

2021 **HEALTH HEROES** SPECIAL ISSUE

SEE OUR WINNERS
STARTING ON
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2021

Taking Nothing For Granted

Actor **Rita Wilson** is singing a new tune. After beating breast cancer and COVID-19, she's rediscovered her purpose in life—to love people, find joy, and create music. **PAGE 36**

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OVERCOMING OBSTACLES: FERTILITY ISSUES SAME-SEX COUPLES FACE

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MANAGING MIGRAINES

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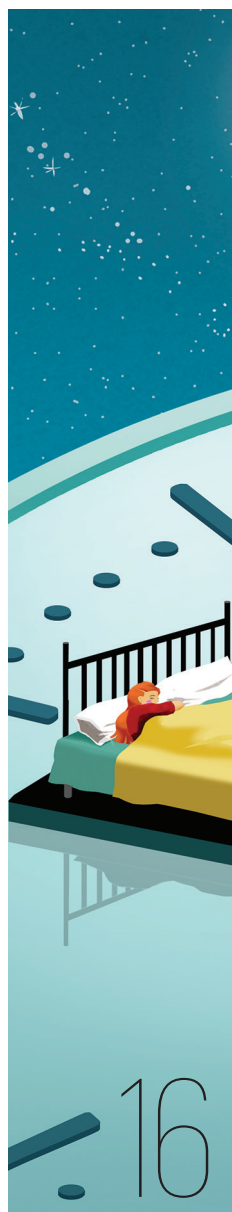
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"ONCE YOU'VE HAD
A HEALTH CRISIS,
YOU DON'T WANT
TO MESS AROUND
WITH IT."

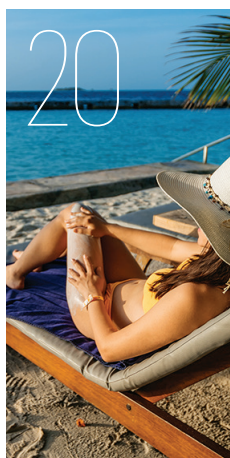
—RITA WILSON





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WELL-BEING

Sleep Tight

ARE YOU GETTING ENOUGH SHUT-EYE? DOES WORRYING ABOUT THE COVID-19 PANDEMIC KEEP YOU UP? TRY TO FOCUS ON YOUR WELLNESS AND GET A GOOD NIGHT'S REST.



7 Minimum hours of sleep that adults need each night for ideal health and well-being.

2.77 MILLION Number of Google searches for "insomnia" during the first 5 months of 2020, which includes the first 3 months of the COVID-19 pandemic, a 58% increase over the same period 3 years before.

35% Amount of adults who sleep less than 7 hours a night.

40 MILLION Number of Americans who live with an ongoing sleep disorder, such as insomnia, sleep apnea, narcolepsy, shift work disorder, and excessive sleepiness.



LAURA J. DOWNEY
Executive Editor
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IN THE NEWS

Heroes Among Us

We all know a hero. For me, it's my mom, Ursula. At 21, she emigrated from Trinidad to the United States to make a better life for herself. She is now a caretaker who exudes such love for her patients. In her spare time, she delivers homemade meals to the elderly and even takes them to their doctors' appointments. My mom's love goes beyond a paycheck. It aims directly at the heart.

So when I think about our 2021 Health Heroes, who work tirelessly in the fight against COVID-19, words that come to mind are sacrifice, leadership, and love. We honor those whose commitment to health care is unparalleled. From essential workers who serve on the frontlines each and every day to an 18-year-old Houston EMT who created a mobile COVID-19 testing lab, which enables everyone from the homeless to veterans to receive free testing, this year's heroes shine bright.

Also a hero in her own right is our cover star and actor Rita Wilson. After battles with COVID-19 and breast cancer, the multitasking musician has a newfound appreciation for life. As Wilson puts it, "I really do not want to live one day not telling the people I love that I love them."

Love is a powerful thing. We all want it and we all need it. I encourage you to be a champion in your own community. Just one simple act of love could change the world. —*Laura J. Downey*



CORONAVIRUS UPDATE



PARENTAL STRESSORS

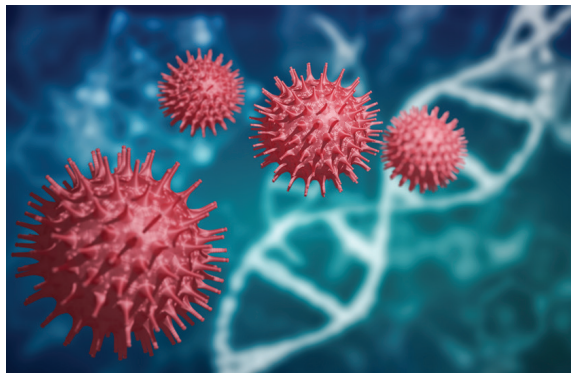
The COVID-19 pandemic turned many parents into at-home educators. Don't worry, it's not just you. A recent survey confirms that the struggle is real. Half of parents said that at least one of their kids had a hard time with online learning. Those parents were far more likely to report anxiety, depression, and trouble sleeping than parents whose kids were doing all right.

SOURCE: Educational Researcher

WHAT TO KNOW ABOUT MIR-1307

Genes may explain why some people get very severe COVID-19 and others have mild or no symptoms at all. According to a new study, the miR-1307 gene may work like a dimmer switch on the virus. In some people, the gene dials symptoms all the way up. In others, it turns the illness down low. COVID-19 isn't the first disease in which miR-1307 may play a role. It can affect the severity of certain cancers, lung disease, the flu, and "the kissing disease" mononucleosis.

SOURCE: mSphere



COVID-19 VS. THE FLU

Throughout the pandemic, some have debated whether COVID-19 is any worse than the seasonal flu. According to a new study that included 89,530 people hospitalized for severe COVID-19 and 45,819 for the flu, coronavirus is the much more serious condition. For every one person who dies of the flu, three people die of COVID-19. The new coronavirus also puts more people in the ICU and keeps them there twice as long as the flu does.

SOURCE: The Lancet Respiratory Medicine

GETTY IMAGES; PHOTOGRAPHY: AKINS GRAPHICS; MAKEUP: NISHA CARRUTH LAGANA FOR A GLAMOUR AFFAIR; STYLING: MISAYO HOUSE BIRTHSTONE COLLECTION STUDS IN GARNET

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Rheumatoid Arthritis

- Find Relief For RA Joint Pain
- Get Control of Your Moderate to Severe RA
- A Full-Body Approach to RA

WHY DO MORE WOMEN DEVELOP LUPUS?



Lupus is an autoimmune disease that causes the body to attack its own cells. Women are nine times more likely to develop the condition than men. A new study suggests that changes in two genes involved in the immune system may be to blame. Researchers studied these genes in 6,748 people who have lupus and 11,516 who don't. They found that variations in these genes can predict individual risk

for lupus. Women were far more likely to carry genes that increased their risk for the autoimmune disorder, while men were more likely to have genes that protected against it.

