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TESTS?**
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WANT
YOUNG
WOMEN
TO KNOW
THEY'RE
NOT
ALONE."

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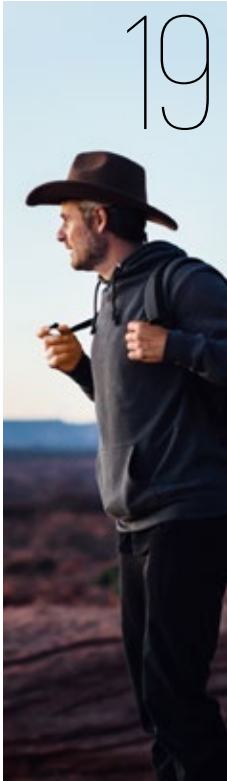
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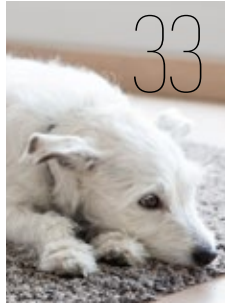
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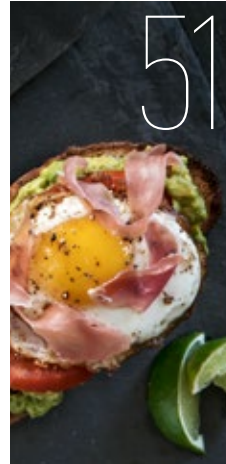
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PHOTOGRAPHY BY:
Scott McDermott/CPI

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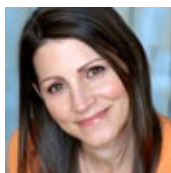
Kristy Hammam
Editor in Chief
kristy@webmd.com

Each year, WebMD celebrates visionaries who change the health care landscape in America by meeting a health challenge and giving back to others. Our most recent WebMD Health Heroes are focused on improving outcomes and care for people with cancer through research, science, caregiving, and advocacy. We had the honor of recognizing these amazing individuals not only in the pages of the January/February issue of this magazine but also in person at our WebMD headquarters in New York City in January (see below). Their ingenuity, dedication, and humble spirits were an inspiration to us all.

We each know people who overcome adversity and use their own difficult situations to improve the lives of those around them. We asked our staff to share their personal health heroes.

FROM THE WEBMD TEAM

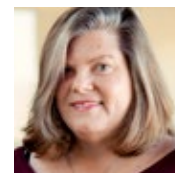
Who Is Your Health Hero?



KIM RICHARDSON
WebMD Blogs Editor

To me, our readers are the real health heroes. As I read the experiences that they share on our message boards and Facebook page, I'm constantly in awe of their resilience, perseverance, and resourcefulness in the face of health challenges. Our readers advocate for themselves, they support and encourage each other, and, even when there's no solution in sight, they courageously choose to have hope—they're true heroes.

My mother, Kay Wilder, is my health hero. About a decade ago, she did a healthy 180 with her diet and joined the local YMCA. As a result, she's lost more than 100 pounds and kept it off. Talk about a role model!



SHANNON WILDER
WebMD Senior Health Editor



ALEXANDER HADJIDAKIS
WebMD Photo Editor

My health hero is my stepfather, Gary Walklin. He was the sole caretaker of my mother until she passed away this summer from multiple system atrophy, a progressive brain disorder. I know how much work was involved and what sacrifices were made, and words cannot even describe my appreciation and admiration.



WebMD Health Heroes Awards recipients honored

Back row (left to right): WebMD CEO Bob Brisco; presenter William G. Nelson, MD, PhD, professor of oncology at Johns Hopkins School of Medicine; Margaret Cuomo, MD (Trailblazer Award); presenter Joan Lunden, journalist and author; singer/composer Rufus Wainwright (Ambassador Award); co-host Sandra Lee, filmmaker and advocate; Nobel laureate James P. Allison, PhD (Lifetime Achievement Award)

Front row (left to right): Co-host Amy Robach, 20/20 co-anchor and ABC News correspondent; Elizabeth Jaffee, MD (Scientist Award); Lillie Shockney, RN, MAS (Caregiver Award); presenter Judy Ochs; Karen M. Winkfield, MD, PhD (Advocate Award); presenter Clifford Hudis, MD, CEO of the American Society of Clinical Oncology (ASCO); presenter Sung Poblete, Stand Up To Cancer president and CEO; award-winning actor Kathy Bates (Game Changer Award); presenter Padmanee Sharma, MD, PhD

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MOVE IT

Get Out

Rising temperatures make spring the perfect season to embark on an outdoor sport or fitness program. Working out in the fresh air has its advantages, including a boost in mood and more calories burned.



5 MINUTES

Time to improve your mood when you exercise in a park, nature trail, or other green space.

15%

Percentage faster you'd need to run on a treadmill to burn the same number of calories as you would running outdoors, in part because of factors like wind resistance.

30 MINUTES

Additional time each week older adults spent exercising when they were outdoors versus indoors.

9% TO 15%

Percentage outdoor activities like biking and gardening might reduce the risk for a heart attack.





**COLLEEN
PARETTI**
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IN THE NEWS

Press Pause

Would you spit into a tube or swab your cheek and send either piece of yourself off for analysis? Maybe you want to learn about your risk for developing certain diseases based on your DNA. Or maybe you're after details about your ethnic makeup or looking for people who may be related to you. You'd be one of some 12 million people in the U.S. who have ordered so-called direct-to-consumer genealogy tests, according to the CDC, and the trend shows no signs of slowing. But wait a minute—what about downsides to these tests, or at least caveats you should be aware of? To find out, we took a deep-dive into how these tests work, what information they deliver, and how to interpret the results. Bottom line: "It's only the first step in a process," says an expert we consulted. Before you order a test for yourself, read **"DNA Decoder" on page 45** first. — *Colleen*



20 MILLION

Number of
Americans
living with
chronic pain
that interferes
with daily life.

SOURCE: CDC

LONG-TERM COSTS

Sexual harassment and sexual assault may have serious health consequences for victims. Researchers surveyed 304 non-smoking women ages 40 to 60 who had no signs of heart disease. Those who reported past workplace sexual harassment were more than twice as likely as the others to have high blood pressure and almost twice as likely to have poor sleep. The women who reported past sexual assault had almost three times the risk of depression and more than two times the risk of anxiety and poor sleep.

SOURCE: JAMA Internal Medicine

1 IN 7

Number of adults who
may have diabetes. A third
of them don't know it.

SOURCE: CDC



BOOSTER EFFECT

Booster shots don't bring the same risk of bad reactions as initial immunizations do. When 1,350 kids got boosters of vaccines that had caused unpleasant side effects the first time, just 215—about one in six—had the reaction again. For most of the 215 children, the reaction was less severe the second time.

SOURCE: The Pediatric
Infectious Disease Journal



WALKER DANGERS

Those infant walkers that let babies roll across hard floors on tip-toe aren't safe. From 1990 to 2014, about 230,676 babies under 15 months old went to the ER for walker-related injuries. Nine in 10 had head or neck injuries. Three in four fell down stairs in a walker. Among the babies admitted to the hospital—just under 5% of those ER visits—nearly 40% had a skull fracture. Despite warning labels, education campaigns, and pediatricians' call for a ban on infant walkers, many families still buy them.

SOURCE: JAMA Pediatrics

YOUR CLOUD

Everything you are exposed to forms a unique cloud of bacteria and chemicals that surrounds you at all times. This discovery could be the first step toward understanding how environment affects health.

SOURCE: CELL



RISKS OF ANTIBACTERIAL CLEANING

You want to keep harmful bacteria away from your baby, but antibacterial cleaning products could bring unexpected health consequences. In homes where families use these cleaners, infants ages 3 to 4 months had higher levels of an obesity-related gut bacteria called *Lachnospiraceae*. By the time they were 3 years old, these kids were more likely to be overweight than toddlers whose families didn't use bacteria-killing products.

SOURCE: *Canadian Medical Association Journal*

GATEWAY TO TOBACCO

Teens who use e-cigarettes now are more likely to smoke tobacco cigarettes later, says a survey that tracked 2,039 young people ages 16 to 20 for two years.

SOURCE: *Nicotine and Tobacco Research*

PINPOINTING PRESSURE PROBLEMS

High blood pressure increases risk for heart attack, heart failure, and death from sudden cardiac arrest. That's why it's so important to treat the condition.

New research could lead to more precise medications for different types of high blood pressure. In a study that included one million people, scientists uncovered over 500 different genes related to high blood pressure. The discovery could help drug developers design medications that go straight to the problem and regulate gene activity that raises blood pressure.

SOURCE: *Nature Genetics*

CLUB MED

The Mediterranean diet—rich in fruits, vegetables, whole grains, and healthy fats like those that come from fatty fish, nuts, and olive oil—could reduce stroke risk for women. Researchers tracked 23,232 men and women ages 40 to 77 for 17 years. The women who stuck closest to the diet were more than 20% less likely to have a stroke during that time than those who deviated most from the plan. Researchers don't know why men didn't see the same benefits, but they note that many other risk factors for stroke vary between the two sexes as well.

SOURCE: *Stroke*

UTI? WATER TO THE RESCUE

Do you seem to get one urinary tract infection (UTI) after another? Try drinking more water—a lot more. In a study of 140 women who typically get more than three UTIs per year, those who added six cups of water a day to their usual intake cut infection frequency in half.

SOURCE: *JAMA Internal Medicine*



POT PREVALENCE AMONG TEENS

More than one in three teens has tried marijuana. Just more than three in 10 have smoked it, two in 10 have eaten it in food, and one in 10 has vaped it—that is, inhaled the vapor through a battery-powered device. Most users have tried at least two of these methods.

SOURCE: JAMA



THE FUTURE OF ALZHEIMER'S

As the U.S. aging population grows, so will the number of people with Alzheimer's disease—almost 14 million by 2060. That's three times today's number.

SOURCE: CDC

THE DIABETES-DEMENTIA CONNECTION

Do you care for an older person with both diabetes and dementia? Then keeping blood sugar in check is especially important. In a study of 19,995 adults with diabetes older than age 65, those who had dementia were more likely to die from an episode of extremely low blood sugar during a five-year timespan than those who did not have dementia. The researchers suggest that people with both dementia and diabetes avoid medications that could cause low blood sugar and use continuous glucose monitoring.

SOURCE: Alzheimer's Society

1 IN 3

Number of Americans who ate fast food today.

SOURCE: CDC



SAFETY CHECK

The newest car safety features could drive you down the road to danger. Most drivers believe blind-spot monitoring systems detect cars passing at high speeds as well as pedestrians and bicycles in their blind spot. But the system only identifies motorized vehicles holding steadily in that spot. One in four drivers feels comfortable skipping over-the-shoulder and rearview-mirror checks because of this system. Four in 10 drivers think forward collision warning systems automatically apply the car's brakes. But it only pings when you get too close to a car.

SOURCE: AAA Foundation for Traffic Safety

MINIMAL SCREEN TIME + MAXIMUM SLEEP = SMARTER KIDS

Pediatricians recommend that youth ages 8 to 11 get an hour of daily exercise, no more than two hours of recreational screen time, and nine to 11 hours of sleep. Researchers tested the benefits of following this advice in 4,520 kids. Compared to children who met none of the guidelines, kids who met all three performed far better on a thinking skills test that included language, memory, attention, brain function, and speed. Kids who hit only the screen time benchmark or the screen time and sleep goals also saw higher scores on their tests.

SOURCE: Lancet



THE MORE YOU KNOW

Calorie-counts printed on restaurant menus led to a reduction of 45 calories per meal, according to a study of 5,500 diners.

SOURCE: National Bureau of Economic Research

MEAT MODERATION

Two in three adults cut down on meat in the last three years, says a survey of 1,112 people. Red meat and processed meat were the first to go. Health and finances were the most common reasons.

SOURCE: Public Health Nutrition



MENTAL MAINTENANCE

Brain Age

FEELING YOUNG AT HEART
COULD BE A SIGN THAT YOUR
MIND IS YOUTHFUL, TOO

AS THE EXPRESSION GOES, “YOU’RE ONLY AS OLD AS YOU FEEL.” According to researchers in South Korea, people who feel younger than their real age also have a more youthful brain. MRI scans of people ages 59 to 84 revealed higher gray matter volume in those who perceived themselves as younger. Loss of gray matter has been linked to mental decline. Those who felt younger also scored higher on memory tests and considered themselves to be in better health overall. The authors say a more rapidly aging brain can make you feel older by limiting your ability to perform mental tasks. —STEPHANIE WATSON

Beyond the Numbers

WHEN YOU DO THE WORK TO LOSE WEIGHT, FOCUS ON HOW MUCH BETTER YOU FEEL RATHER THAN THE NUMBER ON YOUR SCALE

BY Matt McMillen REVIEWED BY Michael W. Smith, MD, WebMD Chief Medical Editor

HAVE YOU RESOLVED TO SHED SOME EXCESS POUNDS? You need a plan that leads to a sustainably healthier and trimmer you, so you're not back where you started this time next year. Some men tend to fixate on numbers and lose sight of other factors. If you weigh 300 pounds and want to shed half your weight, for example, you just might get overwhelmed by the task ahead before you get started.

Here's a better approach: Break your big weight loss goal into smaller, more realistic steps you can take to improve your quality of life, says Seattle-based registered dietitian and nutritionist Angel Planells, MS, RDN.

"Aim first to drop from 300 to 270," he says. "The health benefits of that 10% drop are tried and true."

Blood pressure and cholesterol will likely improve significantly, and back and knee pain may ease as well, which allows you to be more active, further improving your health. "Small increments can lead to amazing quality-of-life improvements," says Planells.

Not sure where to start? Here are two plans to consider.

Intermittent fasting, which requires you to restrict eating to certain times. In one version called 16:8, you eat your normal diet during an eight-hour window, say from 10 a.m. to 6 p.m., then you fast for 16 hours. One theory behind the diet: By limiting your meals to daytime hours, your body is better able to metabolize what you eat. The result? Some recent studies suggest benefits like weight loss, improved blood pressure, and reduced appetite, and, in men at high risk of diabetes, it countered some of the risk factors that lead to the disease.

Diet breaks, a different intermittent approach that a 2017 study found to work well for men. Over four months of dieting, men who alternated every two weeks between a low-calorie diet and a normal-size healthy diet lost 11 pounds more than those who dieted non-stop.

No matter what plan works for you long-term, strive for more than just a number or quick fix, says Planells. "Your goal should be life change, not just pound change," he says. "Be patient and focus on the process."

Search for the slideshow
Foods to Boost Male
Health at WebMD.com.

QUESTIONS FOR YOUR DOCTOR OR DIETITIAN

Q What's the best plan for me?

That depends on your goals, your motivation, and your health. If one plan does not work for you, keep looking until you find the right fit.

Q How do I stay motivated?

Focus on the potential benefits of weight loss. You eventually may need fewer medications, for example, or have more energy for your kids and grandkids.

Q Do I have to change everything right away?

No. Gradual shifts may make long-term change more likely. So, if you drink a sugary soda or a sweet coffee drink every day, slowly wean yourself off of it.

Q What's a good first step for making this work?

Get your spouse or partner involved. When you reinforce each other's efforts and hold each other accountable, you both improve your chances of success.



The Heart-Hysterectomy Connection

A NEW STUDY FINDS THAT HYSTERECTOMY RAISES RISK FOR NUMEROUS HEART PROBLEMS LATER IN LIFE, YET MANY WOMEN HAVE THE SURGERY BEFORE IT'S NECESSARY

BY Sonya Collins REVIEWED BY Brunilda Nazario, MD, WebMD Senior Medical Editor



Looking for a doctor? Use WebMD's **Physician Directory**. Go to [WebMD.com/findadoctor](https://www.webmd.com/findadoctor).

ASK YOUR DOCTOR

IF YOUR DOCTOR RECOMMENDS HYSTERECTOMY FOR YOUR CONDITION, ASK SOME QUESTIONS.

Q What alternatives exist and which symptoms would they treat?

Not every woman is a candidate for all available options. Some alternatives to hysterectomy are best suited to treat abnormal bleeding, while others work better to relieve pain and discomfort.

Q Can I get pregnant after treatment?

Some treatments for fibroids, for example, can raise risk for pregnancy complications or make it difficult to get pregnant later on.

Q What are the risks of each option?

Except for hormonal-replacement therapy, alternatives to hysterectomy are not known to raise risk for heart problems, but every medical treatment comes with some risks.

YOUR DOCTOR RECOMMENDED A HYSTERECTOMY, BUT IS IT REALLY NECESSARY?

Removal of the uterus is the second most common surgery women undergo—second to Cesarean sections—but, in most cases, you have other options. This matters because new research shows that the procedure could raise your risk for other health problems later in life.

What are the risks?

Doctors have known for some time that removal of the ovaries, also called oophorectomy, comes with increased risk for heart disease, dementia, and osteoporosis later in life. “As soon as you remove the ovaries, women go into menopause, which raises these risks,” says Shannon Laughlin-Tommaso, a gynecologist and expert in uterine fibroids at Mayo Clinic in Rochester, Minnesota. “When we found that out, we vastly reduced the number of ovarian removals we did.”

New research, however, finds that hysterectomy without removal of the ovaries ups some of those same risks. In a study of 4,188 women, those who had a hysterectomy without ovarian removal were more likely to develop high cholesterol, high blood pressure, irregular heartbeat, and heart disease and to become obese later in life than those who had their reproductive organs.

Risks were even greater for women who had the surgery before age 35.

What about other options?

A hysterectomy is sometimes the only option to treat uterine, ovarian, or cervical cancer. “Unfortunately,” says Laughlin-Tommaso, “cancer is one of the least common reasons that hysterectomies are done.” The most common, she says, are fibroids, uncontrolled bleeding, and uterine prolapse. Doctors might also recommend the procedure for endometriosis.

Women who have fibroids or endometriosis have multiple options that don't require removal of their uterus. Medicine, radiologic procedures, or minor, minimally invasive surgery can treat the pain and bleeding that these conditions cause.

For women who have a prolapsed uterus—when the uterus slips down into the vagina because weak pelvic muscles can't support it—Kegel exercises can strengthen pelvic muscles and relieve minor symptoms. A device inserted in the vagina can support the uterus and relieve symptoms, as well. Surgery to repair the pelvic floor may also be an option.

“These alternative treatments have much lower risks,” says Laughlin-Tommaso. “So we want to reduce the number of women who have hysterectomies and try these alternative treatments first.”



Health Care's Hard Drive

ARTIFICIAL INTELLIGENCE AND BIG DATA ARE TRANSFORMING HOW DOCTORS APPROACH DIAGNOSIS AND TREATMENT, WITH MANY PATIENT BENEFITS—AND SOME POTENTIAL PITFALLS

BY Lauren Paige Kennedy
REVIEWED BY Arefa Cassoobhoy, MD, MPH,
WebMD Senior Medical Editor

WHEN MANY OF US HEAR THE TERM ARTIFICIAL INTELLIGENCE (AI), WE IMAGINE ROBOTS DOING OUR JOBS, RENDERING PEOPLE OBSOLETE. And, since AI-driven computers are programmed to make decisions with little human intervention, some wonder if machines will soon make the difficult decisions we now entrust to our doctors.

