting concepts. (And don't even try to get a handle on defining "bliss." States one dictionary: "Complete happiness.")

Peanuts creator Charles M. Schulz's definition was easy to wrap your arms around: Happiness may indeed be a warm puppy.

But what if you're a cat fancier?

Maybe the best way to explain the conundrum is actually an image: the iconic smiley face drawn by graphic artist Harvey Ball in 1963 — initially designed to raise the flagging morale of office workers at an insurance company. There's none of the mystery of Mona Lisa's inscrutable smile here; happiness is indisputably clear in its ear-to-ear beam.

Happiness may indeed be a warm puppy. **But what if you're a cat fancier?**

Such unambiguous happiness seems to be what we all want. But how to get there?

Sometimes it seems like the pursuit of happiness is an endless, trying, even fanciful quest — and one destined to leave the devoted searcher stranded far from the hoped-for destination.

In recent years, seeking happiness has itself been codified, analyzed, and scrutinized, giving birth to a science of happiness. We now have the field of positive psychology. We have self-help books by the score. And we have myriad studies seeking to identify the happiest places on Earth with the goal of helping us all find what those happy folk have found.

By some measures, we're happier than ever — or at least since such data became available. By others, our happiness is lagging with each passing year. (More on both to come.)

But maybe these studies are looking in the wrong places. Or asking the wrong questions.





THE PURSUIT OF THE PURSUIT OF HAPPINESS

To try to get his finger on the pulse of all this, journalist Eric Weiner had a novel idea: He traveled the globe, visiting 10 countries considered more or less "happy" and reporting on what lessons their inhabitants might teach the rest of us. The result was his 2008 book, *The Geography of Bliss: One Grump's Search for the Happiest Places in the World*, which is a mix of objective and subjective analyses that went on to become a TV series.

Spoiler alert: Weiner found that Bhutan was a supremely happy country; the government even keeps tabs on its people's Gross National Happiness. The Swiss were also happy, but for different reasons. Moldova? Not so happy. The United States? Somewhere in between.

Unpacking his bags after his journey, Weiner also attempted to unpack his findings: "Money matters, but less than we think and not in the way that we think. Family is important. So are friends. Envy is toxic. So is excessive thinking. Beaches are optional. Trust is not. Neither is gratitude."

He followed that with the written equivalent of a shrug, admitting happiness is "slippery." And adding, perhaps most significantly, that there's more than one path to finding it.

One thing is certain: Weiner's bestseller popularized a topic and spurred a trend. "I am pleased to see sustained interest in gauging happiness across cultures and countries," he says. "I think it reflects a growing recognition that happiness is not exclusively an 'inside job.' It is also a cultural phenomenon. Some nations are simply better than others at producing happy citizens."

HAPPINESS TRENDS

The pursuit of the pursuit of happiness has become a topic of enduring fascination, researched from myriad and various angles — sociological, psychological, economic, philosophical, political, scientific, and more.

Since the 1980s, social scientists at the World Values Survey have accessed surveys of more than 400,000 people from more than 100 nations containing almost 90 percent of the world's population. The surveys have asked the same two questions: "Taking all things together, would you say you are very happy, rather happy, not very happy, not at all happy?" And, "All things considered, how satisfied are you with your life as a whole these days?"

"The results clearly show that the happiest societies are those that allow people the freedom to choose how to live their lives."

Economic growth, democratization, and increasing social tolerance have all helped raise happiness levels. And while people from wealthier countries tend to be happier than those from poorer countries, democratization and rising tolerance have more impact than economic growth.

"The results clearly show that the happiest societies are those that allow people the freedom to choose how to live their lives," explained Ronald Inglehart, PhD, the late founder of the World Values Survey, in 2008.

Not all recent research jibes with those pleasant trends, though. Since 2012, the University of Oxford's Wellbeing Research Centre has published an annual World Happiness Report. Over time, the organization has examined different influences and aspects of happiness. For instance, the 2025 report focused on the impact of caring and sharing on people's well-being in 147 countries.

In 2026, the report was grave. While many countries — especially Scandinavian nations — were content, "in general, most Western industrial countries are now less happy than they were between 2005 and 2010," the executive summary stated. The culprit? Social media. And, in particular, its effect on the young.

"Life satisfaction is highest at low rates of social media use and lower at higher rates of use," the authors report. "The rise of internet and social media use has affected well-being directly, and also indirectly by altering trust. . . . Negative emotions are becoming more common in all global regions." Sadness and worry are on the rise.