SOURCE: *Nature*

COVID-19 VACCINES TAKE THEIR BEST SHOT

A handful of the novel coronavirus vaccines are approved around the globe with more on the way. The first two immunizations to come to the U.S. are an entirely new type of vaccine that uses genetic material from the virus, rather than actual virus, to trigger an immune response that prevents COVID-19. Some vaccines available outside the U.S., and others in development, take a more traditional approach. They contain inactivated virus, which doesn't make a person sick but still prompts a protective reaction in the immune system. Still more inoculations in the pipeline use other strategies to protect against the virus.

SOURCE: Regulatory Affairs Professionals Society



THE SOCIAL SPREAD

Herd immunity happens when enough people become immune to an infection—because they've had the illness already or had a vaccine—that the germ stops spreading. But how many people does it take? New calculations suggest that COVID-19 herd immunity may take far fewer people than previously believed. The study considers that younger, socially active types are more likely to get and spread the virus in the first place than those who tend to stay home and see fewer people. Based on this idea, mathematicians say, only 43% of people would need to be immune in order to protect everyone else.

SOURCE: *Science*



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Upfront

A HEALTHY MIND

You know how to take care of your heart: Eat a healthy diet, get plenty of exercise, don't smoke, and don't drink too much. These healthy habits are good for your brain, too. Researchers tracked 1,588 dementia-free older adults for 21 years. At the end of the study period, they tallied up each person's risk factors for heart disease, such as smoking, drinking, obesity, cholesterol, and blood pressure. They also tested memory and thinking skills. Those who had greater risk for heart disease also had a faster decline in brain performance over the years.



SOURCE: *Journal of the American College of Cardiology*

INFECTED KIDNEYS GET ANOTHER CHANCE

The U.S. Department of Health and Human Services wants to double the number of donor kidneys available by 2030. Doctors at Massachusetts General Hospital are doing their part to make hepatitis C-infected kidneys suitable for donation. In an experiment, doctors transplanted 30 infected kidneys from deceased donors into people who needed the organ. After the new kidney recipients received antiviral medications for 8 weeks, they had no signs of hepatitis.

SOURCE: *Journal of the American Society of Nephrology*



DON'T SNOOZE ON BONE HEALTH

Women who have sleep apnea are up to two times more likely to break bones than other women, a new study suggests. If you have sleep apnea, talk to your doctor about your bone health.

SOURCE: *Journal of Bone and Mineral Research*

GETTY IMAGES



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**Home Remedies for
Migraines** at [WebMD.com](https://www.webmd.com).

WELL-BEING

Warrior Pose

DAILY YOGA PRACTICE
MAY EASE MIGRAINE PAIN

ABOUT 39 MILLION MEN, WOMEN, AND CHILDREN IN THE U.S. GET MIGRAINE headaches. Medication can prevent migraines, but it doesn't eliminate the headaches for everyone. New research in the journal *Neurology* suggests that adding some downward facing dogs and sun salutations to your migraine prevention regimen could help. In a study of adults with migraine ages 18 to 50, those who practiced yoga in addition to taking preventive medication saw a big reduction in their migraine symptoms compared with people who only took medication. The novice yogis practiced with a teacher for 1 hour, 3 days a week, for a month. After that, they practiced 5 days a week on their own for the next 2 months. After 3 months, yoga practitioners had almost 50% fewer headaches than before. The medicine-only group saw just a 12% reduction. The yogis' headaches were shorter, less painful, and required less pain medicine. —SONYA COLLINS

Cancer: Navigating Survivorship

PEOPLE ARE SURVIVING MANY TYPES OF CANCER LONGER THAN EVER. BUT FIGHTING THIS DISEASE IS ONLY THE BEGINNING.

BY Lisa Marshall

REVIEWED BY Brunilda Nazario, MD,
WebMD Lead Medical Director

AFTER 33 ROUNDS OF FULL-BODY RADIATION and a risky surgery to remove the golf ball-sized tumor from the back of his brain, then-21-year-old Matthew Zachary walked out of the hospital on April 30, 1996, cancer-free and grateful to be alive.

But his relationship with the disease had only just begun.

In the coming years, he would struggle with chronic sinus and lung infections resulting from treatments that had wiped out his immune system. He'd have a stroke at age 36, brought on by lingering vascular damage from the radiation beam. He would invest tens of thousands of dollars in fertility treatments. His hair would never grow back. And, with coordination in his left hand impaired, he'd have to put aside his college dreams of being a professional pianist and reinvent himself.

"All things considered, these are good problems to have," says Zachary, 46, now a successful podcast host and proud father of 10-year-old twins. "But there was a lot of grief and loss. It took a while for me to make sense of my life again."

MORE SURVIVORS—AND MORE CHALLENGES

Zachary is among the 17 million cancer survivors living in the United States today—a number projected to reach more than 22 million by 2030. In many respects, those numbers are encouraging, reflecting strides in early detection and new therapies.

But some survivors are surprised to discover fatigue, depression, and other side effects lingering long after treatment is over. Others live long enough to have life-threatening "late effects," including heart and bone problems, which pop up decades later.

Strides have undoubtedly been made since 2006, when the U.S. Institute of Medicine issued a stern report calling for more long-term support for survivors.

But there is still work to be done, according to a



5 TIPS

CANCER SURVIVORSHIP
EXPERT **JULIA ROWLAND, PhD**,
SUGGESTS WAYS TO
OPTIMIZE QUALITY OF LIFE
AFTER CANCER TREATMENT.

1. Ask questions as you go over your treatment plan, especially about potential side effects and alternative options available.
2. Craft a survivorship care plan, spelling out the medical and psychological challenges that may come up post-treatment and what you and your doctors will do to address them.
3. Stay active during and after treatment. Studies show this can reduce side effects.
4. Go easy on yourself. If it took you a year start to finish to complete treatment, it may take a year to get back to full speed.
5. Establish a support network, via online and in-person survivorship groups.

July 2020 survey by the National Coalition for Cancer Survivorship.

About half of cancer survivors say they are concerned about ongoing side effects. Yet only 60% say they were adequately warned about what to expect post-treatment, and very few say their health care provider is doing a good job addressing them.

"We are emerging out of a system that existed only to treat the tumors," says Catherine Alfano, PhD, a longtime survivor advocate and vice president of cancer care management for New York-based Northwell Health Cancer Institute. "It is essential that we now pivot our care to a new model that also minimizes collateral damage and maximizes our patients' quality of life over the long term. We are not doing enough."

COLLATERAL DAMAGE

When President Richard Nixon declared "war on cancer" in 1971, the average five-year survival rate for all cancers hovered around 50%. Today, that rate is roughly 70% and 1 in 5 survivors were diagnosed 20 or more years ago.

But those saved lives can come at a cost.

"One common misconception people have is: 'My cancer is over and done and I don't have to think about that anymore.' But unfortunately, for many people, that is not the case," Alfano says.