According to David B. Agus, MD, professor of medicine and engineering at the University of Southern California Keck School of Medicine and Viterbi School of Engineering, it's important to separate fact from science fiction, because AI is already here—and it's fundamentally changing medicine.

Rather than robotics, AI in health care mainly refers to doctors and hospitals accessing vast data sets of potentially life-saving information. This includes treatment methods and their outcomes, survival rates, and speed of care gathered across millions of patients, geographical locations, and innumerable and sometimes interconnected health conditions. New computing power can detect and analyze large and small trends from the data and even make predictions through machine learning that's designed to identify potential health outcomes.

Machine learning uses statistical techniques to give computer systems the ability to “learn” with incoming data and to identify patterns and make decisions with minimal human direction.

Armed with such targeted analytics, physicians may be better able to assess risk, make correct diagnoses, and offer patients more effective treatment options, says Agus, the author of *The Lucky Years: How to*

BY THE NUMBERS

1 in 7,000 Number of Americans of all ages with long QT syndrome, a deadly heart disorder, who could one day be helped by Cardio Pro, an AI-powered, at-home heart monitor that detects serious and benign arrhythmias.

30% Reduction in patient wait time before admittance, reports Johns Hopkins Hospital, after it launched a new digital command center in 2016 with 22 monitors to improve patient experience, reduce risk, and streamline flow.

95.5% Percentage of accuracy, using a special microscope, with which a deep-learning computer program identified cancer cells with precision, according to a 2016 study from UCLA published in *Nature Scientific Reports*.

GETTY IMAGES

Thrive in the Brave New World of Health and The End of Illness. He believes AI's potential to improve health care is “staggering.”

“We have lots of data that we’ve been collecting over decades,” he says. “For the first time, computing power allows us to use the data in a way to benefit patients.”

The challenge, he says, is that “an individual has hundreds of thousands of health care data points, if not millions. So when you have data sets of hundreds of thousands of patients, and each patient has a million data points, the data need to be collected appropriately and correctly for the power of machine learning” to bear fruit.

He offers an example. “A study came out recently that showed that if you have ovarian cancer, and you happen to also be on a beta blocker—a drug that [can be] used for blood pressure—you lived four-and-a-half years longer,” he says. “This is an observation we would never have come up with through biology. Big data shows us. Now [this finding] needs to go to a big trial to see if it's real.”

From a patient's perspective, “what's exciting is AI allows [doctors] to personalize care, something we've dreamed of doing for decades,” he adds.

Agus can now take an individual patient and immediately find other patients with similar symptoms. “I pull them out of a database,” he says, “and I can say, ‘Here are their reactions.’ Machine learning and AI allow me to [access] all of the information and have a very educated discussion with the patient” sitting in the exam room, “unlocking data [on health conditions] that historically we’ve made simple decisions about. AI allows us to get much deeper and look for associations the human brain isn't able to do . . . but a computer can.”

There are, of course, detractors regarding the use of analytics in health care, but concerns tend to focus less on AI, machine learning, and predictive tracking and more on how big data can be used to measure, reward,



FEELING WIRED

SOME EXAMPLES OF TECH INNOVATIONS IN HEALTH CARE INCLUDE THE FOLLOWING:

ROBOTIC REFLECTIONS
Sometimes, robots are in play. A 2017 University of Bristol study found that children with autism have difficulty distinguishing facial expressions. That same year, Dell Technologies launched Milo, a 2-foot tall, visually expressive robot that teaches autistic kids ages 5 to 17 how to identify signs of emotion, now used in educational facilities in 27 U.S. states.

CONNECTING ALS PATIENTS
Eye-tracking glasses that use AI technology known as brain-computer interface (BCI) enable people who've lost the ability to speak or move to communicate again. Patients “type” with their eyes onto a monitor that vocalizes their thoughts through computerized decoding, plus use email, read books, and stay connected to the world.

DETECTING AFIB
Some types of cardiac arrhythmias, particularly atrial fibrillation, increase risk of heart attack or stroke. Research from Stanford University shows that AI software can more accurately identify arrhythmias from an electrocardiogram (ECG) than a human expert.

ON THE HORIZON
Magnetic resonance imaging (MRI) and computerized axial tomography (CT) scans provide detailed, non-invasive views of the inner body. AI may soon replace the need for additional tissue samples with next-generation radiology tools, enabling virtual biopsies of tumors.

or penalize an entire hospital's—or even an individual surgeon's—performance.

Such measurements can affect how, when, or even if a patient is treated, writes Jerry Muller, author of 2018's *The Tyranny of Metrics*. “Nowhere are metrics more in vogue than in the field of medicine,” he says. And with lives on the line, he concludes, “the stakes are high.”

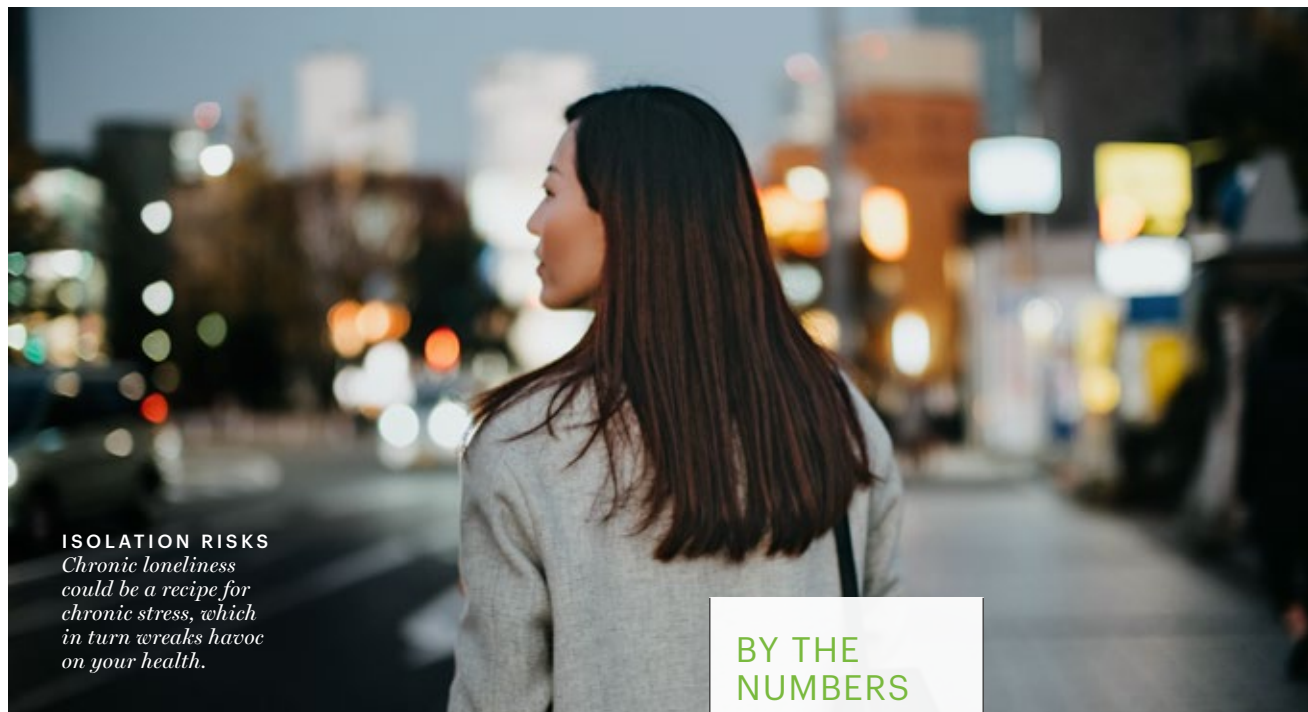
Muller points to the problem of human nature: People and bureaucracies, he says, have been known to “game” the numbers out of self-preservation.

He cites sourced examples of in-demand surgeons maintaining high patient survival rates by refusing to take on riskier cases, thereby potentially eliminating nonstandard treatment approaches—and possible deaths after any kind of medical intervention—from overarching data trends that AI might detect. Rates of success are then artificially inflated, too.

Still, Agus believes that tapping data's power will bring big innovation. “Algorithms and AI have been around for a while, but we're learning how to better collect and organize the data,” he says. “This past decade was about molecular biology: We sequenced DNA and looked at its associations, and that was exciting. This is going to be the decade of data.”

With top hospitals across the nation adopting AI and metric analyses with the aim of improving and streamlining care, Agus may be right. In our increasingly wired world, data and destiny are becoming irrevocably intertwined.

Search for the slideshow **How to Put Tech to Work for Your Health** on WebMD.com.



ISOLATION RISKS

Chronic loneliness could be a recipe for chronic stress, which in turn wreaks havoc on your health.

MIND MATTERS

All the Lonely People

NOT JUST THE SUBJECT OF SAD SONGS, LONELINESS IS AN EPIDEMIC WITH REAL CONSEQUENCES FOR YOUR HEALTH

BY Sonya Collins

REVIEWED BY Patricia A. Farrell, PhD, WebMD Medical Reviewer

YOU'RE BUSY: YOU WORK, YOU GO TO THE GYM, YOU MANAGE YOUR HOUSEHOLD. So you may feel you just don't have time to get together with your friends. But the truth is, you may not have time not to. People who are lonely are up to 32% more likely to die early than their more connected peers, research shows.

"Lack of social connection has a significant effect comparable to other leading indicators of risk for early death," says Julianne Holt-Lunstad, PhD, a professor of psychology at Brigham Young University. Feeling alone, she says, ranks up there with smoking, obesity, and physical inactivity in terms of its effects on your health.

Social isolation isn't just a problem for the elderly or homebound. In a survey of 20,000 Americans, nearly half reported always or sometimes feeling lonely or left out. Young adults ages 18 to 22 are the loneliest generation of all, the survey found.

"All of us fall somewhere on the loneliness continuum," says Holt-Lunstad, "so these risks apply to all of us."

As for why the socially connected may live longer, researchers have several theories. It could be as simple as having people around who encourage you to make healthy choices, such as keeping doctor's

BY THE NUMBERS

"The term *lonely* often implies that you're somehow a social failure, but that's not the case," says Julianne Holt-Lunstad, PhD. Everyone feels lonely sometimes.

1 in 4

Number of Americans who rarely or never feel as though there are people who understand them.

1/2

Proportion of Americans who have meaningful, in-person social interactions, such as long conversations with friends or quality time with family, on a daily basis.

1 in 5

Number of Americans who rarely feel close to people.

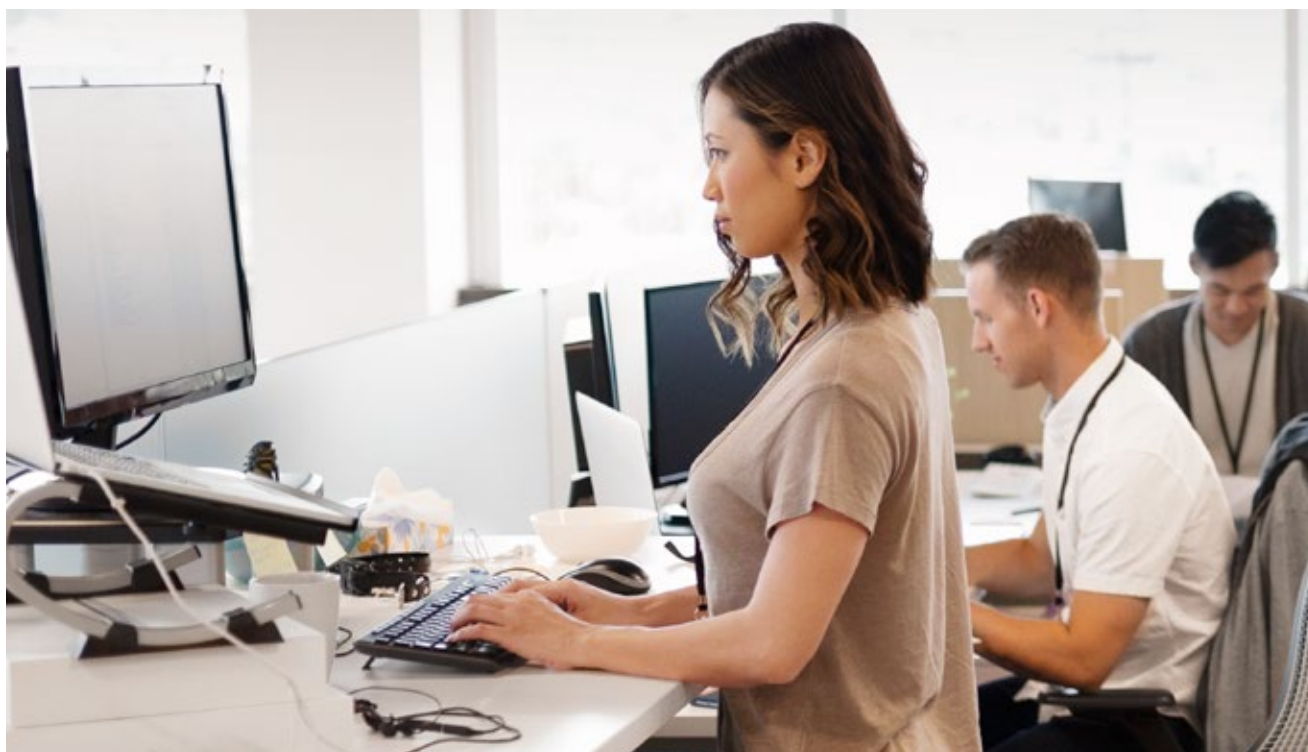


Search for the slideshow
Don't Let Loneliness Harm Your Health at WebMD.com.

appointments, eating right, and taking medications. Or, chronic loneliness could be a recipe for chronic stress, which in turn wreaks havoc on your health. "Having close connections makes you feel safe," says Holt-Lunstad. "When you're alone, you are more reactive to the stresses in your environment, which can lead to problems such as high blood pressure or [heart] disease."

Some studies show that continual loneliness can lead to inflammation, which makes the body susceptible to numerous illnesses. It may also affect sleep quality, which is connected with increased risk for a range of diseases as well.

No matter why loneliness is bad for your health, "You have to take it seriously," says Holt-Lunstad. "Just as you make time in your busy schedule to be physically active, you need to make time to be socially active."



WORK WISE

MS and the Workplace

RETHINK YOUR WORKSPACE, SCHEDULE, AND SUPPLIES TO MATCH YOUR NEEDS

BY Susan Bernstein

REVIEWED BY Brunilda Nazario, MD, WebMD Senior Medical Editor

NO MATTER WHAT PROFESSION YOU'RE IN, multiple sclerosis (MS) symptoms can make your job more challenging at times. Assistive devices or adaptive office equipment can make tasks easier so you can get your work done. You can find ways to adapt your workspace or schedule to suit your physical abilities or energy-level dips.

"Mobility and energy conservation are both huge issues for people with MS. Every day, you need to have an energy budget. Think of what each task will cost as you plan your work day," says Karen Dobyns, OTD, OTR/L, an occupational therapist in San Diego, California. Fatigue, motor or sensory deficits, heat sensitivity, unsteady gait, dizziness, and the need for urgent, frequent bathroom breaks are also common MS symptoms that may affect you at work. MS symptoms fluctuate in unpredictable ways, she adds.

"There are many generic adaptations you can make to your workspace, and there are so many more office supplies available now to help with fatigue or other MS symptoms," says Dobyns. "First, monitor your whole work environment. Think, *Is this work*

set-up right for me? What modifications may work better for me?"

Arrange materials like files so you can easily find what you use the most and store what you don't use very often, she says.

Try some of these assistive devices and suggestions to make working easier with MS.

Paperwork or notetaking: Try Y-shape pens that are easier to grip or automatic staplers that don't require a hard push to operate. "Also, install voice-activated software for dictating memos or apps that let you take notes or scan items with your phone," Dobyns says. Scan items and store them on the digital cloud to reduce the need for so many papers or files.

Comfy cubicle: "Make sure your desk setup is ergonomic," says Dobyns. Raise your computer keyboard so you don't have to lean over, stoop, or reach to use it. Adjustable-height desks can let you work while you sit or stand so you can change your position as needed. "Also, place a footstool or footrest under your desk to make working more comfortable for your body or back," she says.

Bathroom breaks: If you need to urinate often, "wear adaptive clothing that's easier to take on or off to use the bathroom," Dobyns suggests. Garments with fastening strips like Velcro instead of buttons may help. Ask for an office or desk near the restrooms, "or look at your daily routine. Forecast when you may need to take breaks," she says.

Clear your paths: Poorly lit corridors and clutter could be tripping hazards in your workplace. "Make sure you think about your safety. If your MS symptoms flare, it's easier for you to stumble," says Dobyns. Move any trash cans, file boxes, or equipment cables that you might trip over. "With MS, you have to become an efficiency expert! But these modifications will be helpful for everyone else in your workplace too," she says.

GETTY IMAGES

Make Your Bucket List

THEN TELL YOUR DOCTOR, WHO CAN HELP YOU ACHIEVE YOUR GOALS

BY Lauren Paige Kennedy REVIEWED BY Brunilda Nazario, MD, WebMD Senior Medical Editor

YOU WANT TO RUN THE NEW YORK CITY MARATHON BEFORE YOU DIE. Tour the architecture of Turin. Plan for a secure financial future. Or simply dance at your daughter's wedding next year. Have you created your bucket list yet? More important, have you shared it with your doctor?

One recent survey published in the *Journal of Palliative Medicine* shows that 91% of people had, in fact, made so-called bucket lists of big and small aims—and that doing so helps people to achieve their goals.

“A bucket list is not about waiting until you're close to death to accomplish cherished goals,” says the study's author, VJ Periyakoil, MD, director of palliative care education and training at Stanford University School of Medicine. “It's about being aware of the fact that life is finite, time is precious, and having clear plans will allow us a reasonable chance of attaining them while we still can. Some goals are less ambitious, but no less important.”

For the best results, Periyakoil advises that you clue in your doctor about your dreams. He or she can help tailor your health care to up your odds of success, because many objectives, from traveling to remote lands or even writing a novel, require sound health and even endurance to complete. She reminds physicians how important their role is in this regard.

“Doctor-patient interactions have become overly transactional,” Periyakoil says. “We can get carried away in our zeal to cure and control disease and lose sight of our patients and what matters most to them. I tell my patients what they need to know about their illness, and then I ask them what

they have planned for the coming year. For example, a patient of mine who was a skilled guitarist refused to take a certain chemotherapy agent that might have injured the nerves in his fingertips. Knowing this about him allowed the oncology team to tailor his treatment. Later that year, he was able to attain his cherished goal of jamming with his friends in a jazz concert, a key item on his bucket list.”