WHAT MONEY CAN'T BUY

Money can't buy happiness, goes the





old maxim, but it does seem to lend a helping hand. With that in mind, psychologist Mohsen Joshanloo, PhD, of South Korea's Keimyung University, crafted a new means of measuring happiness, called wealth-adjusted life satisfaction (WALS), for a 2025 study.

"WALS asks not just 'how happy is this country?' but also 'how happy is this country given its wealth?'" he writes in an article for the online magazine of the Greater Good Science Center at the University of California, Berkeley.

"Part of what drives this trend is a broader shift in how we define success and a good life," he says. "In many parts of the world, material survival is no longer the only concern for large segments of the population. When basic needs related to safety and financial security are relatively met, people begin to focus more on subjective and psychological aspects of life, such as satisfaction, meaning, autonomy, and social relationships."

By Joshanloo's WALS measure, Nicaragua is No. 1 in happiness. It's followed by the usual suspect, Finland, then Kyrgyzstan and Nepal. The United States is No. 32. Wealthy countries such as the United Arab Emirates and Bahrain "produce substantial wealth but seem less effective at turning it into subjective well-being," he writes.

So what trumps wealth in the hunt for happiness?

"Some of the strongest factors associated with higher-than-expected life satisfaction in my analysis were perceived job quality (for example, psychological aspects of work, such as autonomy), daily enjoyment, opportunities for forming friendships, personal freedom, and prosocial behaviors, such as volunteering," says Joshanloo.

"So it is not that wealth becomes irrelevant, but rather that social, cultural, and institutional factors can influence how efficiently that wealth is converted into well-being."

"So it is not that wealth becomes irrelevant, but rather that social, cultural, and institutional factors can **influence how efficiently that wealth is converted into well-being."**



THE RIGHT QUESTION?

The United States currently ranks middlingly in many happiness quotients. But the fact that Thomas Jefferson included the pursuit of happiness as an unalienable right in the Declaration of Independence may reveal a cultural optimism that happiness is indeed possible. Maybe not Harvey Ball's manic smiley face–level bliss, but life satisfaction. A sense of well-being. Contentment.

And maybe "Are you happy?" is not the right, or at least not the most meaningful, question.

That was one of Weiner's conclusions: "Maybe love is more important than happiness," he writes.

"'Happiness' doesn't do justice to what we truly crave," Weiner says. "Most people, I think, want a meaningful life more than a happy one. Yes, there is some overlap between the two, but it is not 100 percent. You can have a rich and meaningful life and not be happy all the time."

MICHAEL DREGNI is an *Experience Life* deputy editor.

LIFE TIME® KIDS



We have something for every age and every stage of growth. From classes to lessons, camps, clinics and more — fun is easy to find at Life Time.

JOIN THE FUN

©2026 LIFE TIME, INC. All rights reserved. kimg251058849

TYROL

PURPOSE-BUILT FOR PICKLEBALL

breathable mesh upper allows for air flow ventilation

wide and deep toe box prevents toe bruising from aggressive start/stop movement to the kitchen line

exterior heel counter provides rear foot control for a stable playing foundation

PHYLON midsole offers controlled shock absorption for on-court comfort and maximum stability

removable ventilated sock liner moisture-wicking cooling system moves moisture away from your foot, preventing blisters

TPU midsole shank controls torsional stability and prevents ankle rollover

VIBRAM outsole industry-leading durability with exclusive rubber compound; chevron tread design for maximum traction and court movement

RICHARD LIVORNESE JR.
APP TOUR CHAMPION, TYROL PRO

Get a jump on the holidays with this exclusive Life Time offer — 25% off now through Dec. 31, 2026! Use code: LIFETIME25

Proud supporter of Life Time Pickleball Classic

Life Time Classic



1.



2.



3.

TIME TO UNPLUG

Take a break from digital devices and go analog for a while.



4.

5.

1.

GO FOR A SPIN

Wouldn't you rather put on your favorite record than let the algorithm choose your playlist? Find the Victrola Automatic turntable and speakers for $530 at **www.victrola.com.**

2.

PRESS PAUSE

Tap your phone to the Brick to block distracting apps. To turn them back on, tap it again. Simply interrupting the impulse to scroll can save you a lot of time. $59 at **www.getbrick.com.**

3.

MAKE A DATE

With an elegant planner from Appointed, you can write down your commitments and track your calendar without digital distractions. From $32 at **www.appointed.co.**

4.

PUZZLE IT OUT

For some, hands-on puzzling is a great way to get into a flow, and the bright image of poppies on this 1,000-piece puzzle is a lovely place to rest the eyes. $40 at **www.cloudberries.co.uk.**

5.