THE GREATEST PANDEMIC IN AMERICA IS **HEART DISEASE.**

IT AFFECTS ONE OF THREE ADULTS AND KILLS ONE OUT OF FOUR.



Dr. Cameron Muir (pictured) and his colleagues – members of The National Partnership for Healthcare and Hospice Innovation (NPHI), are committed to dramatically improved care for heart failure patients.

**THOSE WITH
ADVANCED HEART
FAILURE NEED
NOT SUFFER
ALONE ANYMORE!**

Question: Dr. Muir, why are NPHI members addressing heart failure during the COVID-19 pandemic?

Dr. Muir: COVID-19 has increased the risk of premature death because many heart patients are not seeking essential treatment for fear of contracting the virus. We provide heart failure care including hospice care wherever people call home. We come to you and maintain rigorous infection prevention protocols to ensure the highest level of safety to avoid COVID transmission.

Question: You are launching a new comprehensive heart care initiative – what's it called and what do you hope to achieve?

Dr. Muir: This aggressive focus on heart disease is called Advanced Cardiac Care. Two major reasons.

- 1** Very few families with loved ones suffering from advanced heart failure seek the full support of home-based care and hospice which is a tragedy. A tragedy, because we can prevent needless pain, endless stress for patient and family members, and provide weeks and even months of quality time vs the patient suffering and then dying in a hospital bed isolated and alone.
- 2** Among minority families and the LGBTQ+ population very few receive proper advanced cardiac care. We will work proactively to establish trust, increase access to high quality care, and reduce their need to seek extremely stressful ER treatments often entailing countless trips to the hospital.

Question: What can folks do right now to find out more about Advanced Cardiac Care?

Dr. Muir: They can go to www.hospiceinnovations.org to print a copy of our brand new Advanced Cardiac Care Patient and Caregiver Handbook. Or call **844-GET NPHI (438-6744)** to receive a copy from their local not-for-profit NPHI member.

The National Partnership for Healthcare and Hospice Innovation (NPHI) member programs are patient, family and community-focused advanced illness and hospice care providers with expertise and passion for the mission of the highest quality, person and family centered, mission oriented end-of-life care.

hospiceinnovations.org



Surgeries to remove lymph nodes, which serve to move fluids around the body, can lead to chronic swelling and pain in the arms and legs. Some chemotherapies can leave extremities numb, while others impact fertility, sexual function, or cognition. About 1 in 3 people have depression or anxiety.

Then, there are the late effects.

Some drugs, like aromatase inhibitors, can thin bones and lead to osteoporosis decades later. Others can damage the heart, boosting risk of stroke and heart attack.

And ironically, some treatments can actually cause cancer.

Young women treated for Hodgkin's lymphoma in their 20s are now turning up with breast cancer in their 40s and 50s from radiation to the chest that affected their breast tissue.

And adult survivors of childhood cancers, who tend to be hit hardest by late effects, appear to be aging faster, with 80% having some sort of chronic health condition by middle age.

"The good news is they are living longer," notes Julia Rowland, PhD, who spent 18 years as director of the National Cancer Institute's Office of Cancer Survivorship. "But they are living long enough to see serious late effects."

ONE SIZE DOES NOT FIT ALL

Fortunately, treatments have changed radically in recent years, with the advent of more individualized, less invasive treatments.

"We have recognized that more is not always better when it comes to cancer treatment," says Jennifer Ligibel, MD, a medical oncologist at the Dana Farber Cancer Institute in Boston.

In breast cancer specifically, once-standard radical mastectomies, where the breast tissue, chest muscles, and all lymph nodes were removed, are seldom done anymore, replaced by tissue-sparing surgeries or no surgery at all.

Physicians are administering less chemotherapy and more-targeted beams of radiation. And when drugs that may cause serious late effects are prescribed, doctors have learned they may be able to prescribe less of them, Ligibel says.

Meanwhile, a host of new drugs, such as immunotherapies, which act on the immune system, have emerged, sparing patients the classic hair loss and nausea while bringing different and sometimes fewer side effects.

"It used to be that we had a handful of chemotherapy drugs and we used them broadly across cancer types," Ligibel says. "Now, the treatments we are using are much more precisely focused not only on an individual cancer but on the specific characteristic, such as a genetic mutation. Two people with lung cancer or breast cancer could receive very different treatments."

BY THE NUMBERS

27%

Amount by which death rates from cancer have fallen in the last 25 years.

49%

Amount of cancer survivors who have fatigue during or after treatment. Some 19% develop skin problems, 26% have neuropathy, 24% have sexual concerns, and 13% have cognitive problems.

35%

Amount of early-stage breast cancer patients who have a mastectomy today.

41%

Amount of young adult survivors of cancer who struggle with serious mental health issues.

PLANNING AHEAD

For patients, all this means more choices and, patient advocates say, the need for more support.

"Back in the day, the doctor told you what to do and you did it. And if you survived the treatment it was, 'Congratulations, have a good life, goodbye,'" says Rowland, now senior strategic advisor for the Smith Center for Healing and the Arts in Washington, DC. "We've begun to realize we need to be thinking, from the time of diagnosis and treatment, about the patient's long-term well-being."

In some areas, it's already happening.

At the University of North Carolina Lineberger Comprehensive Cancer Center, a nurse navigator is assigned to each patient, helping to usher them through treatment as they weigh options, and a Cancer Transitions program offers nutrition, exercise, and stress management advice after treatment.

Memorial Sloan Kettering offers survivorship programs specifically for those who had treatment in their youth. Meanwhile, some medical schools offer classes for primary care physicians, to help them better understand the challenges that come with survivorship.

"With just about all of these chronic and late effects, there are treatments that can help if we get the patient to the right clinician in a timely manner," says Alfano, noting that physical therapy early on can prevent a lifetime of mobility problems, and early psychotherapy could prevent depression from spiraling out of control.

Patients, united by advocacy groups like the National Coalition for Cancer Survivorship and Stupid Cancer, which Zachary founded for young adults, have also begun to take more control over their care, discussing what life will be like after treatment before they even begin it.

As Rowland recalls, professional cyclist Lance Armstrong—who had testicular cancer at age 24—once declined a treatment that would have severely impaired his lung function, choosing a different drug instead. And when faced with a drug that would have boosted his chance of survival very slightly but caused permanent nerve damage in his hands, Zachary, the concert pianist, also opted to decline.

"I thought it would be nice if I could rehabilitate my hand and find a way to play again one day. I didn't want to take a drug that would cripple that possibility."

He is, indeed, playing again.

But he and others would still like to see the health care system do more to prepare patients for what's to come, advise them of options, and support them physically and psychologically long term.

"We have a patchwork of survivorship care, but it is too reliant on survivors advocating for their own best care," says National Coalition of Cancer Survivors CEO Shelley Fuld Nasso. "We are still, unfortunately sending too many people off into the world and not supporting them."

For now, Zachary advises: Actively seek out help from those going through it.

"Don't rely on Google to make your decisions," he says. "Find your tribe."