“IT'S ABOUT BEING AWARE OF THE FACT THAT LIFE IS FINITE, TIME IS PRECIOUS, AND HAVING CLEAR PLANS ABOUT WHAT WE WANT TO DO IN OUR LIFETIME.”





MAKEUP

At Long Lash

PUT YOUR BEST LASH FORWARD WITH THESE CLUMP-REDUCING APPLICATION SECRETS

MASCARA IS ONE OF THE HARDEST-WORKING PRODUCTS IN YOUR MAKEUP BAG. BUT FOR BEST RESULTS, you want to minimize clumping, says Erum Ilyas, MD, a dermatologist in King of Prussia, Philadelphia. In addition to overloading the applicator brush and applying too many coats (you only need two), one of the biggest offenders leading to lumps on lashes is expired mascara. “Once a new container is opened, it’s best to write the date on the side with a black permanent marker and toss it in three months,” says Ilyas. Mascara past its prime dries out and clumps. What’s more, once you open a new mascara, bacteria can start to enter the tube gradually. If the mascara is particularly old it could be harboring eye-irritating bacteria. Plan to swap often. —AYREN JACKSON-CANNADY



Derm Terms

DON'T KNOW THE DIFFERENCE BETWEEN KTP AND PRP? TOP DERMATOLOGISTS DEFINE SOME OF THE MOST POPULAR TREATMENTS THEY OFFER IN THEIR PRACTICE.

BY Liesa Goins REVIEWED BY Mohiba K. Tareen, MD, WebMD Medical Reviewer

HAVE YOU EVER FELT LIKE YOU NEEDED A TRANSLATOR DURING A VISIT WITH YOUR DERMATOLOGIST?

All the acronyms and jargon can sound like a different language. Plus, “the terms and practices in cosmetics change often and there’s a lot of nuance to the field,” says Papri Sarkar, MD, a dermatologist in Brookline, Massachusetts.

We asked top experts in the field of cosmetic dermatology to define some of the most talked about terms so you can speak your doctor’s language at your next appointment.

INJECTABLES

“When it comes to injectable fillers

and neuromodulators, there are many great choices—I don’t expect my patients to know all of the nuances between the options,” says Sarkar. She explains that dermatologists usually offer a variety of injectables in their practice and mix and match to achieve specific results for each patient.

Fillers: Dermal fillers are injectable substances used to help reduce the appearance of facial lines and restore fullness in the face. One category uses hyaluronic acid, a naturally occurring substance in the skin, to plump skin. Brand names include Juvéderm products, Restylane products, and Belotero. Another option is Radiesse, which contains calcium hydroxylapatite and is a naturally occurring substance found in bones. It tends to be thicker than hyaluronic acid fillers.

Neuromodulators: These injections use the botulinum toxin to smooth wrinkles and include Botox, Dysport, and Xeomin. “Botox is the brand patients ask for, but there are several different neuromodulators that all contain the same muscle-relaxing molecule. The difference is the protein surrounding the molecule that makes each option slightly different,” Sarkar says.

‘LUNCHTIME’ LASERS

Using beam energy to rejuvenate the skin isn’t a new idea, but the focus on lasers now is getting the best results with the least amount of downtime, says Karan Sra, MD, a dermatologist at Houston Skin Associates in Houston. These options are some of the prevalent approaches for addressing skin concerns.

Fractional laser: The laser beam is broken up into thousands of microscopic columns of light that treat a fraction of the skin rather than the entire surface. As a result, healing often requires less time. One of the increasingly popular options is Clear + Brilliant because it helps with collagen stimulation, clearing brown spots, and reducing fine lines, Sra says. “Patients leave looking a little sunburned, but that resolves within 48 hours.”

Picosecond laser: Devices like the PicoSure deliver energy in ultra-fast picosecond bursts. The vibration stimulates collagen production to reduce pigment, smooth scars, treat wrinkles, and create more even-textured skin, says Robert Anolik, MD, a dermatologist and clinical assistant professor of dermatology at New York University. “Since the laser works at a deep, dermal level without damaging the surface, there is no downtime to heal aside from some mild pinkness in the hours after treatment,” he adds.

KTP laser: This laser, known under the brand names Excel V, Gemini, and NewSurg, uses green light to target larger blood vessels to reduce redness from rosacea and lighten patches of uneven

pigmentation. “KTP lasers can be used to treat stubborn blood vessels, especially on the face and nose,” Sra says. The recovery period involves a few hours of pinkness.

MEDICAL FACIALS

While the drugstore is packed with masks and serums that allow anyone to do their own facial, professional techniques refresh skin and aid in regeneration beyond the DIY options. “People are taking control of managing their skin both at home and in our office,” says Rachel Pritzker, MD, a dermatologist at Chicago Cosmetic Surgery and Dermatology. The often instant gratification makes these medical facials popular in dermatologists’ offices.

Dermaplaning: In this method of physical exfoliation, a doctor gently shaves the skin’s surface with a surgical scalpel to remove a layer of dead skin and fine vellus hair, says Gregory Wiener, MD, a cosmetic surgeon and owner of The Art of Plastic Surgery in Chicago. “Dermaplaning is quick, painless, and leaves your skin brighter and smoother,” he says. “The procedure triggers the cell-regeneration process and allows products to better penetrate the skin because the

treatments can reach living skin cells rather than sit on dead surface cells.” Wiener often dermaplanes a patient’s skin before a chemical peel to increase its effectiveness. You can also find at-home dermaplaning razors that achieve similar results.

HydraFacial: “There’s lots of buzz around the HydraFacial because it is gentle and keeps the skin well-balanced and glowing,” says Pritzker. The device performs a medical-grade facial using a device to suction out debris from pores and water to exfoliate, says Joely Kaufman, MD, a dermatologist in Miami. “This is an innovative solution for those with sensitive skin and rosacea who may not tolerate other methods of exfoliation.”

Microneedling: Also known as collagen-induction therapy, this treatment creates micro punctures to the skin, says Wiener. “This procedure is extremely effective at triggering the body’s natural immune response to heal itself by releasing growth factors and stimulating collagen and elastin.” He says the practice can help with issues including fine lines, wrinkles, hyperpigmentation, scarring, and stretch

Continued on page 23

THE SCOOP



How to Prevent Broken Capillaries

SPIDER VEINS MAY NOT HURT, BUT THEY CAN STILL PUT A CRIMP IN YOUR COMPLEXION. **SUSAN BARD, MD**, A NEW YORK CITY DERMATOLOGIST, SHARES TIPS ON TREATING AND PREVENTING BROKEN CAPILLARIES.

LIMIT SUN EXPOSURE

As more sun rays hit the top layer of skin, elastin fibers weaken and blood vessels move closer to the surface of the skin, becoming more visible. The best way to prevent the formation of broken capillaries—or making them more prominent—is with sun protection. A broad-spectrum UVA and UVB sunscreen will do the trick.

CAMOUFLAGE WITH COVER-UP

For a quick fix, use your fingertip to dab a bit of creamy concealer over dark capillaries. One that dermatologists like, says Bard, is Cover Fx Total Coverage Cream Foundation SPF 30 (\$42).

VISIT YOUR DERMATOLOGIST

The only way to treat them is with a laser to destroy the capillaries,” says Bard. How it works: A concentrated wavelength of light that specifically targets blood vessels is focused on the vein. The laser transmits energy that is absorbed by the blood cells within the vessels, which generates heat-causing destruction. The body reabsorbs the damaged vessels over a series of weeks as the vessels continue to fade.

CUT BACK ON ALCOHOL

Researchers find that alcohol can trigger telangiectasia (the official name for broken capillaries). To help prevent some capillary issues, skip alcohol or drink no more than one glass of wine, beer, or cocktail a night, says Bard.

Continued from page 22

PRP HELPS ADDRESS THE SIGNS OF AGING AND CAN STIMULATE HAIR GROWTH.

marks. This may be paired with PRP (see below).

Platelet-rich plasma or PRP: Also known as a plasma therapy or Vampire Facial, this involves drawing a patient's blood, spinning the cells in a centrifuge to extract the plasma, and applying it to the patient's skin after microneedling, says Kaufman. "The plasma contains the patient's own growth factors and cytokines that are involved in growth and healing." PRP helps address the signs of aging and can be applied to the scalp to stimulate hair growth.

NON-SURGICAL BODY SCULPTING

"Noninvasive options for body sculpting have gained popularity," says Mona Gohara, MD, vice president of the Women's Dermatologic Society and an associate clinical professor at Yale School of Medicine. "Patients often inquire about them as alternatives for liposuction or a tummy tuck."

Gohara explains that these are designed to contour and tighten areas of stubborn fat. "These aren't weight-loss techniques," she says, "but are ways to lose inches in targeted areas like the lower abdomen and thighs."

CoolSculpting: Known generically as cryolipolysis, this freezes fat cells which are eliminated through natural excretion (such as urine and sweat) without damaging other cells. The procedure is especially effective on the chin, thighs, and abdomen, Gohara says.

Emsculpt: High-intensity focused electromagnetic energy stimulates muscle contractions—20,000 in 30 minutes—to tone abdominal muscles and the buttocks. The device destroys fat cells and builds muscle fibers to define the stomach and butt.

SculpSure: This is the brand name for a type of laser fat reduction, the process of breaking down fat cells with the heat from a laser. "The device allows for more flexibility to target smaller, specific areas like the chin and around the bra," Anolik says.

UltraShape: Pulses of ultrasound energy target fat cells on the abdomen to destroy them.

Vanquish: This procedure heats fat cells with targeted radiofrequency, such as those in the abdomen, Gohara says.

DIRTY SECRET

"I peel off my nail polish. Am I ruining my nails?"

POLISH SHOULDN'T BE PICKED

"It's never a good idea, but peeling regular polish won't cause as much trauma as gel versions because the curing process causes gels to adhere more tightly to the nail plate. The stronger bond means you're more likely to cause trauma to the nail."

SOAKING IS THE SAFEST OPTION

"Dissolving polish with acetone can cause dryness, but this is much less damaging than peeling. To remove gel polish and make the process as efficient as possible (and minimize the time acetone sits on your skin and nails), soak a cotton ball in acetone, place it on the nail, and then wrap the finger in foil. The polish should slide off in about 10 minutes, saving you from scraping and peeling the polish. If you can't resist the urge to pick, schedule another manicure before your polish chips so you don't feel the rough edges."

STAY HANDS-OFF

"Chipping, tugging, and peeling gel polish in sheets will likely lift the nail—with enough force you can cause the nail to completely detach from the nail bed. I've seen it many times. Without a nail you risk infection and scarring of the nail bed."

—Chris Adigun, MD, dermatologist, founder of Dermatology & Laser Center of Chapel Hill, Chapel Hill, North Carolina

AISLE DO

SPRING BEAUTY BUYS

ADD THESE EXPERT-APPROVED PRODUCT PICKS TO YOUR SPRING BEAUTY ROUTINE FOR AN ALL-OVER FRESH GLOW.



PRODUCT PICK L'OCCITANE ONE MINUTE HAND SCRUB (\$24)

"This exfoliating gel cream is made with organic shea butter, brown sugar, and walnut husks to gently exfoliate. With allantoin and apricot oil to protect the hands from drying out, this is a dream combo and a quick fix for extra-dry hands."

Erica Marton *manicurist, St. Petersburg, Florida*



PRODUCT PICK TRUFUTURA NIGHT SERUM 85 (\$80)

"If I had to choose one face product to add to a spring routine, this is it. It helps with fine lines, collagen production, discoloration, and skin laxity with multiple peptides, retinols, and antioxidants."

Fran Cook Bolden, MD *dermatologist, New York City*



PRODUCT PICK MOROCCANOIL TREATMENT (\$44)

"Made with hydrating argan oil and vitamin E, this workhorse of a product helps tame humidity-induced frizz, condition and finish a style, and protect hair before and after lightening it."

Aida Valenzuela, *hair stylist, Occoquan, Virginia*

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Deodorant

ARM YOURSELF WITH KNOWLEDGE ABOUT THIS FAMOUS FRESHENER

BY Liesa Goins

REVIEWED BY Mohiba K. Tareen, MD,
WebMD Medical Reviewer

GET YOUR STICK

We're talking two main categories: Deodorant prevents body odor; antiperspirant also inhibits sweating. The FDA classifies most deodorants as cosmetics, but antiperspirants are over-the-counter drugs because they affect the sweat glands.

SMELL OF SUCCESS

Throughout history, people primarily took baths and wore cologne to keep fresh. That changed in 1888 when Mum, a treatment to kill odor-causing bacteria, was trademarked. The wax-like cream was used to treat armpit and foot odor.

ON A ROLL

Inspired by the design of the ball-point pen, Helen Barnett developed the roll-on applicator in 1952. The convenient application technique helped popularize what would become a personal-care staple.

WHAT MAKES IT STICK

Antiperspirants usually contain a form of aluminum salts that form a temporary plug in sweat glands to prevent perspiration from escaping. In addition, these formulas contain a gelling agent—a waxy material used to carry the active ingredient and form a solid stick—like stearyl alcohol, cetyl alcohol, or glyceryl stearate.

CAUSING A STINK

Clever marketing made people really sweat their body odor. Inventor Edna Murphey hired a copywriter to write advertising for her antiperspirant Odorono. The 1919 ads in women's magazines portrayed sweating as an embarrassing social faux pas—within a year sales increased 112%.

SWEAT DREAMS

For the longest-lasting results, apply deodorant before bed. Since you are less likely to perspire at night, the sweat-stopping aluminum salts can more effectively form a plug while you're sleeping.



Small Defenders

THE KEY TO SKIN HEALTH MAY BE LETTING GOOD BACTERIA THRIVE

BY Liesa Goins REVIEWED BY Mohiba K. Tareen, MD, WebMD Medical Reviewer



Search for the article
What Are Probiotics?
at WebMD.com.



YOU'VE LIKELY HEARD ABOUT THE BENEFITS OF TAKING PROBIOTICS FOR YOUR DIGESTIVE HEALTH, but some research shows good bacteria may also benefit your skin. **Whitney Bowe, MD**, a clinical assistant professor of dermatology at Icahn School of Medicine at Mount Sinai Medical Center and the author of *The Beauty of Dirty Skin*, believes these little organisms may be the unsung heroes of beautiful skin.

"Studies thus far have been small and preliminary, but the results are very promising," she says. "More research is needed to definitively investigate the effects of probiotics on skin health." Here's what has Bowe excited about the potential benefits of probiotics and the skin.

Q Why do we want bacteria on our skin?

BOWE "There are more than one trillion bacteria in the skin. The good bugs combat environmental damage and keep skin hydrated and radiant. Our antiseptic cleaning styles and obsession with anti-bacterial cleansers have stripped skin of its healthy bacteria. When our skin's microbiome is disrupted it causes breakouts, rosacea flares, psoriasis, eczema, and even sensitive skin. A healthy biome supports the skin's barrier function that protects from irritation and inflammation."

Q How do probiotics benefit the skin?

BOWE "Probiotics—both oral and topical—fight bad bacteria, help regulate the immune system by controlling inflammation, and support the healthy

barrier function of the gut and skin. You can make them part of your diet and include them as ingredients in your topical skin care to help stimulate renewal, boost your natural defenses, and calm inflammation."

Q What should you look for in a probiotic supplement?

BOWE "Not all probiotics are created equal. Different strains serve different purposes and some are more effective than others. The key factors to consider are diversity—look for at least 10 strains; a "delayed response" delivery to ensure they are the most effective; and a dose between 10 and 15 billion colony-forming units or CFUs."

Q What foods have probiotic benefits?

BOWE "Probiotic-rich foods include kombucha, miso soup, kefir, and sauerkraut. There is also emerging recognition of prebiotic foods. These include a dietary fiber that promotes the growth of beneficial microorganisms and can maximize a probiotic's benefits. Dandelion greens, asparagus, and garlic are a few examples."

Q How can probiotics defend against premature skin aging?

BOWE "Some probiotics create free-radical-fighting chemicals to support the skin's own antioxidants. In doing so, they protect cellular DNA from potential mutations that could give rise to skin cancer, safeguard collagen, and even offer UV protection."

3 TIPS

DERMATOLOGIST
WHITNEY BOWE, MD,
SUGGESTS STRATEGIES
TO KEEP YOUR SKIN
BIOME HEALTHY.

1. CONSIDER A PROBIOTIC

"I take a probiotic supplement every day to nourish my skin from the inside out. Look for one that contains at least 10 billion colony-forming units (CFUs) and *Lactobacillus* and *Bifidobacterium*."

2. WASH WITH A GENTLE CLEANSER

"Excessive cleansing and exfoliating strips away skin's natural oils and upsets your skin's healthy barrier and balance of good microbes. A soap-free cleanser like *La Roche-Posay Toleriane Hydrating Gentle Cleanser* won't alter your skin's pH and will keep your biome intact."

3. USE RETINOLDS WISELY

"Retinoids have multiple benefits, but their exfoliating effects can be irritating and disrupt your skin barrier. Slowly work a retinoid into your routine two or three times a week. *Dermologica Overnight Retinol Repair* is a good starting point because it has a buffer cream."

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Mask Masters

TRY A MASK TO DELIVER GOOD-FOR-YOUR-SKIN MOISTURIZERS AND NUTRIENTS AS RECOMMENDED BY **ED PARSLEY, MD**, MEDICAL DIRECTOR, AESTHETICA MED SPA IN SAN DIEGO

BY Ayren Jackson-Cannady
REVIEWED BY Karyn Grossman, MD, WebMD Medical Reviewer



Sign up for the **Skin & Beauty Message Board** at WebMD.com.



PICK ME UP Peter Thomas Roth 24k Gold Mask, \$80
"Perfect for dry and tired complexions, this easy-to-use mask contains caffeine to tighten the skin, hyaluronic acid to plump, and 24k gold—yes, gold!—to illuminate the skin."

WEATHER PREP Burt's Bees Intense Hydration Mask, \$18
"Dermatologist-tested and infused with stand-out ingredient clary sage, a plant that grows in the Mediterranean, this mask helps skin retain moisture even in the harshest of environments."

BEAUTY BOOST Glam Glow Youth Mud Mask, \$59
"This mask, with kaolin clay, lavender, cucumber, and calendula, is a great way to refresh the skin and slough off the remains of seasonal damage."

THE FIXER Dermalogica Multivitamin Power Recovery Masque, \$52
"This mask delivers three peptides and vitamins A, C, E, and F, which help shield and protect skin from free radicals while also helping with cellular turnover. This will leave your skin illuminated and glowing."