TAKE YOUR TIME

Keep your phone out of the bedroom and invite the Loftie alarm clock instead. It has a host of sleep-supporting features, including red-light mode for evenings. $250 at **www.byloftie.com.**


LIFE SPA
The Glow Is Real
Holiday glow starts in one treatment. Powered by HydraFacial, clinically proven to leave skin instantly radiant, refreshed and smooth.
BETTER WITH EVERY SESSION. BOOK IN APP.
©2026 LIFE TIME, INC. All rights reserved. lsmg261177500

Just a Few Questions

BY **BAHRAM AKRADI**



SEVERAL YEARS AGO, my son and I set up a telescope on the roof of our home to watch a solar eclipse — just the two of us, a small tripod, and the moon sliding in front of the sun. At some point we looked down and noticed the light coming through the leaves of a nearby tree. It was making dozens of tiny crescents on the driveway, in the same shape as the eclipse itself.

I thought about that moment recently while watching the Netflix documentary *Unknown: Cosmic Time Machine*, about the James Webb Space Telescope. Since 2022, Webb has remained nearly a million miles from Earth, four times farther away than the moon, in a spot where the earth's and the sun's gravity cancel each other out.

While the idea of an infrared telescope began in the mid-1990s, Webb itself wasn't launched into space until late 2021. During its monthlong journey to its destination, the massive structure unfolded itself in the vacuum of space, surmounting hundreds of potential points of failure.

Its five-layer sunshield is roughly the size of a tennis court; its primary mirror is made of 18 separate segments, which had to align to a fraction of a hair's width. A single failure could have ended the mission. Every calibration and alignment had to be just right.

It took three space agencies, thousands of experts, about 10 billion dollars, and more than two decades of work to get it there. In July 2022, the first image from the telescope was released: a glimpse of a patch of the universe, the size of which is roughly equivalent to a single grain of sand if you were to hold it at arm's length. That grain of sand contains thousands of galaxies, some whose light has been traveling for 13.2 billion years. More images soon followed.

As I sat there watching the documentary, I found myself thinking, *So what?*

It wasn't a rhetorical question so much as real interest: What did we actually learn? Did we discover something unknown, or did we simply confirm what we already suspected: that we are staggeringly small, on a planet that isn't even a rounding error against everything else that's out there? Was the knowledge worth the effort, money, and risk it took to get the Webb telescope up there in the first place?

Perhaps the real discovery isn't what we found, but what it reveals about how curious we are. We walk around with minds capable of reasoning their way to the edge of the universe, inquisitive enough to ask what happened 13 billion years ago, and disciplined enough to build a machine to go find out.

At the same time, we're just tiny specks in a remote galaxy, here for a very short, very specific stretch of time.

These two things don't add up to me. If we're so small, how is our curiosity as expansive as the universe itself? Why should a cosmic speck care about or need to know what's all the way out there?

Instead of trying to make sense of it all, I remind myself that I get to choose my perspective. Some days I need a broad perspective to recognize that whatever's bothering me is rather insignificant in the grand scheme of things, against 13 billion years of light. Then I can let it go.

Other days I need a more focused view, like the one from our roof: the crescents of light scattered across our driveway, my son next to me, a moment both small and significant.

It's a little bit Albert Einstein and a little bit "Dust in the Wind." Both perspectives are true. The trick isn't picking just one; it's knowing which lens the moment calls for.

As we near the end of another year, many of us start to make lists of things to fix and goals to pursue. Before you write your own list, maybe sit with these questions: From what distance have you been looking at your life? Are you so close that the small stuff — minuscule things that often turn into nothing — fills the whole frame? Or can you see the macro view, pulling the lens out far enough to see what really matters?

I don't have the answer, but here's what I do know: We're only here for a short time. It really is to your advantage to love as much as you can, to have as much fun as you can, to do as little harm as you can, and to do as much good as you can, with whatever precious time you get.

You can help the person in front of you today, making their day a little better, while also contributing to something bigger than yourself.

Do both, and you may discover that life, though short, is all the more meaningful and rich.

BAHRAM AKRADI is the founder, chairman, and CEO of Life Time — Healthy Way of Life.

Doing the hardest thing
is exactly what
will help you
know your strength.

— **ANDREA GIBSON**




Pause here.
Relax your jaw.
Drop your shoulders.
Soften your forehead.
Take a deep breath.
Now, continue.
SPIRITUAL GANGSTER
HIGH VIBRATIONAL LIVING

JOOLA PROV



WWW.JOOLA.COM