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Sleep Aid

INSTEAD OF DRUGS, COGNITIVE BEHAVIORAL THERAPY MAY BE JUST WHAT YOU NEED TO TRY FOR INSOMNIA

BY Katherine Kam

REVIEWED BY Michael Smith, MD, WebMD Chief Medical Director

SLEEP EXPERT RACHEL MANBER, PHD, HAS SEEN THE PERVASIVE MISERIES OF INSOMNIA. Patients who are frustrated and fatigued tell her that they toss in bed all night, seeking that elusive comfortable spot. Others give up evening outings or vacations to avoid messing up their sleep schedules. Still others get anxious at bedtime, pondering whether to take sleep medications or wind down with a nightcap.

But trying so hard to fall asleep is counterproductive, says Manber, a professor of psychiatry and behavioral sciences at the Stanford University Medical Center and a behavioral sleep medicine specialist.

“When you talk to somebody who sleeps well and you ask them, ‘How do you sleep? How do you do that?’ they will likely look at you with blank eyes. They don’t do anything. Sleep is an automatic process,” she says.

“When you talk to somebody who has trouble sleeping, they will name a long list of things that they’re doing to try to sleep. And that very effort to sleep ends up creating arousal and interfering with sleep.”

Instead of trying to sleep, allow sleep to happen, Manber says.

For more than two decades, she has helped patients undo ineffective habits, stop their sleep medications, and drift into slumber on their own. Her method: cognitive behavioral therapy for insomnia (CBTI), a non-drug treatment that can improve sleep by helping patients change beliefs and behaviors.

More doctors have become aware of CBTI since the American College of Physicians issued a guideline in 2016 calling it the first-line treatment for chronic insomnia in adults, preferred over sleep medications.

It’s not that sleep drugs don’t work. They often do, but they can have side effects and drug interactions and aren’t meant for long-term use. Further, once patients stop taking them, insomnia might return, requiring another course of drugs.

In contrast, CBTI resolves insomnia without drugs and equips patients “with skills that nobody can take away from them so they can use them should insomnia come back,” Manber says. “As you know, life happens and when we become stressed, we tend to lose sleep over it.” By applying CBTI skills, people can prevent new bouts of chronic insomnia or recover from them.



Search for the slideshow **Insomnia Myths and Facts** at WebMD.com.

When patients undergo CBTI with a sleep specialist, the insomnia typically improves with four to six sessions, Manber says. But many people can find relief with these at-home measures.

WAKE UP AT THE SAME TIME EVERY DAY

You can’t control when you fall asleep or you wouldn’t have insomnia. But you can control what time you wake up every day. “If you always wake up at the same time,” Manber says, “you are toning your internal biological clock that controls sleep and wakefulness.”


She suggests picking a regular wake time that fits your circadian rhythm. That steady wake time sends cues to your body, she says. “It creates a very robust biological clock. If you vary the wake time, the amplitude of the signal becomes flatter, the signal is weaker. It’s not supporting your sleep.”

“When your clock is robust, you naturally start feeling sleepy more or less at the same time every night. That’s why I’m saying you have to start from the morning.”

Many sleep problems are caused by an irregular schedule, Manber says, so avoid the temptation to sleep in, even on your days off.

GO TO BED WHEN YOU’RE SLEEPY, NOT WHEN YOU’RE TIRED

People often confuse being physically tired or mentally fatigued with being sleepy, “but these are distinct experiences,” Manber



says. “We define ‘sleepy’ as the likelihood that if you put your head on the pillow, you’ll fall asleep quickly.”

Another way to understand the distinction: “Tired is a function of energy; sleepy is a function of sleep need.”

Sleep need builds during our waking hours, but people can’t feel it if they’re still in a state of high arousal or stimulation. “In other words, people can be tired, but wired. The feeling of ‘wired’ prevents them from feeling sleepy and therefore, they cannot fall asleep.”

As Manber suggests, “You will fall asleep faster if you go to sleep at the time in which you are no longer wired and are starting to feel sleepy.”

When people with insomnia lie in bed unable to sleep, they typically worry about another bad night and how awful they’ll feel the next day. Doing so conditions their minds to view the bed as a place of wakefulness, stress, and anxiety.



In contrast, if people spend most of their time in bed snoozing, the mind will learn to associate it with restful sleep.

One caveat, though: People should spend no less than 5½ hours in bed each night, even if they sleep less than that.

DON'T SPEND TOO MUCH TIME IN BED

People with insomnia tend to spend much longer time in bed than they're able to sleep, emphasizing quantity over quality. They'll stay in bed for 8 hours, but only sleep a total of 6 hours.

And they tend to have low-quality, short periods of sleep, Manber says. “When people spend too much time in bed many actually end up dozing off here and there. So the brain gets some sleep. It's not very refreshing sleep, it's not good sleep. But if you add all the crumbs of sleep, it does add up.”

To avoid crummy sleep, try limiting time in bed to consolidate your sleep into one block. If you're only averaging 6 hours of sleep per night, you would spend 6 hours in bed each night to aim for deeper, high-quality sleep. “If you're getting 6 hours of sleep, it would be much nicer to get them in one piece,” Manber says.

You might be tired at first, but once you build a solid period of sleep, you can extend your amount of time in bed. But shorten your sleep hours cautiously to avoid an unsafe level of sleepiness. “If you develop a significant level of sleepiness, back off and consult a CBTI therapist,” Manber says. These specialists can also check for other causes of sleepiness, such as sleep apnea.

There's another good reason to avoid spending too much time in bed: to allow ample time for the sleep drive to build during your waking hours, Manber says.

“The sleep drive is something that accumulates in our system. The longer we're awake, the stronger is our sleep drive,” she says.

If you don't build up enough sleep pressure, “when you go to sleep, you actually have a lower sleep drive, which is not going to support a long bout of sleep,” Manber says. “That's one of the primary reasons why we don't want people to spend too much time in bed: to make sure that your sleep drive is strong.”

STAY IN BED ONLY WHEN YOU'RE ASLEEP

People with chronic insomnia don't just have a hard time falling asleep, but staying asleep. For example, if they wake up at 3 a.m., they might not fall back asleep for a couple of hours.

Under the standard CBTI recommendations, if people can't fall asleep within 20 minutes at the beginning of the night, they should get out of bed and do something quiet, like read a book, and come back to bed when they're sleepy.

Manber agrees. “You should stop trying.”

But it's important to avoid any activity that creates a lot of physical or mental arousal, for example, cleaning the house or reading a political book that riles up one's emotions.

Still, she says, not everyone can get out of bed in the middle of the night if they can't go back to sleep, for example, those who are bedridden or staying in a hotel room with others. “In that situation, you go to the core of what is most important here, and the core is that you stop trying to sleep.”

Some research shows that for middle-of-the-night wakings, “if you just stay in bed and stop trying and do something calming, then that helps as well,” Manber says.