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FUN & GAMES

Child's Play

THIS ENDURING KIDS' ACTIVITY IS FUN AND OFTEN SPONTANEOUS—AND HELPS BUILD A BETTER BRAIN

PLAYING, WHETHER SELF-DIRECTED OR GUIDED BY AN ADULT, IS AN ESSENTIAL PART OF A CHILD'S HEALTHY DEVELOPMENT, according to a clinical report recently published in the journal *Pediatrics*. Child psychologist Eileen Kennedy-Moore, PhD, agrees with the academic assessment, saying that while there is no "right number" of hours a child should play each day, the activity of playing promotes emotional, cognitive, language, and self-regulation skills that build executive function and a pro-social brain. Even more, play supports the formation of the safe, stable, and nurturing relationships with caregivers that children need to thrive. Go play! —LAUREN PAIGE KENNEDY

Late Arrivals

COULD WAITING TO HAVE A CHILD LEAD TO A RISKY PREGNANCY OR MAKE IT HARDER FOR YOU TO CONCEIVE?

BY Stephanie Watson **REVIEWED BY** Nivin C.S. Todd, MD, WebMD Medical Reviewer

TODAY, MORE FIRST-TIME MOMS ARE IN THEIR 30s AND 40s—compared to the average age decades ago. But with later pregnancies come extra risks. Once you reach your mid-30s, the odds of premature birth, low birth weight, miscarriage, and birth defects increase. Older moms are also more likely to have pregnancy complications such as diabetes or high blood pressure.

Should these risks make women reconsider waiting to get pregnant? Not necessarily. “I just think you need to put more thought into it,” says Leah Lamale-Smith, MD, a perinatologist and assistant professor of obstetrics, gynecology, and reproductive sciences in the UCSD Division of Maternal-Fetal Medicine in San Diego.

Getting pregnant is more difficult as you age, as infertility increasingly becomes an issue. In your 20s, you have a 25% to 30% chance of conceiving each month. In your 30s, your odds are about 20%. By your 40s, your chances drop to just 5% in any given cycle.

You’re born with all the eggs you’ll have. They not only get depleted over the years, but their quality drops. “Your eggs age with you, so they’re more likely to have errors,” Lamale-Smith says. Chromosomal errors lead to disorders like Down syndrome, which can happen at any age, but are more common in mothers older than

35. Also, hormonal changes after age 35 can trigger the simultaneous release of more than one egg during ovulation, increasing your chance of having twins or other multiples.

Thirty-five isn’t the magic cut-off point for pregnancy, but it is the age when your risks become worth considering. “It’s not that the risk shoots up, but every year it gets slightly harder to get pregnant and it gets slightly more dangerous,” Lamale-Smith says. She suggests creating a “reproductive life plan.” Think about how many children you want to have—and when you want to have them. Then you can plan ahead, which could include freezing your eggs if you’re not ready or you don’t have a partner.

Before you start trying, see your obstetrician/gynecologist for a preconception checkup to make sure you’re healthy. Go over your personal and family health history, and discuss vaccinations and screenings you’ll need.

Waiting to get pregnant does have its upsides—including a more solid financial footing and greater life experience to fall back on. Yet it can be hard on your body, especially if you’re not in great shape to start. “Most older women do very well and have wonderful pregnancies,” Lamale-Smith says. “But you want to plan so you’re as healthy as possible.”

PLAN AHEAD

Visit your obstetrician/gynecologist to ensure you’re healthy before you start trying.



Search for the article
Pregnancy After 35
at WebMD.com.

ASK YOUR DOCTOR

Q How can I increase my odds of a healthy pregnancy?

Before you start trying, lose any extra weight and get chronic conditions like diabetes and high blood pressure under control. Take a prenatal vitamin with folic acid to prevent neural tube birth defects.

Q What extra tests will I need?

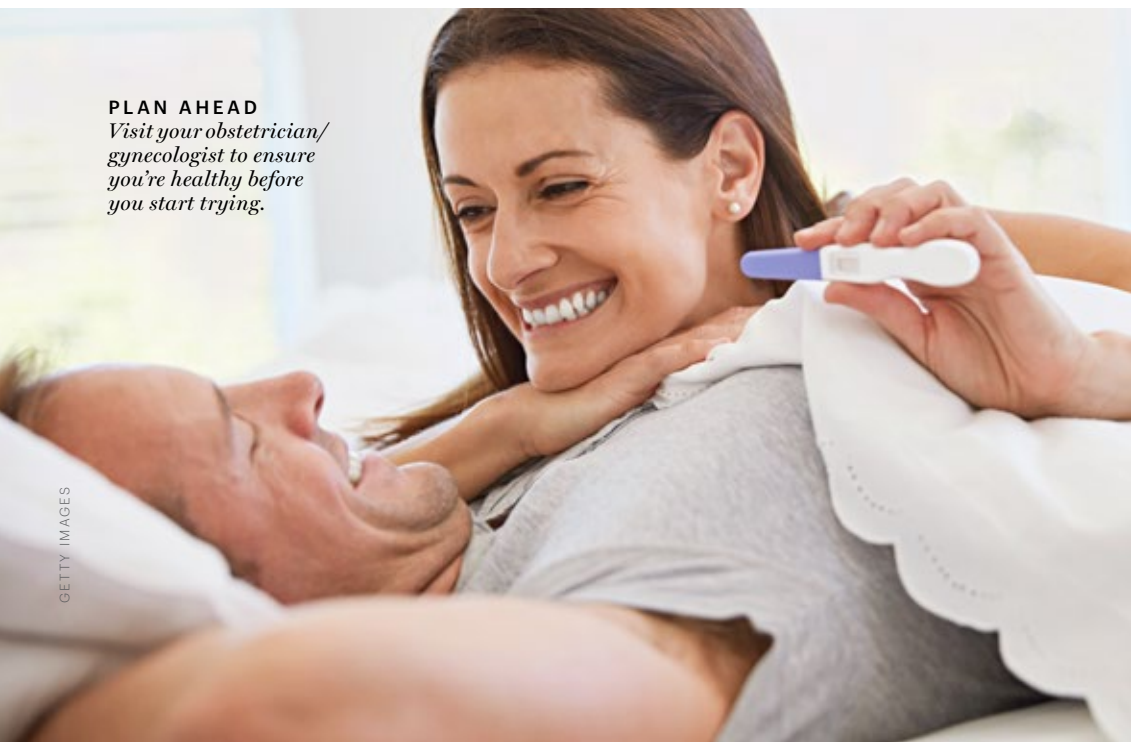
Consider carrier screening for inherited conditions like cystic fibrosis and spinal muscular atrophy and DNA testing for genetic conditions like Down syndrome. You may also need chorionic villus sampling (CVS) or amniocentesis if your baby is at increased risk for birth defects.

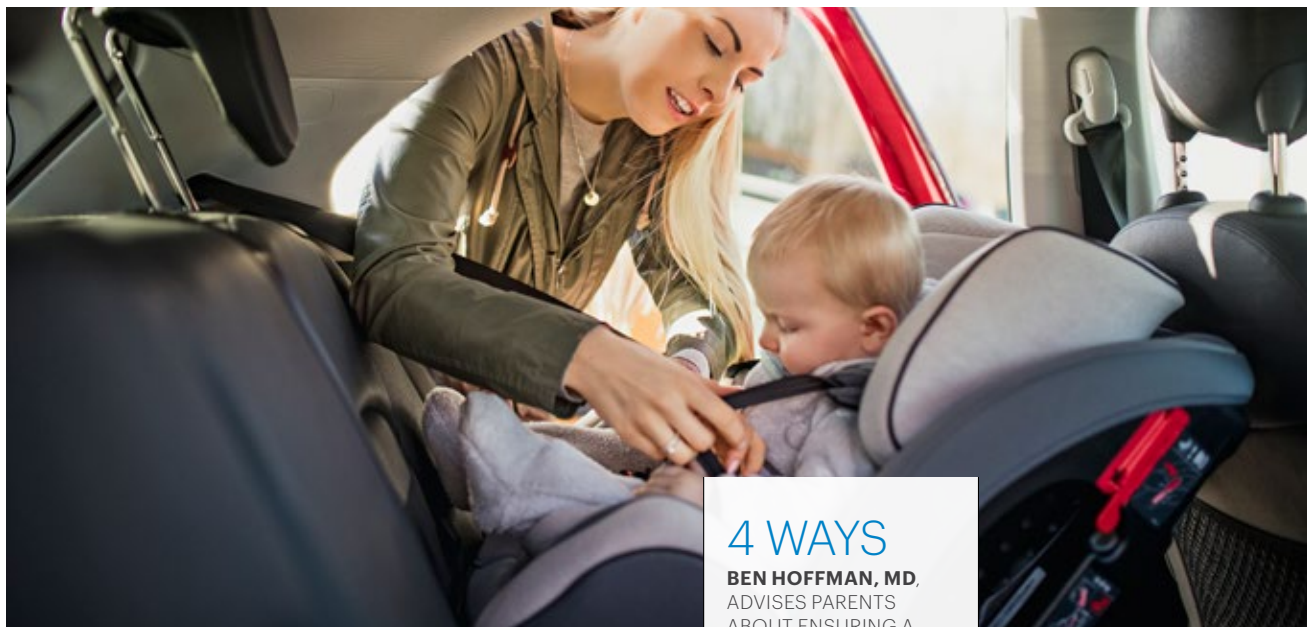
Q Should I see a specialist?

See a genetic counselor if conditions like thalassemia or cystic fibrosis run in your family. If you have a severe, chronic disease, consider visiting a high-risk pregnancy specialist.

Q How long should I try to conceive?

If you’re older than 35 and you’ve been trying to get pregnant for six months or more with no luck, see a fertility specialist.





Safer Rides

THE AMERICAN ACADEMY OF PEDIATRICS REVAMPS ITS RECOMMENDATIONS ON CAR SEAT SAFETY

BY Rachel Ellis

REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Editor

CAR SEAT GUIDELINES HAVE CHANGED, AND THEY'LL KEEP YOUR CHILD SAFER, LONGER. Ben Hoffman, MD, American Academy of Pediatrics (AAP) chair of the Council on Injury, Violence, and Poison Prevention and lead author of the new AAP statement on car seat safety, explains what's changed and why.

Shifting focus away from age

AAP's 2011 policy on car seat safety mentions age 2 as a minimum age for switching a child to a forward-facing seat. But Hoffman says naming a specific age overshadowed much of the rest of the statement, which was meant to be more broadly applied. "The key message was that parents should delay transitions for as long as they possibly can," says Hoffman.

The latest policy zeroes in on this largely missed point and leaves out age as a benchmark. The important takeaway: "Kids should stay rear-facing to the limit of the seat, which is defined by the manufacturer in terms of weight and length," says Hoffman. This goes for all car seats, not just rear-facing ones. As you move a child from rear-facing to forward-facing and then on to a booster, you lose some degree of protection. So, keeping kids in the "youngest" seat they can safely ride in is best—even if their second birthday has long since come and gone.

"It runs counter to how most parents think, because we tend to look at reaching milestones as an exciting, positive thing," Hoffman says. "This is one of the few places where a milestone isn't necessarily something to reach for."

4 WAYS

BEN HOFFMAN, MD, ADVISES PARENTS ABOUT ENSURING A CHILD IS BUCKLED UP CORRECTLY.

1. ANCHOR ONCE

Install your seat with a seat belt or lower anchors, not both. They're equally good choices, so pick the one you understand best.

2. DON'T BUNDLE UNDER THE BUCKLE

Coats and car seat straps don't mix—the added layer between the restraints and your child reduces his safety. Use a blanket over the straps instead.

3. MODEL SEAT BELT SAFETY

Kids do what parents do, so be sure you click in for every ride. Strap other kids in safely for their size, too.

4. SEE A PRO

Check out the National Highway Traffic Safety Administration website (NHTSA.gov) for a list of certified child passenger safety technicians in your area.

Why the change?

There wasn't enough data to back up age 2 as a safety benchmark. In fact, the study on which the 2011 guidelines were based was eventually retracted because of inconsistencies in the ways they modeled statistics.

"At that point, 2 was a fairly arbitrary point in time, but it was all we had," says Hoffman.

Bottom line: Sitting in a rear-facing seat is the safest way for anyone to ride in a car, even adults. "In a crash, all the force is spread literally from head to toe, over half your body, which is the widest possible surface area you can get," says Hoffman. The cushion the seat provides protects the head, neck, and spinal cord, the most vulnerable parts of the body.

Hoffman says the new policy helps change parent, family, and community behaviors, spurs innovation and development of products, and also paves the way for new laws: "We know that especially for injury-prevention behaviors, having laws on the books is the single most effective tool for change."



Search for the article
Baby Safety at
WebMD.com.

Healthy Zzzs

YOU ALREADY KNOW THAT LACK OF SLEEP MAKES YOUR TEEN CRANKY. BUT DID YOU KNOW THAT IT COULD ALSO PUT HER AT INCREASED RISK OF HEART DISEASE?

BY Gina Shaw REVIEWED BY Roy Benaroch, MD, WebMD Medical Reviewer

SLEEP: WE ALL NEED IT, ESPECIALLY GROWING CHILDREN. Health experts recommend that kids ages 14 to 17 get more than eight hours of sleep per day, and that 11- to 13-year-olds get more than nine hours. But the vast majority of kids aren't getting nearly that much, and a new study says it's putting their heart health at risk.

Researchers from Kaiser Permanente Northern California assessed sleep duration and efficiency—how long they slept each night and the total amount of time spent asleep between first falling asleep and waking up for good—in a group of 829 adolescents. They didn't rely on what the teens told them; instead, they used a device worn on the wrist to measure sleep and physical activity. They also measured the teens' body fat, blood pressure, lipids, and insulin resistance.

Inadequate sleep was common—only 2.2% of the study participants were getting the recommended amount of sleep each night, and 31% slept less than seven hours each night. The teens with shorter sleep duration and lower sleep efficiency were also the least heart-healthy, with increased body fat, higher blood pressure, and lower levels of HDL (“good”) cholesterol. Even after the researchers adjusted for the teens' physical activity level, amount of reported TV watching, and diet quality,

poor sleep was still linked to worse measures of heart health.

“The metabolic consequences of not getting enough sleep are huge,” says Karol Watson, MD, professor of medicine at the David Geffen School of Medicine at UCLA and director of the UCLA Women's Cardiovascular Health Center, who was not involved with the study. “Our circadian rhythms tell our bodies to make certain hormones when we're awake and asleep in a coordinated, beautiful ballet. With poor sleep, the body gets confused and goes into a self-preservation mode, which means making more of the substances your body needs when it's under stress. For example, your blood sugar levels rise, which makes you insulin-resistant and puts you at greater risk of diabetes.”

About five years ago, Watson noticed a worrisome trend—more and more teens were coming to see her with high blood pressure and high cholesterol. So she created UCLA's Teen Heart Health Program, in which teens educate their peers about heart-healthy behaviors. “We've found that teens already know what to eat, how much they should be exercising, and not to smoke,” Watson says, “but the thing they don't usually know about is how to get the right amount of sleep.”



Search for the article
How the Heart Works
at WebMD.com.

4 TIPS

HELP YOUR TEENS GET THE SLEEP THEY NEED WITH SOME POINTERS FROM **KAROL WATSON, MD.**

1. ISOLATE THE ELECTRONICS

Power down devices 30 minutes before bedtime and have your teen put her phone, laptop, tablet, and any other devices somewhere else besides her room. “Just knowing that a device is there and that they can reach over and look at it can keep them awake,” says Watson. “Also, light-emitting screens block the release of the sleep-promoting hormone melatonin.”

2. GO CAFFEINE-FREE AFTER 3 P.M.

“Make sure your teen knows that means not just coffee, but things like teas and energy drinks,” Watson says. “Most caffeine is out of your system after about four to five hours, but in some people it lingers longer.”

3. SET SLEEP GOALS

Have your teen use an alarm on a smartphone to remind her when it's time to start settling down for bed. She can also make a pact with a friend to turn off phones and say good-night at the same time.

4. KEEP A REGULAR SCHEDULE

Don't count on letting them “catch up” on sleep over the weekend. “Cumulative sleep is important, but you also have to get adequate sleep nightly,” says Watson.

SLEEP INTERRUPTED

Light-emitting screens block the release of the sleep-promoting hormone melatonin.

Pain-Free Pokes

ASK YOUR PEDIATRICIAN TO FOLLOW THIS FOUR-STEP ROUTINE TO MAKE SHOTS LESS PAINFUL FOR YOUR BABY—AND REDUCE HER RISK OF NEEDLE PHOBIA AS SHE GROWS

BY Erin O'Donnell REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Editor



SHOTS CAN BE A MAJOR CAUSE OF STRESS FOR BABIES (AND THEIR PARENTS) IN THEIR FIRST YEAR OF LIFE. But they don't have to be painful, says Stefan Friedrichsdorf, MD, FAAP, medical director of the Department of Pain Medicine, Palliative Care, and Integrative Medicine at Children's Hospitals and Clinics of Minnesota: "We know exactly what to do to significantly decrease pain caused by vaccination."

He notes that an estimated 25% of U.S. adults are afraid of needles, a problem that often starts with negative childhood experiences. He believes some families skip beneficial immunizations or other procedures because they hate to see their baby's discomfort. Friedrichsdorf is out to change that. Children's Minnesota now ensures that all children undergo a four-step pain-relief routine any time they need a shot or blood draw.

STEP 1: Numb the skin

Apply a numbing cream that contains 4% lidocaine to the area where the needle will be inserted (usually the upper thigh). This inexpensive cream is available without prescription, but you must apply it 30 minutes before your baby receives the shots. "That means you have to plan ahead," Friedrichsdorf says. At his hospital, the cream is applied soon after babies are checked in for their appointment, then the area is covered with a piece of foam tape to keep it out of reach until shot time. (A piece of plastic wrap laid on the cream also works, Friedrichsdorf says.) As an alternative to

the cream, the American Academy of Pediatrics suggests a spritz of cooling spray on the skin. Some hospitals use a small, buzzy device that combines cold with vibration. It's placed on the skin next to the injection site, which blocks pain sensations.

STEP 2: Give breast milk or sugar water

Research suggests that sweet flavors cause the brain to release feel-good brain chemicals. Because breast milk is sweet, breastfeeding moms should nurse during shots. But if you're bottle-feeding or a dad, Friedrichsdorf recommends dipping baby's pacifier in a 24% sugar-water solution available at the doctor's office or placing a drop of the solution on baby's tongue right before the immunizations.

STEP 3: Put baby in a comfy position

"Never, ever, ever, ever hold a child down" for a shot, Friedrichsdorf says. This can trigger anxiety and a long-term fear of needles. If you're not nursing your baby, swaddle her, leaving one leg out for the shots. If your baby is six months or older and can sit up, hold her.

STEP 4: Offer age-appropriate distraction

Get your baby's attention by making soothing sounds or showing her an interesting toy. At Friedrichsdorf's hospital, medical teams use hand-held fan toys with lights. "Babies are totally transfixed," he says. As she grows, options might include bubbles, pinwheels, or books.

Sign up for the **Parenting Message Board** at WebMD.com.

4 TIPS

THIS PAIN-RELIEF ROUTINE MAY BE NEW TO YOUR CHILD'S DOCTOR. **STEFAN FRIEDRICHSDORF, MD**, OFFERS THESE TIPS FOR TALKING WITH YOUR PEDIATRICIAN.