Some patients prefer to remain in bed and cozy up with an audiobook. “People choose to listen to books that they've heard before,” Manber says. If you use any electronic device, be sure to block the blue light, which can interfere with your biological clock. Once again, the trick is to find material that isn't too stimulating. Instead, people should listen to things “that are pleasant but that grab their attention and are not boring,” she says.

In doing so, “their attention is away from sleep. They're no longer trying to sleep, and sleep comes to the surface and takes them.”

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[Building Your Perfect Skin Care Routine](#) at WebMD.com.

SKIN CARE

All Hail Humectants!

BOW DOWN TO THIS GROUP OF MOISTURE-PACKING INGREDIENTS THAT HYDRATE THE SKIN

HUMECTANTS MAY BE UNFAMILIAR TO MANY, but they are a key element in countless skin care products—they pair best with emollients—such as lotions and hand creams (think CeraVe Therapeutic Hand Cream). “Humectants are ingredients in moisturizers that improve the hydration of the top layer of skin by attracting and binding water,” says Heather Woolery-Lloyd, MD, a dermatologist in Miami. According to the *International Journal of Cosmetic Science*, products containing humectants can rapidly increase skin’s water content by up to 70%. Whether you have dry or oily skin, they work just the same. Let that soak in. —KARLA BORDERS POPE

Damage Control

THE SUN'S ULTRAVIOLET RAYS CAN HARM THE SKIN BELOW THE SURFACE. HERE, EXPERTS WEIGH IN ON HOW TO HELP SPEED UP THE REPAIR PROCESS.

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

CAN YOU REALLY HAVE FUN IN THE SUN? If you ever take a step outside, you are exposing yourself to new sun damage on a regular basis. “The earliest sign of sun damage is the development of freckles,” says Lindsey Zubritsky, MD, a dermatologist in Pittsburgh. “UV rays lead to premature wrinkles, sun spots, pigmentation, loss of collagen, and age spots.”

The problem isn't just what you can see on the surface of the skin—that's just the tip of the iceberg, warns Rajani Katta, MD, a dermatologist in Houston and a clinical assistant professor at Baylor College of Medicine. “One of the most concerning things is that you might see freckling and texture changes, but underneath the surface you're starting to get DNA damage and damage to protein and lipids,” she says. “What that really does is increase your risk for skin cancer down the line.”

So while uneven pigmentation, texture changes, and premature signs of aging are motivating reasons enough to treat sun damage, the unseen damage to DNA in skin cells is what should really prompt serious concern. “UV light is damaging the skin cells' DNA,” says Jeremy Green, MD, a dermatologist in Miami, and an assistant professor at the University of Miami Miller School of Medicine. “One of the concerns is that you'll generate enough damage to the DNA by UV light to trigger the cascade that will eventually lead to the formation of a skin cancer.”

PREVENT SUN DAMAGE

The first step to mitigating the damage is to grab every dermatologist's best friend: a bottle of sunscreen. “Sunscreen is No. 1, 2, and 3 in preventing sun damage,” Green says. The experts advise wearing broad-spectrum SPF of at least 30 every day. And do your best to minimize exposure by wearing protective clothing, wide-brimmed hats, sunglasses, and trying to avoid the sun between 10 a.m. and 4 p.m. when the UV rays are the most intense, Zubritsky says.

THE SCOOP

READ BETWEEN THE LINES

NO MATTER HOW MANY PRODUCTS CLAIM TO ELIMINATE OR PREVENT STRETCH MARKS, NONE CAN REVERSE THE FLAT, DEPRESSED LESIONS ONCE THEY OCCUR ON THE SKIN. VIRGINIA-BASED DERMATOLOGIST **VALERIE M. HARVEY, MD, MPH**, SETS THE RECORD STRAIGHT.



THE SKINNY

Stretch marks develop when collagen and elastin under the skin rupture following rapid weight loss or gain. “They result from a combination of factors including genetic, hormonal, and increased mechanical stress,” Harvey says. “This is why they often develop during pregnancy and puberty.”

—Karla Borders Pope

FINE LINES

Prescription creams may make stretch marks less noticeable. “A few studies have shown that tretinoin may be helpful in improving the appearance of new stretch marks,” Harvey says. “It works by stimulating the formation of collagen in the skin.”

EMBRACE THE GRACE

With no effective way to “undo” stretch marks, Harvey recommends acceptance. “Ultimately, I reassure my patients that stretch marks are not harmful to their health and should be embraced as markers of maturity.”



Search for the article **Can You Reverse Sun Damage?** at WebMD.com.



There's another reason to step up your sunscreen use starting today. A study following 32 subjects showed that using SPF for a year allowed skin to repair some of the visible sun damage. All of the subjects who applied SPF 30 showed an improvement of uneven pigmentation and texture and likely prevented additional sun damage after a year of regular use. Katta says the theory is that shielding the skin from UV damage allows the body to ramp up its natural repair mechanisms to reverse the consequences of past sun exposure.



Search for the slideshow **Stretch Marks: Causes and Treatment** at WebMD.com.



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Janiene Luke, MD,
dermatologist, Loma Linda, CA



PRODUCT PICK

EltaMD UV Aero Broad-Spectrum SPF 45 (\$33)

"This sunscreen provides broad-spectrum protection from UV rays with a transparent finish and a convenient aerosol spray to ensure that no spot is missed."

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dermatologist, Birmingham, AL



PRODUCT PICK

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Pearl E. Grimes, MD,
dermatologist, Los Angeles

—KBP



Search for the article [How to Choose the Right Sun Protection](#) at [WebMD.com](#).

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REACH FOR THE RETINOL

The next weapon in the skin docs' arsenal is a retinoid. These topical creams are forms of vitamin A and are available by prescription or over the counter in the form of retinol. "Retinoids bind to certain receptors in your skin cells to prevent collagen breakdown and help your skin regenerate," Katta explains. "They help refresh that top layer of skin and improve brown marks and some texture changes." What this means is that these creams work at the cellular level to improve the skin, encourage cellular turnover, and repair damage. "Retinoids make the skin more robust and healthy," Green says. "If you could bathe in the stuff it would be great."

COP A CHEMICAL EXFOLIANT

Another way to help improve cellular turnover is to use a chemical exfoliant to slough off the surface skin cells. "Alpha hydroxy acids like glycolic acid and lactic acid can also help increase cell turnover, which minimizes the appearance of dark spots and wrinkles," Zubritsky explains. You can find these ingredients in many cleansers, moisturizers, masks, and at-home peels.

ADD ANTIOXIDANTS

Katta says you can also bolster your skin's regenerative properties with antioxidants—both internally and externally. Topical

vitamin C serums can add another layer of protection from sun damage when paired with sunscreen by neutralizing oxidative stress caused by sunlight. She also likes to ensure her diet is packed with antioxidant foods that can stimulate cellular repair from within. "If you have antioxidant rich foods in your diet, you can start to quench the free radicals that damage the proteins, lipids, and DNA."