1. ASK FOR ALL FOUR STEPS

Your provider may agree to use just one or two of the steps of this routine. But Friedrichsdorf recommends using all four steps to adequately protect against needle-poke pain.

2. BRING YOUR OWN NUMBING CREAM

Four percent lidocaine cream is available over-the-counter at most drug stores. Bring a tube in case the doctor's office doesn't keep it on hand, and tell your provider you want to use it.

3. DON'T ROMANTICIZE PAIN

Some parents and providers hold old-fashioned beliefs that children will be "wimpy" if spared pain from shots or blood draws. Friedrichsdorf strongly disagrees. "Pain does not build character," he says.

4. STAND UP

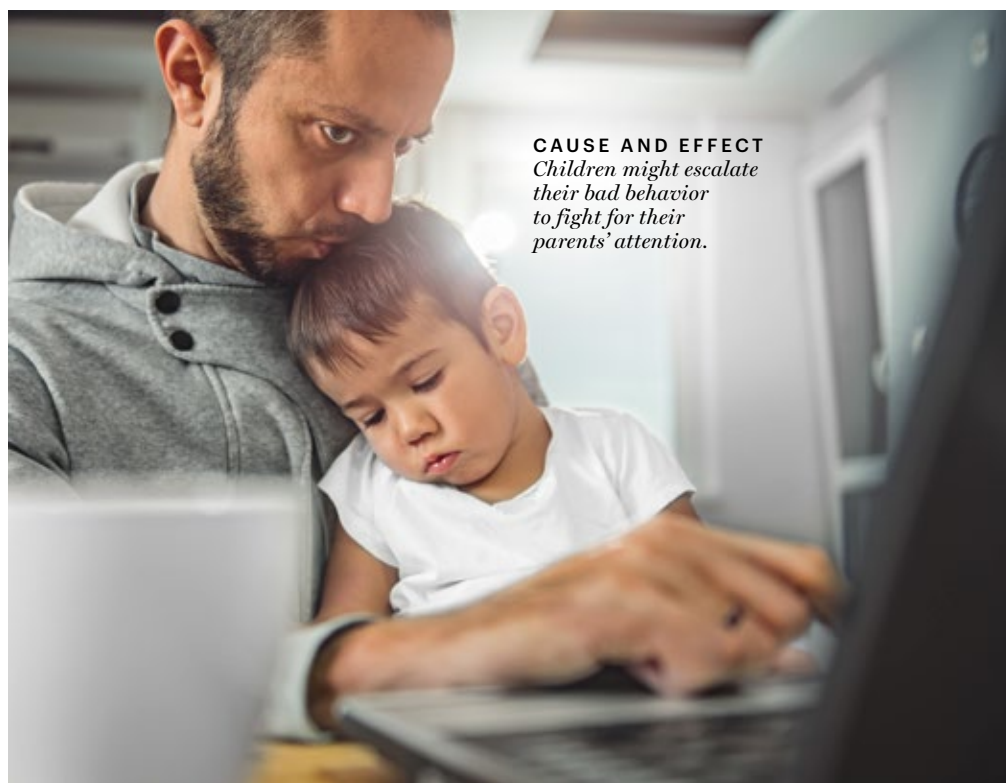
Medical practices can be slow to change routines, Friedrichsdorf says, so you may need to insist on pain control for your infant. "You may get pushback, but do not fret," he adds. "Stand up for your child."

Technical Difficulties

TODAY'S PARENTS ARE AMONG THE FIRST TO RAISE CHILDREN IN A HOUSEHOLD FULL OF PORTABLE ELECTRONIC DEVICES. HOW YOU USE THEM MATTERS.

BY Sonya Collins

REVIEWED BY Roy Benaroch, MD, WebMD Medical Reviewer



CAUSE AND EFFECT
Children might escalate their bad behavior to fight for their parents' attention.

YOUR TODDLER IS THROWING A FIT BECAUSE OF AN IMPERCEPTIBLE WRINKLE IN HIS SOCK. You try to straighten the sock a dozen times, but nothing works. Now you just want to tune out the crying and fussing. You grab your phone and watch the cat video your friend just posted. Your son screams louder. Sound familiar?

While the screen might provide temporary stress relief for you, it could make matters worse for your child. "This is the world we live in now, so it's important for us to be strategic in what we do with our devices," says Brandon McDaniel, PhD, assistant professor of Human Development and Family Science at Illinois State University.

McDaniel and co-author Jenny Redesky, MD, assistant professor of pediatrics at Michigan Medicine, studied 172 sets of parents of young kids up to 5 years old to understand the impact digital devices have on parenting small children. The researchers asked parents about their stress

levels, their children's behavior, and how many devices interrupted conversations or activities with their children on a daily basis.

The study found that if parents turn to their devices when they get stressed out by their child's behavior, the little one acts out even more, which can lead parents to retreat even further to their devices. Over time, these children might escalate their bad behavior to fight for their parents' attention. Putting the device down during interactions with your child might just break the cycle.

It doesn't matter, says McDaniel, how it started: Whether you turned to your device when your child acted up or whether your child acted up because you were engrossed in your device. "It's a loop. If you can identify the piece that's the easiest to change, you can often interrupt the entire cycle. For some families, the easiest piece to change is how you are interacting with technology."



Search for the slideshow
How to Break Your Phone Habit at WebMD.com.

3 RULES

IT'S NOT REALISTIC TO BANISH DIGITAL DEVICES FROM YOUR HOME AND FAMILY, BUT YOU CAN SET GUIDELINES FOR HOW YOU'LL USE THEM. FAMILY RESEARCHER **BRANDON MCDANIEL, PhD**, OFFERS THESE TIPS.

1. ALWAYS MAKE EYE CONTACT

If you can't put the phone down for a legitimate reason, look up from your screen and into your child's eyes to tell him you need to finish writing that email. "It says, 'Yes, I was doing something, but you are more important than my device,'" McDaniel says.

2. DESIGNATE TECH-FREE ZONES

Different areas of the house might make sense for different families. "Maybe, if you have young children, you decide there's no reason you should ever enter your child's room with your phone," McDaniel says.

3. SCHEDULE AWAY TIME

Discuss with your family certain activities when parents agree to stay away from their devices, such as dinnertime or a family outing.



PETS

Ways to Treat Pain and Lameness

LIMPING? LETHARGIC? LICKING HIS TOES A LOT? YOUR OLDER DOG COULD HAVE A FORM OF ARTHRITIS. HERE’S WHAT YOU CAN DO TO HELP.

BY Christina Boufis
REVIEWED BY Will Draper, DVM,
WebMD Medical Reviewer

PET HEALTH EXPERTS ESTIMATE THAT ABOUT ONE IN FIVE ADULT DOGS HAS A FORM OF ARTHRITIS CALLED OSTEOARTHRITIS, an often painful condition affecting the joints. But your dog can’t tell you when he’s hurting.

Maybe you’ve noticed your older dog isn’t as eager to climb the stairs or jump into the car as he once was. Or perhaps she’s limping, sleeping more, and playing less. These could be signs of osteoarthritis, says Alicia Z. Karas, DVM, DACVAA, assistant professor of clinical sciences at the Cummings School of Veterinary Medicine at Tufts University.

“Osteoarthritis is an inflammatory condition of the joint,” says Karas. “It can result from overloading the joints or from injury. Then the inflammation persists.”

Osteoarthritis is a chronic disease in which the protective covering on bones and joints—cartilage—wears down, leading to pain. Just like in humans, the disease can affect any joint in the body. Your dog may have pain or degeneration in the front or back legs, hips, elbows, shoulders, spine, and even toes, says Karas. It’s probably the most common reason for lameness in older dogs, she notes.

What can you do if your dog shows signs of lameness or pain? First, get her thoroughly checked out by your vet, says Karas, as there could be many reasons for lameness, from muscle pain to a

torn ligament or even cancer, which is important to get diagnosed right away. And though osteoarthritis can’t be cured, you can help your dog feel better and prevent further injury. Here’s what our veterinary expert recommends.

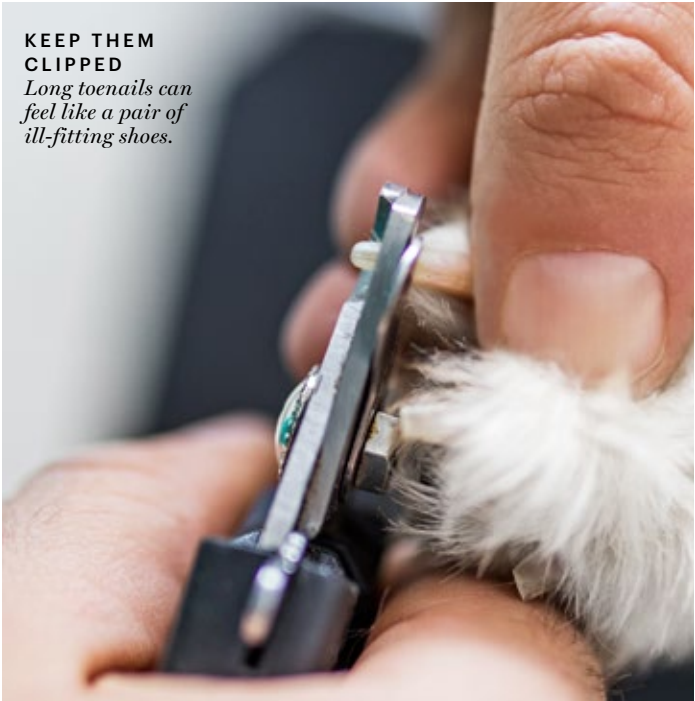
Maintain an optimal weight. “Obesity is associated with an increase in lameness and problems with mobility,” says Karas. “Part of that is because the dog’s joints are overloaded. Another part is that fatty tissue is pro-inflammatory and will make joints hurt more.” Know your dog’s body condition score (BCS), which is similar to a body mass index (BMI) for humans, Karas says. Avoid giving treats and over-feeding to either help your dog lose or maintain an optimal weight.

Trim toenails. “Long toenails are the equivalent of wearing shoes that don’t fit,” says Karas. When nails are long, they can affect how your dog walks, changing the way the muscles and joints work. Keep nails trimmed.

Create traction. “Picture the floors in your house being an ice rink,” says Karas. It’s hard for your dog to get a grip when walking on hardwood floors or those with high-gloss finishes. Put runners, yoga mats, or carpet tiles down that you can pick up and move, so that your dog has a textured surface to walk on. This will help prevent slipping or splaying, which can injure muscles as well as joints, says Karas.

Avoid the weekend warrior syndrome. “Your dog will follow you off a cliff,” says Karas. If you take your dog for a long hike on the weekend, he’s not going to tell you he’s tired and you should turn around, she says. Keep exercise time within reason for your dog’s fitness and comfort level.

Also avoid high-impact activities like running and jumping, which can increase joint pain and inflammation, advises the American College



4 QUESTIONS
ASK YOUR VET ABOUT YOUR DOG’S PAIN TO GET THE RIGHT TREATMENT, SAYS ALICIA Z. KARAS, DVM.

Q What is causing my dog’s lameness?
Limping could be caused by many conditions, including osteoarthritis. Your vet may order an X-ray (with or without sedation) and do a thorough physical exam to find the underlying cause, says Karas.

Q Would my dog benefit from pain medication?
Your vet may prescribe anti-inflammatory medications to help ease your dog’s pain. He or she may also recommend blood work to rule out abnormalities (such as elevated liver enzymes) that could indicate certain medications are detrimental for your dog. Never give your dog human pain relievers, as these may be toxic.

Q Is my dog overweight?
Your vet can tell you how much your dog should weigh and calculate how many calories he needs each day for loss or maintenance, says Karas.

Q Should I give my dog a supplement?
Not all supplements are created equal, so talk to your vet about brands, what to expect from supplements, and what research there might be to support them, she says.

of Veterinary Surgeons. Stick to regular leash walks that help build muscle around the joints.

Consider a supplement. Several small studies show that fish oil supplements may be helpful for reducing pain and lameness in dogs with osteoarthritis. Because supplements aren’t regulated and vary in quality by brand, talk to your vet first if you’re considering giving a supplement, says Karas.

Try acupuncture. The American Animal Hospital Association recommends acupuncture as a safe treatment for pain in animals. Ask your vet for a recommendation for a veterinary acupuncturist, someone trained to administer needles that may help ease pain and increase blood flow to muscles.

See a specialist. Like sports medicine doctors in humans, a specialist trained in canine rehabilitation could benefit your dog. Rehab might involve massage, stretching exercises, or even water therapy. While studies on alternative therapies are scarce, body work done by a specialist may help make your dog more comfortable.

“If you’re helping the muscles to relax, you’re going to get them to work better,” explains Karas, “and that’s going to support the joint better, so if the joint was painful, fixing the muscle might really help.”

BY THE NUMBERS

56% Percentage of dogs who are overweight or obese, according to the Association for Pet Obesity Prevention.

About 6% TO 8% Percentage of weight loss in dogs that significantly reduced lameness in obese dogs with hip osteoarthritis, according to one small study.

A score of 4 or 5 Total out of 9 on the body condition score that is ideal for dogs.

GETTY IMAGES



RECIPE FOR ACTION

AWARD-WINNING **AUTHOR**,
ENTREPRENEUR, **ACTIVIST**,
AND **REALITY SHOW HOST**
PADMA LAKSHMI USES HER
PERSONAL EXPERIENCE WITH
ENDOMETRIOSIS TO HELP
OTHERS **GET RELIEF**

BY KARA MAYER ROBINSON

REVIEWED BY BRUNILDA NAZARIO, MD
WEBMD SENIOR MEDICAL EDITOR

CHRISTIAN WITKIN / TRUNK ARCHIVE

As the Emmy-nominated host of Bravo TV's *Top Chef*, the television series in which amateur chefs compete for the winning title, Padma Lakshmi samples an abundance of gourmet food, from goat cheese ravioli to five-layer wedding cake. Her co-stars and fellow judges, chef Tom Colicchio and culinary expert Gail Simmons, nibble too—but not nearly as much.

“Tom and Gail come in for the main challenge,” says Lakshmi, 48, who’s also a producer of the series, now in its 16th season. “But I eat double what they eat because I’m there every day for the quick-fire challenge.”

While this may seem like a major job perk, for Lakshmi—who’s also an author, entrepreneur, and former model—it’s a challenge. Lakshmi has endometriosis, a painful gynecological disorder in which the tissue that lines the inside of the uterus grows outside of it, in places like the ovaries, fallopian tubes, and other organs.

“When you have endometriosis, you don’t want to eat heavily because everything is inflamed,” Lakshmi explains.

About one in 10 American women have endometriosis, a common cause of infertility. During each menstrual cycle, tissue builds up, breaks down, and bleeds, leading to very painful menstrual cramps, chronic lower back and pelvic pain, painful sex, bleeding, diarrhea, constipation, bloating, and nausea.

In the early days of *Top Chef*, before she had treatment, Lakshmi needed a toolbox of resources to get through the day. “We used to plug in my heating pad under judges’ table. When I was standing, as the camera would pan away from me, I’d sit down—I had a little wooden box my assistant would drag on set with me. After the first few seasons, I got a dressing room so I could lie down on a couch,” Lakshmi says. “I don’t know if I could’ve continued to do *Top Chef* for 12 years if I didn’t get the help I needed.”

Unfortunately, help didn’t come quickly or easily.

PERVASIVE PAIN

What started as cramps at age 13 got progressively worse over time. “I was bedridden for several days a month with headaches, cramping, severe dysmenorrhea, nausea, numbness, lower back pain, digestive issues, moodiness, swelling, and bloating—and when I say swelling, I mean a full cup size every month,” she says.

For years, she wondered why she couldn’t handle what other women seemed to take in stride. *Maybe I’m exaggerating*, she thought. *Maybe I’m crazy. Maybe I’m being a sissy.*

“I didn’t feel like having sex, so it affected my romantic relationships. I was embarrassed to call in sick, so I wouldn’t take modeling jobs when my period was due,” she says. “It locked me out of my own life.”

“Endometriosis is more than just painful periods and potential infertility,” says Ken Sinervo, MD, medical director of the Center for Endometriosis Care in Atlanta. “It can significantly and negatively impact all aspects of an individual’s quality of life—from schooling to career to relationships.”

Lakshmi tried birth control to manage cramps, but it only helped a little. Her gynecologist prescribed painkillers, but they made her feel nauseous and triggered headaches. For 23 years, nobody, including a doctor who removed an ovarian cyst, referred her to a specialist to look for an underlying medical condition.

This is surprisingly common. Even though an estimated 176 million women worldwide have endometriosis, doctors often normalize or dismiss symptoms, creating a long delay in diagnosis, says Sinervo.

On a particularly rough day in 2006, Lakshmi was doubled over in pain and rushed to the hospital. Doctors performed surgery to remove what they thought was scar tissue but was actually endometrial tissue blocking her small intestine. Though they told her she’d likely be fine, a month later her symptoms returned.

Finally, a doctor suggested seeing a specialist—and after decades of pain, Lakshmi learned she had endometriosis. “Doctor [Tamer] Seckin was the first one to really give it a name,” she says. “He didn’t think I was crazy—he listened to me.”

While endometriosis has no cure, treatment can ease symptoms and boost a woman’s chances of getting pregnant. Drug therapy can help with symptoms, but surgery to remove endometriosis patches is often more effective and may improve fertility.

Lakshmi had laparoscopic excision surgery in 2006—and her doctors found more than they expected. “Tissue was all over my fallopian tubes, my ovaries, everything,” she says. “I had stitches on major organs and 19 biopsies—17 came back positive for endometriosis.”

“I DON’T KNOW IF I COULD’VE CONTINUED TO DO *TOP CHEF* FOR 12 YEARS IF I DIDN’T GET THE HELP I NEEDED.”



TOP: LAKSHMI RETURNS TO THE *TOP CHEF* JUDGES’ TABLE FOR SEASON 16 IN KENTUCKY.

RIGHT: LAKSHMI AND FELLOW *TOP CHEF* JUDGE GAIL SIMMONS AT THE 2010 EMMYS.

BOTTOM: LAKSHMI AT THE “FAMILIES BELONG TOGETHER” RALLY IN NEW YORK IN 2018.



She underwent a long recovery. “I was bedridden from Thanksgiving to the first week in February,” she says. Later, in 2007 and 2009, she had two more laparoscopic surgeries. “It wasn’t until a year after that I really healed enough to see what life was like for a normal woman,” Lakshmi says.

CALL TO ACTION

As Lakshmi thought about how long she’d suffered, her relief morphed into anger. Why wasn’t she diagnosed sooner? Why didn’t her doctors know her pain wasn’t normal? Why wasn’t anyone speaking out about this disease?

She realized endometriosis was largely under the radar—and because of her visibility as a celebrity, she was in a unique position to do something. In 2009, she partnered with her surgeon, Tamer Seckin, to create the Endometriosis Foundation of America (EndoFound), which advocates for patients, raises awareness, and funds research.