TURN TO PHOTODYNAMIC THERAPY

Your dermatologist can always recruit some potent skin-repairing tools. They have a variety of prescription creams that can address actinic keratosis, patches of scaly skin that often indicate a precancerous condition. In addition, in-office chemical peels and laser resurfacing can work to speed turnover of the surface layer of the skin so healthier, undamaged cells appear.

Another dermatologist top treatment is photodynamic therapy. Green explains that a light-sensitizing agent is applied to the skin then activated by a blue light, which destroys the fast growing cells. "PDT treats the visible precancers like actinic keratosis as well as those we're not able to see," he says.

No matter your level of sun exposure, the time to treat your sun damage is now, Green says. "You're given one skin, so it's never too late to protect it."

Get Glowing

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BY Karla Borders Pope

REVIEWED BY Karyn Grossman, MD, WebMD Medical Reviewer

1. VANISHING ACT

First Aid Beauty KP Bump Eraser Body Scrub, \$28

"This scrub has many ingredients that help smooth body skin, but is especially helpful for those with keratosis pilaris [a skin condition that causes tiny bumps and dry patches]. With crushed pumice, lactic acid, and glycolic acid to exfoliate, it also has licorice root extract to help fade dark marks and colloidal oatmeal to calm irritation."

2. GO NUTS!

Dove Exfoliating Body Polish Crushed Macadamia & Rice Milk, \$6

"This exfoliator is perfect for those looking for a smoother feel or want to prep skin prior to self-tanning. The smell is also decadent without being overwhelming and makes for an at-home spa experience in the shower. Plus, you can't beat the drug-store price."

3. SOOTHE OPERATOR

DERMAdoctor KP Duty Dermatologist Formulated Body Scrub with Chemical + Physical Exfoliation, \$50

"Another great option for those with keratosis pilaris, this product helps smooth skin with physical and chemical ingredients like lactic and glycolic acids that loosen the glue that holds skin cells together. The azelaic acid and green tea help brighten skin. As with most exfoliants, use two to three times a week."

4. POLISH TO PERFECTION

Skinfix Resurface+ Glycolic Renewing Body Scrub, \$30

"I like this product because it's fragrance-free and uses biodegradable bamboo polishers for immediate effect. It also has a low concentration of lactic and glycolic acids to help exfoliate and brighten."

5. REMOVE, RENEW, AND REFRESH

Dermalogica Thermafoliant Body Scrub, \$44

"Ideal for sensitive skin, this scrub provides a polishing effect thanks to lactic acid and silica beads that help remove skin cells that were ready to come off from the surface layer of the skin. Our skin cells exfoliate and renew on their own, but some things [like increased age] can slow that process down."



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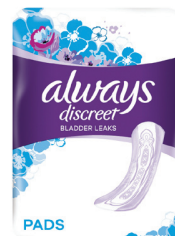
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& CHIEF MEDICAL AND HEALTH OFFICER





PETS

Big Loss

SOME KIDS FEEL THE EFFECTS OF AN ANIMAL'S DEATH FOR YEARS AFTER



Search for the article **What Is Normal Grieving, and What Are the Stages of Grief?** at [WebMD.com](https://www.webmd.com).

PARENTS: THE DEATH OF THE FAMILY DOG OR CAT may be far more traumatic for your little one than you think. It's often one of the first major losses that a child faces. And, according to a study of 6,260 children under age 8, many kids, especially boys, still show signs of depression or psychological distress 3 years after the loss of a pet. Small children can form bonds with pets similar to the ones they form with people, the researchers say. Kids confide in their furry friends and get affection, comfort, and security from them. So, don't dismiss your little one's big feelings. Take the time and tenderness to recognize their pain. And, if it seems the pain goes deeper or lasts longer than it should, ask your pediatrician whether your child might benefit from a chat with a professional. —SONYA COLLINS

Fit Companion

HOW TO KEEP YOUR BESTIE BRIGHT-EYED AND BUSHY-TAILED

BY Stephanie Watson REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Director



Search for the article **Your Pet's Nutrition Needs** at [WebMD.com](https://www.webmd.com).



OUR PETS GIVE US UNCONDITIONAL LOVE. In return, it's our job to keep them healthy and happy.

Food is medicine for pets, just as it is for people, says Sarah Reidenbach, DVM, a veterinarian in northern California and CEO of the nonprofit organization, Ruthless Kindness. If your dog's or cat's diet lacks certain vitamins and minerals, the nutritional shortfall can show up as hair loss, skin infections, or a noticeable sluggishness, she says.

With so many pet food choices available—wet, dry, refrigerated,

home cooked, grain-free—how do you know which one is best for your furry friend? “It’s completely overwhelming,” Reidenbach acknowledges. “Really, what works for your pet is your guiding principle.”

She recommends that you check the package to make sure the brand meets the Association of American Feed Control Officials (AAFCO) standards, which certifies that the food contains balanced nutrition.

Stick to the recommended portion size, and don’t give in to those sad puppy eyes when your pet begs for treats. Obese dogs and cats can get the same chronic diseases as overweight humans, including diabetes and arthritis.

Exercise is essential for your pet’s physical health and mental stimulation. But unlike humans, there aren’t any guidelines on how much activity they need. Different breeds have different requirements, Reidenbach says. You can get a sense of your pet’s activity level when you play together. “Some breeds and personalities definitely need more stimulation than walking,” she adds.

If you have a high-energy dog, try an agility course, or take your dog with you for a hike, skate, or swim. For more of a bonding experience, do a downward facing dog with your real dog during an in-person or online yoga class. Just make sure your dog is well-behaved enough to stay by your side through the whole class.

Cats aren’t the best walking companions, but you can still keep them from getting too sedentary by incorporating play into every day. “Most cats like toys that remind them of prey—things like dangling feathers or little cloth mice,” Reidenbach suggests.

If your pet has slowed down from arthritis, try veterinary acupuncture. Just like its human counterpart, this technique uses very thin needles to stimulate various pressure points around the animal’s body. Research shows acupuncture helps to improve movement and relieve pain in dogs and cats. Plus, some pets find it relaxing.

One of the most important things you can do for your pet is to take them for vet visits about once a year, and get all their scheduled vaccinations. During those appointments, bring up anything that doesn’t seem right. “Coughing, vomiting, losing weight, going to the bathroom in the house more than normal—anything that seems off to you,” Reidenbach says.

4 TIPS

SARAH REIDENBACH, DVM, SHARES PRACTICAL ADVICE ON HOW TO KEEP YOUR PET HEALTHY.

1. LIMIT HUMAN FOODS

Too many table scraps can lead to weight gain. Be extra careful about people foods like chocolate, grapes, raisins, garlic, and macadamia nuts, which are toxic to pets.

2. DON'T OVERDO SUPPLEMENTS

Most are not well-studied in animals. Ask your vet before you give your pet any supplement.

3. SEE A BEHAVIOR SPECIALIST

Veterinary behaviorists can help with issues like separation anxiety, aggressiveness, or excessive fear.