As co-founder, she talks about endometriosis openly and extensively. She gives lectures at schools, private companies, and universities like the Massachusetts Institute of Technology, where she’s now a visiting scholar and works with research scientists on understanding the interplay between diet, nutrition, and health.

“Padma remains a force of nature to motivate our team of scientists working on endometriosis,” says Linda Griffith, director of MIT’s Center for Gynepathology Research, adding that Lakshmi’s ongoing visits—she’s been doing it since 2009—have inspired many MIT students.

She also encourages politicians to include endometriosis awareness in sex education programs at the state level and ensure medical schools teach all doctors, not just gynecologists, about the disease.

Her advocacy extends beyond EndoFound: She’s an ACLU ambassador, focusing on women’s reproductive health and immigration issues, and she believes women’s health issues will get the attention they deserve if we have more women in higher positions in government, universities, hospitals, and pharmaceutical companies.

LIFE GOES ON

In 2009, knowing about one in two women with endometriosis have fertility problems, Lakshmi decided to freeze her eggs. But soon after, she unexpectedly became pregnant. In 2010, she delivered a healthy baby girl, Krishna, who just turned 9. “She’s in third grade and just won the election for student council in her class,” Lakshmi says.

They live in New York City, where they like to cook, roller skate, and hang out with Krishna’s father, Adam Dell, whom Lakshmi says she’s “dating again but not getting married or anything.” (The couple had been separated.)

TOP LEFT: MICHAEL HICKEY/BRAVO; TOP RIGHT: GETTY IMAGES/NBC; BOTTOM: GETTY IMAGES/ROY ROCHLIN



SCOTT MODERNOTT / CPI

Their days often begin around 6:30 a.m. and end relatively early. “I’m so busy with Krishna that it’s rare that I stay awake past 11—and I used to have parties that started at 11,” she says with a laugh.

Her endometriosis symptoms still linger. “I get migraines, I have cramps, but it’s nowhere near as bad as it used to be,” she says. She does acupuncture and uses heat for lower back pain. “If you stop me in any airport and look in my bag, there’s an electric heating pad,” she says. When filming *Top Chef*, she sips tea to soothe cramps and stocks up on heat wraps, which she hides under clothes—inside jeans or under tights.

Lakshmi eats well, which comes naturally. “Obviously if you’ve seen the show ever, you know I have to be quite omnivorous,” she says, “but I grew up lacto-vegetarian.” She eats a lot of legumes and beans and avoids wheat, sugar, alcohol, and fried foods. When she’s home with Krishna, it’s 50% fruits and vegetables, 25% starches, and 25% lean protein.

Exercise depends on symptoms. When she doesn’t feel well, she avoids things like Pilates, which she says worsens her pain. On her worst days, working out is a tall order. “But I do spend a lot of time at the gym,” she says. “I think that has to do with my vanity and my occupational hazard of having to eat so much.”

When you see Lakshmi on *Top Chef*, critiquing a chef’s technique or a dish’s flavor profile, she may not strike you as someone who’s comfortable sharing personal details about her body. She’s just so cool and composed.

“It was not my wish to get up in front of a room and talk about my vagina,” she says, admitting it was hard at first. “But I had to step up. I just want young women to know they’re not alone. When you have endometriosis, you’re shut out. It’s like a prison. I feel like I’ve finally unlocked and kicked away the chain that’s been invisibly wrapped around my ankle for all these decades.”

GET THE FACTS

Like Padma Lakshmi, roughly **6.5 million women** in the U.S. have **endometriosis**.

SOME OTHER FACTS:

Endometriosis is the leading cause of **hysterectomies**.

About **40% of women with infertility** have endometriosis.

On average, a woman has symptoms for **10 years** before getting an **accurate diagnosis**.

Scientists don’t know what causes endometriosis, but they think it may have something to do with **menstrual flow problems, genetics, immune system issues, hormones, or surgery**.

Endometriosis may be linked to **allergies, asthma, chemical sensitivities, autoimmune diseases, chronic fatigue syndrome, fibromyalgia, and certain cancers** like breast cancer and ovarian cancer.

When you have endometriosis as a teen, it’s more likely to get **worse over the years**.

If you have a close relative who has endometriosis, you’re **five to seven times more likely to have it**.

You’re also more likely to **develop endometriosis** if:

- You **don’t** have children.
- Your periods last **more than seven days**.
- Your menstrual cycle is typically **less than 28 days**.
- You have a health problem that **blocks the normal flow of blood** when you have your period.

Many doctors recommend treating endometriosis with **laparoscopic surgery, or LAPEX**, because it’s effective and minimally invasive.



THE POWER OF *Resilience*

A GROWING BODY OF RESEARCH LOOKS AT
RESILIENCE AS A WAY TO RETRAIN YOUR BRAIN
FOR BETTER HEALTH AND HAPPINESS

BY JENNIFER CLOPTON

REVIEWED BY BRUNILDA NAZARIO, MD
WEBMD SENIOR MEDICAL EDITOR

ILLUSTRATION: GONZALO MARTÍNEZ MORENO

On the morning of Dec. 14, 2012, Michele Gay decided not to put her daughter Josephine on the school bus. The first-grader was recovering from a concussion, and Gay thought a little more rest at home might be good for her. But Joey, as she was affectionately called, really wanted to go to school that day. So Gay relented and drove her in a little late.

The mother of three dropped her youngest daughter off at Sandy Hook Elementary School just minutes before a gunman burst in. His massacre left 20 first-graders and six adults dead.

For hours, Michele Gay waited with about 25 other families in the banquet room of the local firehouse for their children to appear. Since Joey had autism, was non-verbal, and had an aide with her at all times, Gay believed her youngest had likely been taken to another location and would be found soon.

Instead, she felt blindsided when police finally told her Joey was dead.

“When they told us all at once, it was a disaster. At that point there was no hearing any more information. It was obviously too much for any of us to handle,” Gay recalls.

Gay and her husband went to their car, distraught, and prayed. Then they drove home, without their little girl who loved the color purple, Fancy Nancy books, and watching football with her family. Joey had turned 7 just three days earlier, and the whole family had been excited for her birthday party scheduled the next day. The purple cupcakes sat in their refrigerator.

While much of that day is a blur, Gay says that after hours of trying to hold it together for her family, she had a moment of clarity while sitting in her car in the school parking lot before heading home.

“I remember having the realization that I would fall apart soon,” Gay says. But she also vividly recalls vowing to herself that one day when she picked herself up again, she would use the pain she was feeling to help others: “I remember making this choice almost like a promise to myself and my daughter.”

Six months later her family teamed up with another Sandy Hook family to form Safe and Sound Schools. The nonprofit serves



as a national network of school tragedy survivors and experts on all aspects of school safety, including mental health, physical safety, culture, and climate. “Safe and Sound is part of our healing and resilience journey. It is about looking at the shattered remains in front of you and trying to find a way to reassemble them into something useable for yourself and others,” Gay says. “Resilience for us has meant taking control of these really difficult circumstances by choosing to help others.”

THE RISE OF RESILIENCE RESEARCH

The idea that you have the power to build resilience is fairly new, but it’s being widely studied and embraced for benefits to health and overall well-being.

“Originally we thought people were born with characteristics of resilience or a more positive outlook. But now we understand those are things you can definitely learn to do,” says Anita Thomas, PhD, dean of the College of Applied Behavioral Sciences at the University of Indianapolis.

Resilience is the ability to bounce back from adversity and deal with life’s downturns and challenges—even when those events are so catastrophic, surprising, overwhelming, or devastating that they seem impossible to recover from. It isn’t the absence of stress or suffering, it’s how you adapt and deal with adversity.

“Resilience is not a trait. It’s not like brown eyes that you have or don’t. It truly is a mental muscle that can be learned and practiced and incorporated into everyday life,” says Joanne Pedro-Carroll, PhD, a clinical psychologist in Rochester, New York, and author of several articles and a book on resilience.

A growing body of research now looks at resilience as a way to retrain your brain to help you handle everything from major crises to daily life stress. Studies show it has benefited health, well-being, and stress management for cancer survivors, medical providers, college students, immigrants, office workers, and others.

“Resilience is the core strength you use to lift the cognitive and emotional load of life. If you are carrying an excessive load, you can either decrease the load or increase your capacity to lift the load,” says Amit Sood, MD, a professor of medicine at the Mayo Clinic in Rochester, Minnesota, and author of *The Mayo Clinic Handbook for Happiness*. “Decreasing the load isn’t easy or always possible, but the second option—increasing your resilience—is.”

Sood and his team have conducted more than 20 clinical trials on resilience and report that while about 50% is genetic, the other half is acquired, to a great extent, through your choices. “The cutting-edge discovery is that resilience can be moved,” Sood says. “By training, we can enhance people’s resilience. That to me is where there is the greatest impact and interest of hospitals and doctors and patients.”

He says several studies have shown that working to boost a person’s resilience makes a measurable difference in their stress, anxiety, emotional health, mindful attention, and overall quality of life.

“Even a small improvement in resilience is associated with much larger improvement in stress measures,” Sood says. “You can improve your resilience by 10% or 20%, and for each unit of improvement, you decrease your stress by 20% to 30%. That means if your resilience goes up 10%, your stress can go down 30% or more.”

RESILIENCE TRAINING BASICS

There’s no one type of resilience training. It varies greatly in terms of content and length. But in general, people learn to cultivate several principles in their daily life, including gratitude, self-compassion, and forgiveness, as well as the ability to let go of the uncontrollable, focus on the positive rather than the negative, and find meaning in life. Getting there involves strategies like deep breathing, meditation, relaxation, goal-setting, and mindfulness.

“We spend a lot of our days on automatic pilot, so it’s only when we get caught with something that is unexpected or surprising or traumatic that our coping styles or lack thereof come into play,” Thomas says. “Resilience is about catching your thoughts, changing the way you think, and learning to develop an action plan to figure out the best way to move forward during stressful times.”

Margie Ruttenberg, 54, of Pittsburgh says her resilience has grown gradually since she was diagnosed with Hodgkin’s lymphoma that has come back about once a year for nine years. Resilience hasn’t changed her diagnosis, but she says it has been an important way to help her cope. “Cancer has taught me that I am more resilient and stronger than I thought,” she says. “In the beginning, I spent some time questioning why this was happening to me. But then I realized this isn’t my fault. You can either fight your challenges or run from them, and I decided I’m going to be resilient. I’m not going to run.”

Researchers say that is a key part of resilience—learning to take control of your thoughts by being mindful rather than letting your mind wander.

“We help people become intentional and engage their brain to make it stronger,” Sood explains. “Studies show the average person’s mind wanders 50% to 90% of the time, so we help people become aware of how, from a neuroscience perspective, they are depleting themselves when they let this happen.”

Researchers stress that resilience training should not take the place of mental health services or needed medical treatment. There are also critics who say the field needs more consistency and an agreed-upon definition of resilience. Others believe progress is hard to verify and that some studies cast doubt on just how much improvement training produces.

The Mayo Clinic has created resilience training programs online and in person that have engaged with half a million people over the last eight years. The hospital now requires resilience training for all new doctors and nurses, and it isn’t alone in embracing the concept.

The U.S. Army teaches resilience training to soldiers, their families, and Army civilians. Ronald Breazeale, PhD, a clinical psychologist in Portland, Maine, says he’s led workshops on the subject for law enforcement professionals, federal disaster crews, university students, teachers, and others.

“It’s really a set of skills and attitudes, and like anything else, the more you practice and apply it, the better you get,” Breazeale says. “It involves problem-solving, flexibility, finding a sense of purpose and meaning, being able to help other people, and taking good care of yourself in the process. It can make a major difference when people take it seriously.”

How to INCREASE YOUR RESILIENCE

Wondering if you need to increase your resilience? Amit Sood, MD, suggests asking yourself a simple question: “Over the last month, how stressed have you felt on a scale of one—being not at all—to 10. If you are above a five, you can be helped by resilience.”

Health experts say you can become more resilient through lifestyle changes that focus on five domains:

PHYSICAL: Eating healthy meals can make you happier and physically healthier. Regular exercise and sleep can improve your emotions, focus, and health.

COGNITIVE: Practices like mindfulness, meditation, and yoga can enhance your focus and improve your mindset.

EMOTIONAL: Work to boost your ability to sustain positive emotions and recover quickly from negative ones.

HONORING A YOUNG ‘MASTER OF RESILIENCE’

Six years after losing her daughter, Gay says her family has slowly found their way forward. “We’ve come to understand this is a lifelong process,” she says. “People talk about recovery, and I think we often think of that as having a defined period of time. But resilience is often the recognition that there isn’t really an endpoint in terms of loss and grief and trauma.”

Even in horror’s aftermath, Gay says you learn to carry on. In her family’s case, they do so to honor Joey and her life. “I feel like in many ways, our lives with her really strengthened our own resilience. Her life was full of challenge and adversity, yet Joey was a master of resilience. Every day, no matter how challenging it was, she got up and always had a smile on her face,” Gay says. “We were prepared to handle this loss in ways that some other families may not have been because of what we learned from Joey. We just keep going because so did she.”



SPIRITUAL: Live a life full of meaning. Volunteering or doing substantial work that helps others gives you purpose, hope, and meaning.

SOCIAL: Encourage nurturing relationships to help you better withstand life’s challenges.

It takes time for these practices to become a habit, and experts stress it is less about trying to reach some sort of endpoint and more about creating an awareness of how you want to handle life.

DNA

DECODER

BY SONYA COLLINS

REVIEWED BY BRUNILDA NAZARIO, MD,
WEBMD SENIOR MEDICAL EDITOR



GETTY IMAGES

WHAT DO **AT-HOME DNA TESTS** **REALLY SAY** ABOUT YOUR HEALTH— AND WHAT SHOULD **YOU KNOW** **BEFORE YOU TRY ONE?**

When Joshua Cohen learned at 10 years old that he had been conceived through a sperm donor and his dad was not his biological father, he hid under his bed and cried. “I felt like a part of my identity was suddenly in question,” says Cohen, now 40.

For nearly 30 years, Cohen wondered who his biological father was. “It was always the great mystery of my life,” he says. All he knew was the city where the sperm donation came from—the donor had been a medical resident at a hospital there—and that his mother had requested a Jewish donor.

Throughout his 20s and 30s, Cohen searched online for male doctors who had completed their residency in the late 1970s in the city where his mother received the sperm donation. He zeroed in on those with typically Jewish surnames and tried to find their photos online. “But none of them quite seemed to match my face,” Cohen says.

In 2016, Cohen heard a story about a man like himself who never knew his biological father and then found him through a mail-order, or direct-to-consumer, DNA test called 23andMe. “That’s why I

decided to do it,” Cohen says. “I spit in a tube, dropped it in the mail, and waited for my results.”

23andMe is one of at least a couple dozen companies that market DNA tests you can order on your own to get information you would have had to request from a health care provider just a decade ago. Some direct-to-consumer genetic tests provide people information about their risks of developing certain diseases based on their DNA. They provide an estimated breakdown of a person’s ethnic makeup. And—the piece Cohen was interested in—some connect you with people who share identical segments of DNA and may be related to you.

HOW DOES IT WORK?

In a few weeks, Cohen’s results were available on the company’s website. The test that he got from 23andMe offered more than potential information about DNA relatives. It also included some information about his health and his ethnicity. Most of the big competitors—Ancestry DNA, My Heritage, National Geographic—offer one or more of those features.

Cohen’s test analyzed his DNA for genetic variations that might raise his risk for diseases including Alzheimer’s, Parkinson’s, and breast cancer. Before customers can access

Search for the slideshow
**11 Surprising Things Your
Genes Say About You at
WebMD.com.**

their results, they must opt in and go through educational modules to make sure they understand the information they could receive.

“I had my husband, Kit, look at the health section first to see if there was anything in there that I wouldn’t want to know,” he says. “I didn’t have any of the gene [variations] they tested for at the time, so that was a big relief.”

Experts warn, however, that people should be neither too relieved nor too alarmed about their health results in these one-size-fits-all tests. The test for Parkinson’s risk, for example, isn’t comprehensive and doesn’t screen for all of the more than 41 DNA variations associated with the disease. What’s more, if Cohen had a variation in his DNA, his risk of disease would vary based on his ethnicity, which variation he has, and numerous lifestyle factors. It’s a lot for a regular person to figure out on his own.

“Who knows how many people are out there living with the belief that they have some devastating genetic variant when they actually don’t,” says Brianne Kirkpatrick, a licensed and certified genetic counselor in Crozet, Virginia.

\$99 MILLION

VALUE OF THE GLOBAL DIRECT-TO-CONSUMER TESTING MARKET IN 2017.

\$310 MILLION

PROJECTED VALUE OF THE MARKET BY 2022.

12 MILLION

NUMBER OF PEOPLE WORLDWIDE WHO HAVE SUBMITTED THEIR DNA FOR DIRECT-TO-CONSUMER ANALYSIS.

1 IN 25

NUMBER OF U.S. ADULTS WHO HAVE ACCESS TO THEIR GENETIC DATA.

But, according to 23andMe, the vast majority of customers can understand the information they receive on their own. The company had to prove that to get FDA approval of the tests. “As part of the FDA review process, we conducted comprehensive user testing across a wide demographic—age, sex, education, ethnicity—and were able to demonstrate more than 90% comprehension of the genetic concepts conveyed in our reports,” says a company spokesperson.

The test for breast cancer risk, while less of a concern for men, is far from thorough. More than 1,000 variations in the BRCA1 and 2 genes could increase risk for breast cancer. 23andMe tests for just three of those variants, which are most common in Ashkenazi Jewish people. A 23andMe report that says you don’t have those variants doesn’t mean you don’t have any of the 1,000 variants that could raise your risk.

It’s not enough information, for example, to determine whether you should start mammograms earlier and have them more frequently. It’s not the type of clinical genetic testing that your doctor would order if you had a strong family

history of breast cancer. Your doctor would order a test that looked for the specific risk-increasing variant that runs in your family.

ONLY THE FIRST STEP

If you’re after health information—particularly if you have a strong family history of a certain disease—a doctor or genetic counselor can point you toward the right test. Direct-to-consumer tests might not be the answer. If you’ve already done one, or have your heart set on trying it out, understand that the health information is not a diagnosis and offers limited risk information.

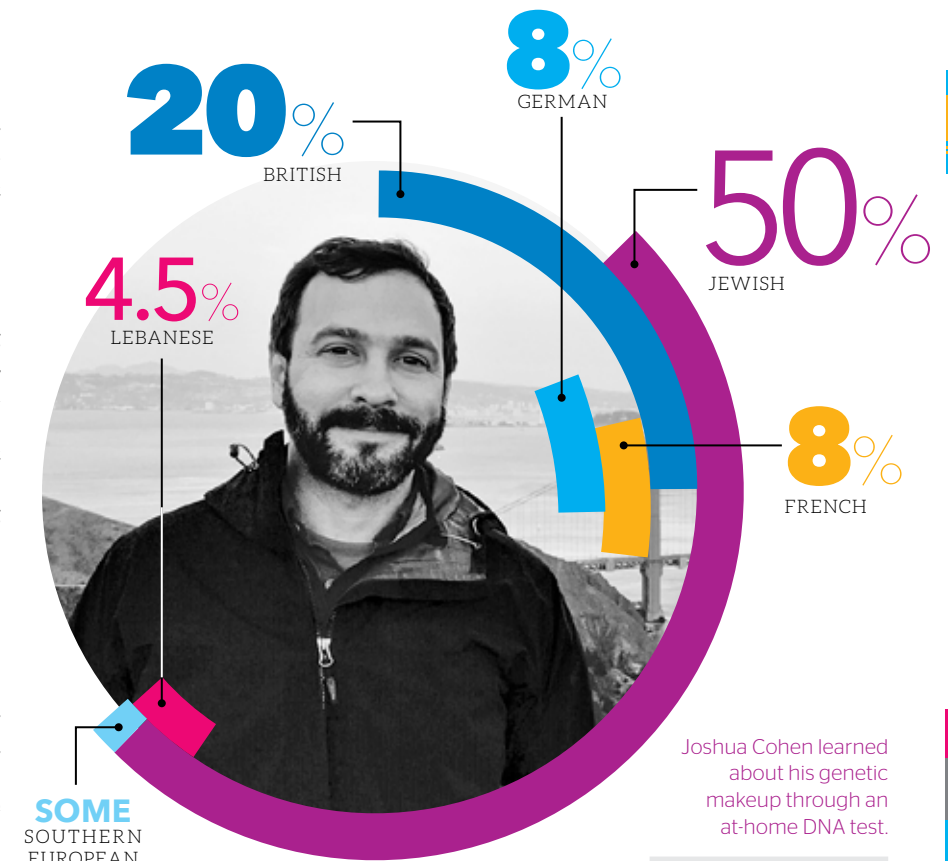
“It’s only the first step in the process,” says Kirkpatrick. Results from these tests require confirmation. “Taking the next step, to see a doctor or genetic counselor, can cost extra and leave you in a period of limbo, where you don’t know for some time whether to be worried or not.”

Some testing companies, such as Color, Veritas, and Helix, attempt to bridge that gap between the traditional method of ordering tests through your doctor and the direct approach. You choose the test online, and a doctor who works with the company physically orders that test.

“Because a physician is ordering the test, it’s not subject to the same FDA regulations as the strictly direct-to-consumer tests are,” says Robert Green, a medical geneticist at Brigham and Women’s Hospital and Harvard Medical School in Boston. “But it’s not just a regulatory workaround. In some cases, the doctor raises smart questions about your family history and the appropriateness of this particular test versus a different test.” The physician-mediated companies market their tests as tools that patients can use with their doctors to guide their care.

LONG-LOST RELATIVES

Some direct-to-consumer companies compare your DNA to “reference” DNA known to come



from people with a generations-long history in a certain place, such as Finland or Nigeria. The company provides a chart that shows what percentage of your DNA is similar to that of people from regions around the world.

That’s how Cohen discovered that the hospital had not honored his mother’s request for a Jewish donor. His test showed that he was only half-Jewish. He got that part from his mother. As for the rest, he says, “I’m about 20% British, 8% French and German, some Southern European, and about 4.5% Lebanese. Maybe the Lebanese is where my coloring came from,” he says of his olive complexion.

For Cohen, learning about his health and that unknown half of

his genetic makeup meant a lot. “I was crossing my fingers that I’d find out more than that,” he says, “but this was interesting enough.”

But there was more. One of the most popular features of direct-to-consumer genetic tests is a social media platform that connects people with relatives—other customers in the database who share bits of identical DNA. On average, your siblings and parents share about 50% of your DNA. Half-siblings, aunts, uncles, nieces, and nephews share about 25%. First cousins share about 12.5% of your DNA. Fourth cousins share .2%. The service attracts adoptees, donor-conceived children, and others who hope to find unknown relatives.

THE HEALTH INFORMATION IN AT-HOME DNA TESTS IS NOT A DIAGNOSIS AND OFFERS LIMITED RISK INFORMATION.

WHAT TO KNOW ABOUT RAW DATA

Some direct-to-consumer genetic tests include access to your raw data—a downloadable document containing a long list of letters and numbers that represent your genetic code. You don’t need to do anything with this document, but here’s what some people do:

- Upload to third-party sites, such as GEDMatch and DNA.land, to find more relatives than those available in your testing company’s database.
- Upload to third-party sites, such as Promethease, LifeX Code, and Genetic Genie, to learn what scientific research says about the individual health risks that your specific gene variants may pose.

A FEW THINGS TO CONSIDER BEFORE YOU PROCEED:

- Third-party sites are open platforms that lack the same privacy policies and regulations that govern the big companies. Read the terms of use carefully.
- Sites that interpret the health implications of your genetic makeup only match your genes to those found in a database of scientific literature. The analyses are only as good as the site’s most recent research update, and they are notorious for false positives.

PHOTOGRAPHY: HARMONY PATRICIO

Hands trembling, Cohen waited until after he'd reviewed all the other portions of his profile before he clicked on his DNA relatives. "At the top of my list was an anonymous person," he says, "and it said, 'predicted half-sister.'"

Because she was anonymous, Cohen didn't imagine he'd ever learn anything about her, but he took a chance and sent her a message through the website. He told her the few bits of information he had about his biological father and asked if she knew more. By now it was the middle of the night. He closed his computer and went to bed.

"AT THE TOP OF MY LIST WAS AN ANONYMOUS PERSON, AND IT SAID, 'PREDICTED HALF-SISTER.'"

"When I woke up, she had already written back," he says.

Deb was an American living in the Middle East. Born and raised in the United States, she had no idea that her dad (a doctor) had ever donated sperm, but she asked him and it was true. After exchanging several emails with

Cohen, Deb broke the news to him: Her dad had no interest in meeting him. "He said it was just a donation," Cohen says. "He never expected to hear from anyone, and there were between three and 10 others like me out there."

Cohen had prepared himself for the possibility that the mail-order test could lead him to a father who didn't want to meet him. "I was expecting that. And I expected it to feel terrible, but it really didn't," he says. "Having a picture of him, knowing his name, and having a connection with [my half-sister] felt like a lot."

A few months later, Deb came to New York. Cohen, his husband, and their 2-year-old daughter drove to Manhattan to pick her up. "As soon as she got in the car, she started to cry," Cohen recalls. "She said she didn't expect me to look so much like her dad."

They spent the day together getting to know each other, learning about everything they had in common. "She said to me, 'You're the brother I've always wanted,'" Cohen says.

HOW TO CHOOSE A LEGITIMATE TEST

Before you browse the many direct-to-consumer genetic test options available, make sure you know exactly what you want to get from a test: Health information? Ethnicity breakdown? Connection with relatives? All of the above? Then get started on your homework.

Brianne Kirkpatrick, a licensed and certified genetic counselor, suggests narrowing your choices to companies whose websites offer the following:

- Clear samples of what you'll get. If you're after a pie chart that shows all the ethnicities reflected in your DNA, make sure you see it on the company's website.
- Description of what their DNA tests tell you and the technology they use in "CLIA-certified" (Clinical Laboratory Improvement Amendments of 1988) and "CAP-approved" (College of American Pathologists) labs. Ideally, the lab's CLIA and CAP numbers appear on the website.
- A toll-free contact number and an email address or online chat platform for customer service.
- The names and credentials of employees, which must include a team of scientists with advanced degrees in genetics. Think twice about a company whose marketing team is bigger than its scientific team.
- Clear terms of service and privacy policy. People often skip over these when they accept services online. But when your unique genetic information is involved, it's important to read and understand these.

One last note: If a company's claims seem too good to be true, they probably are.





GOOD FOR YOU

Easy Peasy

WHETHER YOU CHOOSE FROZEN OR FRESH, VERSATILE PEAS OFFER INEXPENSIVE SUPERFOOD NUTRITION WITH DELECTABLE SPRING FLAVOR

YOU'RE LIKELY OVERLOOKING A NUTRITION GOLD MINE IN YOUR FREEZER: that bag of frozen peas. The petite pea offers an impressive combo of protein (22% of an adult's daily value of protein per cup), heart-protective folate (25% of an adult's daily value), and fiber (35% of an adult's daily value). Peas also contain multiple cancer-fighting polyphenols. In addition to the frozen variety, watch for fresh peas, in season now. Toss them with whole-grain pasta or leafy salads, blend them into creamy spring soups, or simply munch a handful of crunchy pea pods. Give peas a chance! —ERIN O'DONNELL

3 WAYS

Open-Face Sandwiches

BYE-BYE BORING SANDWICHES. THE BEST WAY TO PERK UP THE LUNCH STAPLE IS TO TAKE THE TOP OFF—AND ENJOY THESE FRESH FLAVORS WITH A KNIFE AND FORK.

BY Erin O'Donnell RECIPES BY Kathleen Zelman, MPH, RD, LD



MEDITERRANEAN FLAVOR

Grilled Chicken Caprese Sandwich

This sandwich works well on hearty whole-wheat bread. It also features one of our favorite condiments—balsamic glaze—available in the vinegar section of large supermarkets. Just one drizzle provides a pop of tangy flavor.

THE MIX Skinless chicken breast, olive oil, Roma tomatoes, hearty whole-wheat bread, pesto, sliced fresh mozzarella, fresh basil leaves, balsamic glaze

MAKE IT Preheat grill to medium-high heat. Brush 4 small chicken breasts with olive oil and season with salt and pepper. Arrange chicken on grill over medium heat and grill 10 to 12 minutes or until the internal temperature reaches 165°F, turning once halfway through grilling. Halve Roma tomatoes lengthwise. Brush with olive oil and grill, cut sides down, 2 to 3 minutes or until grill marks appear. Brush bread slices with a little more olive oil and grill 1 to 2 minutes or until lightly toasted, turning once halfway through grilling. Slice grilled chicken and tomatoes. Spread pesto on grilled bread. Top with chicken, cheese, grilled tomatoes, fresh basil, and a drizzle of balsamic glaze. **SERVES 4**

PER SERVING (1 SLICE OF TOAST WITH TOPPINGS) | 316 calories, 28 g protein, 16 g carbohydrate, 15 g fat (3 g saturated fat), 58 mg cholesterol, 3 g fiber, 3 g sugar, 325 mg sodium. Calories from fat: 43%

A LOVELY LUNCH

Salmon Sandwich With Yogurt Dill Sauce

This fish sandwich offers fresh spring flavors and delectable crunch. We like it on dense pumpernickel bread.

THE MIX Nonfat Greek yogurt, chopped fresh dill, fresh lemon juice, honey mustard, apple, pumpernickel bread, cooked salmon, cucumber, red onion

MAKE IT In a small bowl, whisk together yogurt, fresh dill, 1 tsp each of lemon juice and honey mustard, and salt and pepper. Set aside. Cut an apple into matchsticks and toss with a little more lemon juice. Spread yogurt sauce on 4 bread slices. Top each one with chunks of salmon, cucumber slices, apple pieces, and sliced red onion. Garnish with dill. **SERVES 4**

PER SERVING (1 SLICE OF TOAST WITH TOPPINGS) | 239 calories, 16 g protein, 19 g carbohydrate, 11 g fat (2 g saturated fat), 39 mg cholesterol, 2 g fiber, 5 g sugar, 389 mg sodium. Calories from fat: 47%

PER SERVING (1 SLICE OF TOAST WITH TOPPINGS) | 223 calories, 11 g protein, 20 g carbohydrate, 12 g fat (3 g saturated fat), 185 mg cholesterol, 4 g fiber, 2 g sugar, 402 mg sodium. Calories from fat: 45%



THE BLT ALTERNATIVE

Avocado, Tomato, and Egg Sandwich

This delectable sandwich is perfect for brunch. Try it on rye bread, and top each sandwich with a thin slice of prosciutto, a cured Italian ham available at the deli counter.

THE MIX Avocado, fresh lime juice, hot sauce, eggs, toasted rye bread, tomato, prosciutto

MAKE IT Mash avocado in a small bowl with a squeeze of lime juice and dash of hot sauce; set aside. Coat a nonstick skillet with cooking spray. Cook eggs over medium high heat for 2 to 4 minutes or until whites are set but yolks are runny. Top each slice of toast with avocado spread, a tomato slice, an egg, salt and pepper, and a sliver of prosciutto. **SERVES 4**



JASMINE RICE

"Also known as Thai fragrant rice, Jasmine has a subtle floral aroma when cooked and is ever-so-slightly sticky. Cook in salted water, cool, then use to make fried rice dishes."

WILD RICE

"High in protein and antioxidants, wild rice has a nutty, smoky taste with a chewy outer layer. Toss in a salad along with roasted vegetables and pesto dressing."

ARBORIO RICE

"This plump rice from Northern Italy becomes wonderfully creamy when cooked. Most commonly used to make risotto, it's also great in a torta di riso or Tuscan sweet risotto fritters."

CAMARGUE RED RICE

"This wonderfully colored whole-grain rice from southwest France has a nutty taste and a slightly chewy texture. Cook in salted boiling water or stock and use to elevate seasonal salads."

AMERICAN LONG-GRAIN RICE

"An extremely versatile rice that's popular all over the world. Use it in dishes from numerous cuisines, such as jambalaya, Maltese baked rice, and nasi goreng, or Indonesian fried rice."

BASMATI RICE

"A fragrant Himalayan rice that cooks up light and fluffy. Firmer textured whole-grain basmati can be used interchangeably with white basmati. Perfect for a lamb biryani or Moroccan chicken bake."



Search for the slideshow **Rice: The Essentials** at WebMD.com.

Rice

THE WORLD OF RICE IS MORE VAST AND COLORFUL THAN YOU MAY REALIZE. IT'S TIME TO START EXPLORING.

BY Matt McMillen

REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Editor

RICE HAS LONG BEEN A STAPLE IN KITCHENS ALL OVER THE WORLD, and for good reason, says Emily Kydd, the London-based author of the cookbook *Posh Rice*: "It's high in nutrition, low cost, easy to cook, and it absorbs flavors so well. And it doesn't just have to play a supporting role; rice can be the star of many a dish." Here are six of her favorite varieties.



BUILD A BETTER

Brew up a Stew

MAKE THE ULTIMATE COMFORT FOOD PART OF YOUR FAMILY'S REGULAR DINNER ROTATION

BY Matt McMillen

REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Editor

"I MAKE STEW ONCE A WEEK BETWEEN NOVEMBER AND MARCH," says **Gail Simmons**, longtime *Top Chef* judge and author of *Bringing It Home: Favorite Recipes from a Life of Adventurous Eating*. She likes stew for its infinite variability and for the cooking lessons it imparts, such as how to layer flavors, combine ingredients, and develop the value of patience. Incorporate her tips the next time you are in the mood for stew.

MAKE IT

- All you need: a sharp knife, a cutting board, and a large, lidded, heavy-bottom pot.
- To start a meat stew, cube your meat and brown on all sides over medium-high heat, then set aside.
- Build a base of flavors. Sauté chopped carrots, onions, and celery. Leeks, shallots, and garlic are also great choices. Cook gently until soft but avoid over-browning; otherwise, you risk adding bitterness to your stew.
- Hearty herbs like fresh thyme and rosemary go in the pot next and help define your stew's flavor profile. Also consider spices like curry powder and turmeric if you want an Indian-style stew, for example. For a tomato-based stew, spoon in some tomato paste.
- Beans—either canned or dried beans that you've soaked overnight—go in next if you're using them.
- Up next: Liquids. Use homemade stock if possible, but a low-sodium store-bought stock makes a good substitute. You can use water, but you'll have less depth of flavor.
- Simmer—patiently. While a fish stew may cook in 20 minutes, a beef stew can take a few hours. Fresh herbs like basil and parsley should be added last.
- Stew tastes better the second day, so consider cooking yours the day before you plan to serve it.
- Stew makes great leftovers, and it freezes well. Double your recipe and you'll have lots of stew on hand.



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HOT CEREALS

FOR A HEALTHY START TO THE DAY, WARM YOUR BELLY WITH THESE HOT CEREALS SELECTED BY REGISTERED DIETITIAN **KAREN ANSEL, MS**, AUTHOR OF *HEALING SUPERFOODS FOR ANTI-AGING: STAY YOUNGER, LIVE LONGER*

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QUAKER OATS OLD FASHIONED OATMEAL
"Oats are one of nature's top sources of beta-glucan, a unique fiber proven to lower cholesterol. Stir in peanut or almond butter and sliced banana to complement their perfect chewy texture."



BOB'S RED MILL OLD COUNTRY STYLE MUESLI
"Traditionally prepared cold, this blend of dried fruit, nuts, seeds, and several whole grains—whole wheat, rye, barley, oats, and triticale—shines when served hot."



PURELY ELIZABETH VIBRANT OAT CUPS
"Quick-cooking hot cereals often come loaded with added sugars. Not these. They have only 6 grams, plus hunger-busting protein and fiber provided by whole grains and seeds."



HODGSON MILL MULTI GRAIN HOT CEREAL
"This combo of whole wheat, quinoa, and oats boasts zero grams of sugar and a healthy dose of blood pressure-friendly potassium. Sweeten with chopped apple and a hint of honey."



ROLAND MEDIUM GRAIN POLENTA
"Often overlooked as a breakfast cereal, polenta is incredibly creamy and comforting. For an antioxidant-packed breakfast, mix it with canned pumpkin and a drizzle of maple syrup."

CUTTING EDGE

Pain Relief

OPIOIDS, INCLUDING PRESCRIPTION DRUGS AND HEROIN, CAUSED MORE THAN 80% OF THE 72,000 DRUG OVERDOSE DEATHS IN 2017. PEOPLE WHO LIVE WITH PAIN DESPERATELY NEED SAFE AND EFFECTIVE ALTERNATIVES TO THESE HIGHLY ADDICTIVE PAINKILLERS. CURRENT RESEARCH EXPLORES NEW OPTIONS.

BIOENGINEERS AT THE UNIVERSITY OF CALIFORNIA-LOS ANGELES CREATED A GEL THAT CONTAINS TINY MAGNETIC PARTICLES. The miniscule magnets can affect proteins on the surface of cells that play a role in the sensations of touch and pain. Researchers believe this gel could help relieve long-term pain from disease or injury.

Doctors at Children's Hospital Los Angeles found that virtual reality headsets reduce children's and teens' perception of pain during blood draws. The technology consumes a person's attention and takes it away from the pain and anxiety he or she would otherwise feel. While the needle prick for a blood draw causes only momentary discomfort, other studies show that virtual reality distracts people from more severe and ongoing pain, too.

Researchers at Wake Forest School of Medicine are developing a new non-opioid medication that could treat both pain and opioid addiction. In laboratory experiments (only in primates so far), the new chemical compound—dubbed AT-121—seems to relieve pain

without the side effects common to most opioids (like abuse potential and physical dependence) while also blocking the brain cells that react to opioids. That means the drug could potentially prevent opioid abuse in people who might switch from the controversial medications to this potentially safer option.