4. PAY ATTENTION TO YOUR PET'S CUES

Let your dog or cat tell you what makes them happy, whether that's a belly rub or some extra space.



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BY THE NUMBERS

6+ HOURS

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85%

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KIDS' HEALTH

Tablet Trouble

NOW THAT MORE CHILDREN ARE DOING REMOTE LEARNING DURING THE PANDEMIC, SCREEN TIME HAS INCREASED. KEEP EYES HEALTHY WITH THESE TIPS.

BY Lisa Marshall

REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Director

PREPANDEMIC, CSILLA SOMOGYI did all she could to limit screen time for her daughter Nalisse.

She reserved tablet use for airplane rides, limited TV to an hour at night, and shunned video games and YouTube for craft projects and outdoor play. But with second grade fully remote this past fall, and social-distancing measures relegating even playdates to glowing devices, screen time abruptly went from rare treat to way of life, consuming up to 8 hours per day for her 7-year-old.

"When she looked at me one day and said, 'Mom, my eyes hurt,' that was a wake-up call," says Somogyi, a fashion designer in Austin, TX. "I thought, 'If every American child is staring at a

screen all day every day, what could that mean long term for their vision?'"

Eye doctors nationwide have been fielding similar questions from parents and witnessing an uptick of young patients complaining of eyestrain, fuzzy vision, or headaches. In most cases, they reassure, the symptoms are temporary and preventable. But with mounting evidence suggesting excess screen time could be partly to blame for an increase in nearsightedness, some can't help but wonder whether the pandemic might make it worse.

"I get multiple questions every day from parents worried about how much time their kids are spending on screens," says pediatric

ophthalmologist Kathy Whitfield, MD, medical director of the Kittner Eye Center at the University of North Carolina at Chapel Hill. "I am concerned too. But there are a lot of things we can do to help keep children's eyes healthy."

LONG-TERM WORRIES AND SHORT-TERM DISCOMFORT

In the United States today, 42% of people suffer from nearsightedness, or myopia, an irreversible eye disorder that in rare cases can lead to retinal detachment, glaucoma, cataracts, and even blindness. It's twice as common today as it was in 1970.

While research is mixed, some studies suggest near-work activity, such as reading or watching shows on electronic devices, may be fueling the increase.

One review of 27 studies that included 27,000 kids concluded that for every hour spent on near-work activities weekly, risk of developing nearsightedness rose 2%. Another found that teens who used screens more than 6 hours daily are twice as likely to be nearsighted.

Some theorize that focusing for too long too close elongates the developing eye over time, boosting risk of nearsightedness. Others suggest that time spent on screens, rather than outside, may be the problem.

For these reasons, Megan Collins, MD, a pediatric ophthalmologist at Johns Hopkins School of Medicine in Baltimore, tells her patients two key things:

Children should back up, keeping their device at least 18 inches from their eyes. And they should go outside for at least an hour every day.

"It could be that the sunlight or physical activity has a beneficial effect or it could be that they're not staring at something up close during that time," she says, pointing to robust research linking outside time with reduced risk of nearsightedness.

BLINK MORE, DIM THE SCREEN, TAKE A BREAK

Potentially long-term problems aside, Collins says she is already seeing more kids coming in with tired or sore eyes.

A likely culprit: They aren't blinking enough.

"Blinking is like the windshield wipers for your eye," she says, noting that each blink scrapes away debris and spreads lubricating tears. When we stare at screens, we blink half as much. "You don't blink, so your eyes get dry, so when you do blink it hurts. It's a downward spiral."

Collins advises kids to blink at the end of every paragraph or math problem. They should also abide by the 20-20-20 rule: Every 20 minutes, take 20 seconds to look at something 20 feet away.

What about those fancy blue-light-blocking glasses? "I do not see the scientific evidence behind them to be compelling," Collins says.

Fortunately, Nalisse spoke up to her mom, who promptly dimmed her screen, pulled her chair back, and encouraged her to do her homework with pencil and paper whenever possible.

But experts caution that children are often less likely than adults to notice and mention symptoms. And with many schools—a key place for kids to get eye exams—temporarily closed, deteriorating eyesight may be going unnoticed.

Caregivers should keep a watchful eye for things like kids rubbing eyes and squinting, they say.

Meanwhile, limit screen time where you can. If a child is spending far more time on screens for school, consider limiting YouTube or video game time to after school and in the evening.

"Children's eyes are still developing," Whitfield says. "If we can make a difference when they are young, it can have impact for a lifetime."

5 TIPS TO PREVENT EYE STRAIN IN CHILDREN

- Set a timer, and remind your child to take a break every 20 minutes.
- Position laptops or tablets at least arm's length and at eye level.
- Never look at a bright screen in a dark room. It's hard on the eyes.
- Go outside. Studies show time spent outside in natural light can reduce risk of nearsightedness.
- To reduce glare, position the light source behind the back, not behind the computer screen. Don't use it outside where glare can boost fatigue.



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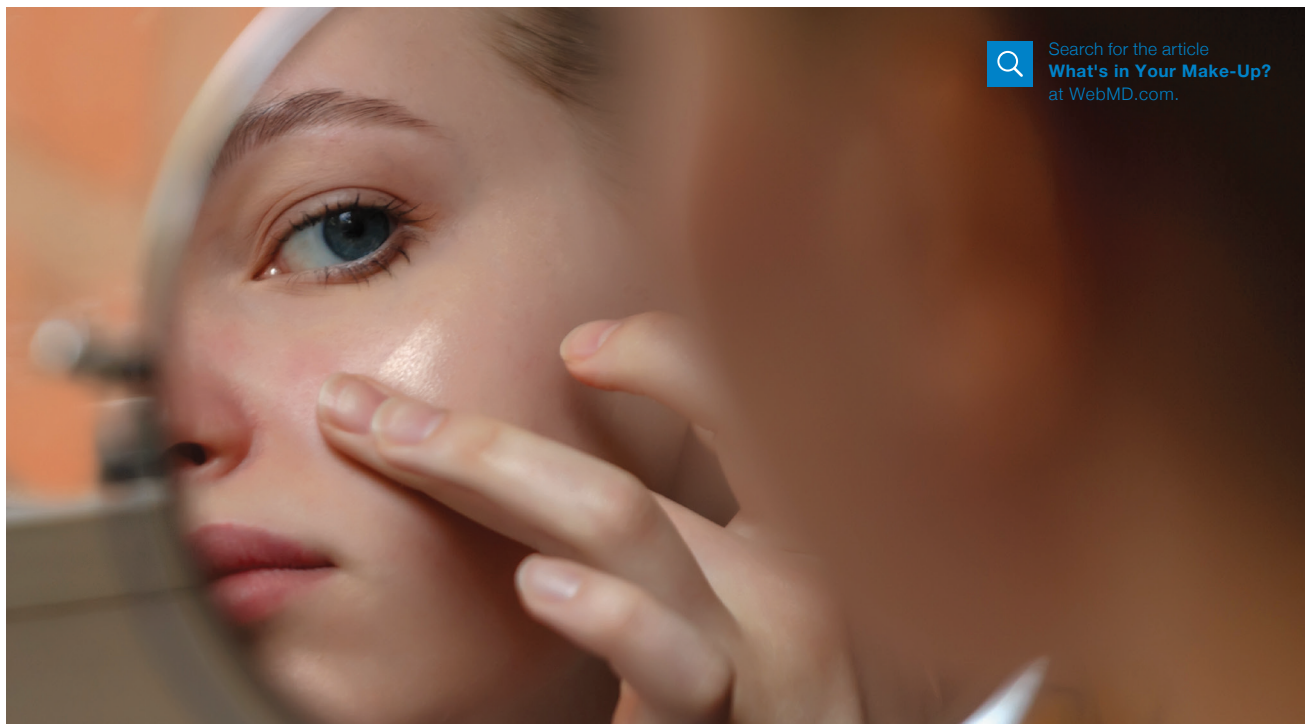
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TEENS

Is Your Child Using Safe Personal Care Products?