Some pain-management research focuses on cannabis, or marijuana, as a possible treatment. Cannabis contains two main chemicals, THC and CBD, that produce the substance's effects on the brain. Scientists at McGill University in Montreal have been working to pinpoint the most effective dose of marijuana plant extract cannabidiol (CBD) for safe pain relief without the typical high or euphoria produced by THC. In laboratory experiments with animals, the researchers determined the exact dose of CBD that can relieve pain and anxiety without the risk of a high. However, the research is preliminary, the lead scientist says. Large clinical trials will need to prove that CBD is an effective treatment for pain. —SONYA COLLINS

Biosimilars 101

LEARN MORE ABOUT THIS TYPE OF MEDICATION

MORE PATIENTS THAN EVER BEFORE ARE TAKING MEDICATIONS CALLED BIOSIMILARS.

Michael Kopcha, PhD, RPh, director of the Office of Pharmaceutical Quality at the FDA, has answers about these drugs.

Q What is a biosimilar?

KOPCHA Most drugs are made using chemical reactions in large tanks. However, some drugs are made from living systems—such as microorganisms, or plant or animal cells—using biotechnology. These drugs are typically formulated for injection and called biological products. A biosimilar is a type of biological product that is highly similar to an existing FDA-approved biological product. It has no clinically meaningful differences from an existing product.

Q Are biosimilars the same as generic drugs?

KOPCHA Both biosimilars and generic drugs are versions of brand-name drugs that may offer more affordable options to patients by introducing competition in the marketplace. They

both are approved in a way that avoids duplicating costly clinical trials.

However, biosimilars are not generics. They have different requirements regarding, for example, analytical data and other studies. Regardless, the FDA's expectations for the quality of a generic or biosimilar product are the same as for a brand-name drug.

Q How does the FDA assure the quality of biosimilars?

KOPCHA Like all drugs, biosimilars must be made so that they are safe and provide their intended benefit. To do this, drug manufacturers must meet quality standards that ensure every dose of a drug is of the appropriate strength and free of contamination and defects.

The FDA assures that the manufacturer of a biosimilar is capable of meeting quality standards prior to approving the drug. This is why you can have confidence in your next dose of medicine, whether it is a biosimilar or not.

Learn more about biosimilars at fda.gov/biosimilars.

BY THE NUMBERS

32%

Percentage of the drug filgrastim given to patients as the biosimilar version, as reported in a recent study in the *Journal of the American Medical Association*.

73%

Percentage of people taking the filgrastim biosimilar who had not previously used the brand-name drug.

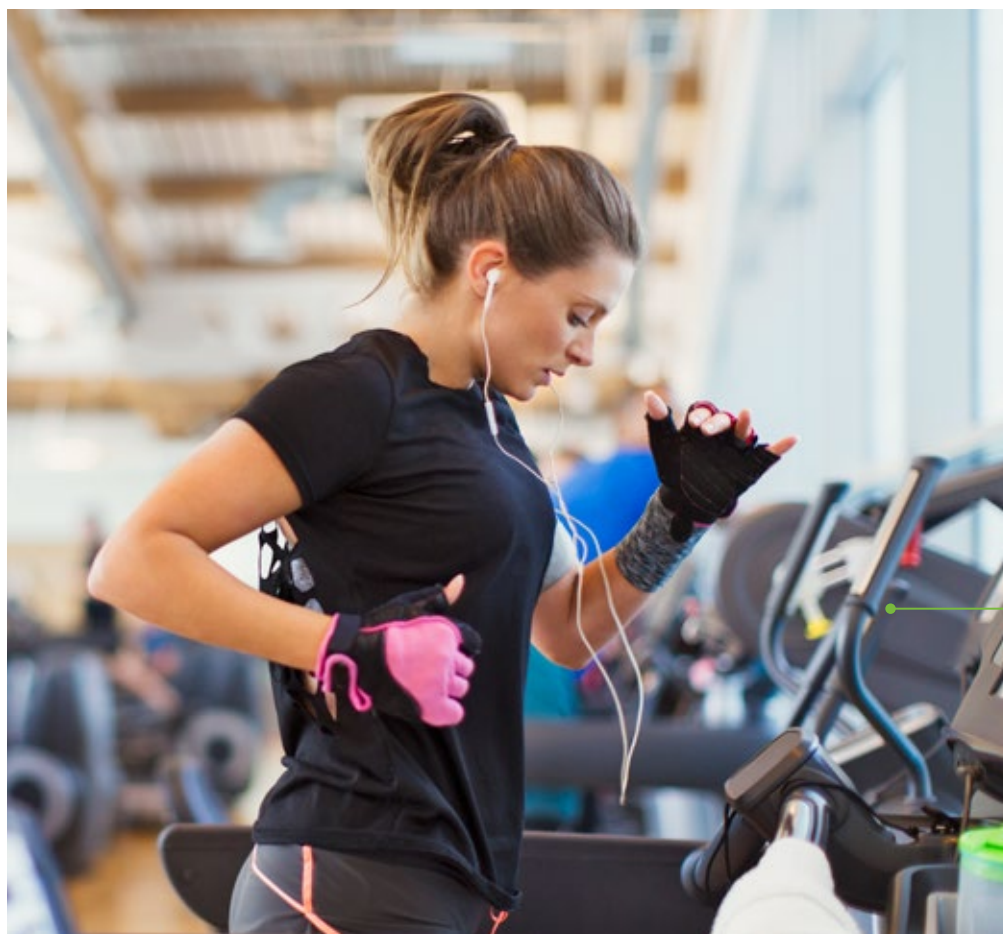
7

Number of biosimilars approved by the FDA in 2018, the most of any year so far.

2015

Year the first biosimilar drug was approved in the U.S.





Fight Flare-ups

FOLLOW THESE EXPERT TIPS TO MANAGE IRRITABLE BOWEL SYNDROME (IBS)

BY Matt McMillen **REVIEWED BY** Neha Pathak, MD, WebMD Medical Editor

EXPERT TIPS

“Speak with your doctor about depression and anxiety as both can be seen in patients with IBS. Try exercises like swimming and yoga, which may lessen the impact of your IBS, help reduce stress, ease symptoms of depression, and improve your overall health.”

SHERIF ANDRAWES, MD
 gastroenterologist, director of endoscopy, Staten Island University Hospital

“See a specialist, such as a gastroenterologist, to be sure you have the right diagnosis. Such doctors will evaluate you for any disorders that can have symptoms like those of IBS, such as an inflammatory bowel disease like Crohn’s or a disorder of the pancreas.”

CHRISTINE LEE, MD
 gastroenterologist, Cleveland Clinic

“Keep a food diary. This may uncover patterns between the foods that you eat and your IBS. Talk to your doctor about eliminating certain types of food to see if doing so helps relieve your symptoms. For example, milk and other foods that contain lactose often are IBS culprits.”

TARA MENON, MD
 gastroenterologist, The Ohio State University Wexner Medical Center



Search for the slideshow **What People With IBS Wish You Knew** at [WebMD.com](https://www.webmd.com).

10 TIPS TO COPE

1. **DOWNSIZE**

To counter bloating, eat several small meals each day, not three large ones.

2. **TALK ABOUT IT**

Discuss your IBS with your partner to reduce stress and conflict.

3. **CHOOSE WISELY**

Identify and avoid the foods that trigger your symptoms.

4. **WORK OUT**

Exercise helps relieve stress, stimulates normal contractions of your intestines, and can help you feel better.

5. **BULK UP**

Gradually add fiber to your diet to reduce constipation.

6. **SWITCH TO DECAF**

Avoid caffeine, which can cause diarrhea.

7. **AVOID BUBBLES**

Choose non-carbonated beverages to minimize bloating.

8. **DRINK UP**

Consume plenty of water to counter constipation.

9. **ASK ABOUT OPTIONS**

Talk to your doctor about available medications, which may ease symptoms.

10. **SET A SCHEDULE**

Eat at set times to help regulate your bowels.

Sweat Yourself to Good Health

CAN INFRARED SAUNAS HEAT UP THE BODY TO HELP FEND OFF A VARIETY OF SYMPTOMS?



BY John Whyte, MD, MPH,
WebMD Chief Medical Officer

OUR BODIES ARE AMAZINGLY EFFICIENT AT REGULATING BODY TEMPERATURE. In fact, we typically do not change temperature more than a couple of degrees. When we do see a rise on the thermometer, we often get concerned about infection. But could there also be a health benefit to warming ourselves up?

Infrared saunas are a technology some people use to help treat various medical conditions such as stress, strained muscles, joint pain, and headaches.

Instead of warming the air around you like a traditional sauna, infrared saunas use radiation to heat the body directly. As a result, the temperature in these types of saunas is not as hot—typically around 140 degrees compared to 190 degrees. In addition, infrared radiation penetrates about two inches into the body, through the skin, muscles, and sometimes even subcutaneous fat (that's the jiggly fat visible just under the skin).

Some researchers believe that heating the body directly and causing sweating may increase the production of antioxidants, which help get rid of free radicals that cause cell damage. Increased temperatures might also cause the release of certain neurotransmitters that help keep the brain and heart functioning well.

Although not a tool for weight loss, each infrared sauna session can burn up to 500 calories.

Q Is infrared safe?

It's the same warming principle as getting sunlight outside, so in general, doctors consider infrared saunas to be safe. But just like with sunlight, you don't want to overdo it. Each session should only be 15 to 20 minutes long—no more than three times a week.

Q Can anyone try it?

If you currently take any medications, check with your doctor to make sure that none affects your ability to sweat. Children (including teenagers), pregnant women, and people who have had a recent heart attack should not use infrared saunas.

Q What are the risks?

Increased heart rate and dizziness are the most common side effects—likely from sweating, which causes dehydration. Drink water before starting a session, and drink at least three glasses of water after each session.

Sweating can also worsen skin conditions such as acne, eczema, and fungal infections. If you're a male wanting to be a dad, think twice, since heat raises scrotal temperature and can decrease sperm count.

Questions? Comments? Email me at john@webmd.net.



LIVING WITH

Take Control of MS

MULTIPLE SCLEROSIS IS OFTEN UNPREDICTABLE. HERE IS WHAT YOU CAN DO TO MANAGE SYMPTOMS.

BY Christina Boufis

REVIEWED BY Neil Lava, MD, WebMD Medical Reviewer

"I WAS DIAGNOSED WITH MULTIPLE SCLEROSIS (MS) 10 YEARS AGO, at the age of 40," says Rita Fusaro, an antique dealer in Irvington, New York. "Looking back, I'd probably had it for several years before that. I had many symptoms, like trouble walking, but I just thought I was exhausted because I was working all the time."

"MS is a disease of what I call the central command of the nervous system—the brain, spinal cord, and optic nerves," explains Farrah J. Mateen, MD, PhD, associate professor, Massachusetts General Hospital and Harvard Medical School. In MS, the body's immune system attacks

the myelin, or substance, that surrounds nerve fibers. Symptoms can range from mild to severe. While MS has no cure, our expert offers tips to help with symptoms.

GET YOUR VITAMIN D

"We now understand that vitamin D deficiency negatively affects the immune system in people with MS," says Mateen. "I recommend they take a vitamin D supplement regularly."

Indeed, one small study showed taking vitamin D supplements helped with the immune system in people with MS, but more research is needed to study this finding.

EAT HEART SMART

"There's no one right diet for MS," Mateen explains. But eating heart-healthy—more leafy greens and other veggies, as well as grains, nuts, lean protein, and cutting down on fats and processed foods—is key to maintaining good health overall, and it's especially crucial when you have a chronic condition.

KEEP MOVING

"Exercise is important," says Mateen. "Getting at least 30 minutes of physical activity three times a week (and preferably daily) is good for the nervous system. It helps maintain muscle strength, balance, coordination, and provides an overall sense of well-being."

Do what feels right for your body, whether that's swimming, walking, or yoga, she advises.

BUTT OUT

"If you smoke, quitting is one of the most important things you can do," says Mateen. "Smoking cigarettes worsens disability in MS." It also increases the risk of infection, heart disease, and cancers and worsens MS symptoms.

Talk to a smoking-cessation counselor, get medication or patches, and find support to help you quit, advises Mateen.

As for Fusaro, now 50, she began exercising to help with MS symptoms. "I actually feel like I have more energy after I exercise. It makes me stronger," she says. "Of course, I can't do what everyone else does, so I scale the exercises, and I use a cane if I need to."

ASK YOUR DOCTOR

Q What medication is right for me?

"There are 15 drugs on the market now for MS," says Farrah J. Mateen, MD, PhD, ranging from injectable meds to pills and transfusions. Talk to your doctor about which medication is best for you and how often you need to follow up to make sure it's working.

Q How does stress affect MS?

While too much stress isn't good for anyone, it's difficult to prove cause and effect with relapsing MS symptoms, says Mateen. Try deep breathing exercises, meditation, or reaching out to others to combat life stress.

Q What can I do about fatigue?

Your doctor can prescribe medicines that may help, but they don't work for everyone, Mateen says. Schedule important tasks earlier in the day, take naps, change your work schedule if possible, and ask for help to battle fatigue.

Orthopedic Surgeon

AN APPOINTMENT WITH THIS SPECIALIST CAN KEEP YOU LIMBER AND MOBILE

BY Jodi Helmer REVIEWED BY Neha Pathak, MD, WebMD Medical Editor

MUSCULOSKELETAL ISSUES LIKE BACKACHES, BROKEN BONES, AND ARTHRITIC JOINTS affect more than one in two adults and almost 75% of those older than age 65. Orthopedic surgeons treat patients with both acute and chronic conditions affecting the bones, joints, ligaments, tendons, and muscles.

MUSCULOSKELETAL CARE

Orthopedic surgeons treat conditions of the musculoskeletal system. They use both surgical and nonsurgical procedures to treat musculoskeletal trauma, spine diseases, sports injuries, degenerative diseases, infections, tumors, and congenital disorders.

All orthopedic surgeons, both generalists and specialists, undergo extensive training that includes earning undergraduate and medical degrees. (Some orthopedic surgeons earn Doctor of Medicine or MD degrees while others earn Doctor of Osteopathic medicine or DO degrees. Both MDs and DOs are licensed to practice medicine in all 50 states.)

More than half of orthopedic surgeons choose to specialize in their fields by completing

fellowship training. Surgeons might focus on specific areas of the musculoskeletal system such as the spine, hips, shoulders, feet, and ankles or choose to work with certain diseases such as arthritis.

In addition to completing medical residencies and fellowship programs, earning a license to practice orthopedic medicine also requires passing certification exams through the American Board of Orthopaedic Surgery and ongoing continuing education.

SURGERY: A LAST RESORT

Orthopedic surgeons can do complicated surgeries, but they often prioritize less invasive treatments such as medication, casts or splints, and physical therapy.

If surgery is required, orthopedic surgeons can use bone grafts or metal rods, metal plates, or pins and screws to hold bones together; replace damaged joints; mend tendons, ligaments, and other soft tissue; or cut and reposition bones to correct deformities.



Need a specialist? Use **WebMD's Physician Directory**. Go to [webmd.com/findadoctor](https://www.webmd.com/findadoctor).

BY THE NUMBERS

29,613

Number of orthopedic surgeons practicing in the U.S. in 2016.

14

Years of formal education most orthopedic surgeons undergo to practice medicine.

18.8%

Percentage of orthopedic surgeons practicing sports medicine, making it the most popular area of specialization.

30

Average number of procedures orthopedists in the U.S. perform each month.



1. YOUR NEW FILM, *MADEA FAMILY FUNERAL*, WILL BE YOUR SIGNATURE CHARACTER'S FINAL APPEARANCE. HOW WILL YOU SAY GOODBYE?

I will be on the final Madea tour, the farewell tour. I wanted to bring back some of the original cast that worked with me early on and then go out on tour to say goodbye. The audiences have been so amazing to me over the years, so I wanted to give them a proper farewell.

2. YOU'RE NOTHING IF NOT SUCCESSFUL. HOW HAVE YOU DEFINED SUCCESS FOR YOURSELF OVER THE YEARS?

Success means different things over time. At first, it meant making enough money to take care of my mother. Now, it's about my legacy and about how many people I'm employing and whether I'm changing people's lives.

3. WHAT ADVICE DID YOU LEARN EARLY ON THAT HAS SERVED YOU WELL THROUGHOUT YOUR CAREER?

Only say what you can do. It's so simple, but I've never forgotten that. I only claim that I will do what I am able to do. If I can't do it, I don't say it. And the mantra I live by is Psalm 37:3: Do good and trust God. No matter what, do good.

4. YOU'VE MADE IT A PRIORITY TO ACHIEVE AND MAINTAIN A HEALTHY WEIGHT. WHAT WORKS FOR YOU?

Knowledge. Once I got educated about nutrition, it really helped in every area of my health—with weight loss, feeling good in the morning, and feeling younger.

5. WHAT HAS HELPED FOCUS YOUR EFFORTS?

I want to be in the best health of my life at 50. I'm on a mission to be at my proper body weight, and I'm 15 pounds away. It's taken the last year and a half to figure out how to get there, and now I'm adding the workouts and the weightlifting to make that happen.



Tyler Perry

*Actor, playwright, filmmaker,
and humanitarian, 49, Atlanta
and Los Angeles*

"I WANT TO BE IN THE BEST HEALTH OF MY LIFE AT 50. I'M ON A MISSION TO BE AT MY PROPER BODY WEIGHT, AND I'M 15 POUNDS AWAY."

6. HAS BECOMING A FATHER MADE YOU MORE ATTENTIVE TO HOW YOU TAKE CARE OF YOURSELF?

I've always felt like I was going to die at 88, so I want to give my son 40 good years of my life and be able to pass on the wisdom I have learned. And I want to be an excellent example of health to him.

7. WHAT'S YOUR WORKOUT?

I've been doing Soul Cycle religiously since my son was born four years ago. I love it. I've also just started Rumble boxing, which is also awesome. Between the two, I burn a lot of calories.

8. HAVE THERE BEEN ANY ROADBLOCKS ON YOUR WAY TO A FITTER YOU?

Where I grew up, in New Orleans, if you weren't fat, people thought you weren't happy. Understanding that that wasn't good for health took some mental undoing. Once I did that, weight loss became easier.

9. WHAT DO YOU MOST LIKE TO DO ON YOUR DAYS OFF?

I like to fly remote-control planes. I keep them in my barn, and I like to go out and fly them, just me and my son. Being a father is the most important thing, and I've got to get the time in there.

10. YOU LAUNCHED THE TYLER PERRY FOUNDATION IN 2006. WHAT INSPIRED YOU?

I've been a giver all my life, and I wanted to make it formal. It's a private foundation, so I get to fund whatever I feel, such as charity: water, which is dedicated to improving access to clean water for communities in need.

—MATT McMILLEN