IF YOU'RE NOT PAYING ATTENTION, TOXINS COULD BE CREEPING INTO YOUR KID'S BODY. HERE'S A QUICK RUNDOWN FROM NNEKA LEIBA AT THE ENVIRONMENTAL WORKING GROUP OF WHAT TO LOOK FOR AND WHAT TO AVOID.

BY Neha Pathak, MD, WebMD Medical Editor

WHEN IT COMES TO TEENS, parents worry a lot about what they put *in* their bodies. But what many parents may not be paying attention to are the toxic ingredients that their teens are putting *on top of* their skin.

According to the nonprofit Environmental Working Group (EWG), teenagers use up to 17 different personal care products, from cosmetics to deodorants, soaps, and moisturizers. These products can introduce hundreds of different chemicals into their blood at a time when they are still growing and developing. You should think of skin more like a sponge, than a shield. Over time, toxins can build up and lead to a variety of health problems. This is what's known as the chemical body burden.

As parents and adolescents learn more about the health risks, many are turning to "green" or "clean" products.

Here, Nneka Leiba, MPH, vice president of Healthy Living Science at EWG, shares some basics on choosing the safest available personal care products and why it's important for both teens and the environment.

Q What are the risks?

LEIBA Many commonly used chemicals in personal care products have been linked with health problems. Some are associated with an increased risk of certain cancers, like breast cancer. Others are thought

GETTY IMAGES

FOR YOUR TEENAGER

THESE EWG VERIFIED™ PRODUCTS OFFER A HEALTHIER TAKE ON SELF-CARE

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mynaturaldeodorant.com

to be endocrine disruptors, or chemicals that interfere with hormones, increasing the chance for early puberty and infertility. Along with injuring certain organs, some of these substances are also known as “forever chemicals” and can be damaging to the environment.

Q What does “clean” really mean?

LEIBA Unfortunately, labels like “green,” “nontoxic,” and “natural” may sound good, but they don't mean a whole lot. There are no rules or regulations around these terms so companies can use them on their labels even if there are a variety of toxic chemicals in their products. There are more than 10,000 chemicals that can be used to make cosmetics and other personal care products, but the FDA has only set restrictions for 11 ingredients. California recently passed the Toxic-Free Cosmetics Act, which bans 24 of the most hazardous toxic chemicals.

The European Union, on the other hand, has set rules around more than 1,600 hazardous chemicals.

Q What can be done to reduce the risk?

LEIBA It's much more important to pay attention to what's on the back of the label in the ingredients list than it is to the front of the label where items can be promoted as nontoxic, clean, or green. People

should use products from companies that are transparent about their ingredient lists. This helps consumers identify “chemicals of concern.”

But reading labels can be hard for the average consumer. Most chemicals have names that can barely be pronounced, let alone recognized as unsafe.

California has created a government database to help consumers choose safer products, known as the California Safe Cosmetics Program Product Database (<https://cscpsearch.cdph.ca.gov/search/publicsearch>).

Several nonprofit organizations also have tools that can help consumers identify products with the safest ingredients and those that do the least amount of damage to the environment. EWG has a free, science-based tool known as the Skin Deep cosmetics database (ewg.org/skindeep). Another organization, known as Cradle to Cradle (c2ccertified.org), also provides a certification for safer more sustainable products.

Sustainability is becoming even more important now that we know that plastic packaging outlives the personal care products that we replace every few months by more than a lifetime. In the U.S. alone, containers and packaging accounted for 82.2 million tons of waste added to landfills in 2018.



CHEMICALS OF CONCERN

CHECKING INGREDIENT LISTS FOR SOME OF THESE CHEMICALS CAN HELP YOU AND YOUR TEEN CHOOSE SAFER PERSONAL CARE PRODUCTS.

FORMALDEHYDE/ PARAFORMALDEHYDE/ METHYLENE GLYCOL:

Linked with cancer, can also damage the skin, lungs, and immune system

BRONOPOL/DMDM HYDANTOIN/ QUATERNIUM-15:

Formaldehyde releasers linked with cancer, and also linked to skin allergies

MERCURY:

Damages nervous system, really harmful for children

PHTHALATES (OFTEN FOUND IN FRAGRANCES):

Endocrine disruptors, harm reproductive system, harmful to the environment

PARABENS (BUTYL, PROPYL, ETHYL PARABENS):

Endocrine disruptors, harm reproductive system, linked with cancer

PFAS AND PFCS (GROUPS OF CHEMICALS):

Linked to cancer, hormone disruptors, harm reproductive system, harmful to the environment (“forever chemicals”)

M- AND O-PHENYLENEDIAMINE (FOUND IN HAIR DYES):

Damages nervous system, really harmful for children

—NP



Two of a Kind

THE FERTILITY ISSUES SAME-SEX COUPLES FACE WHEN TRYING TO CONCEIVE

BY Stephanie Watson

REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Director

STARTING A FAMILY IS A BIG STEP FOR EVERYONE, but having a child is more complicated when both partners are the same sex. When a couple is gay or lesbian, they're missing at least one essential piece of the conception puzzle.

"To conceive, you need a sperm, an egg, and a uterus," says Amanda Adeleye, MD, assistant professor of obstetrics and gynecology, and reproductive endocrinologist at the University of Chicago Medicine. In the absence of any of these elements, couples need help—often from a fertility clinic.

A Gay Couple's Journey to Pregnancy

Gay couples start out with sperm, which either partner can contribute.

What they lack is an egg and a uterus, which typically don't come from the same woman. "The general consensus is that it's not ethical to do so, and it poses too many potential problems for the couple because the infant carries the woman's genetic material," says Jennifer L. Eaton, MD, director of the Division of Reproductive Endocrinology and Infertility at Women & Infants Hospital and the Warren Alpert Medical School of Brown University in Providence, RI.

Instead, most gay couples use a donor egg and a gestational carrier, or surrogate, who could be a friend, family member, or a woman the couple find through an agency. Mark Leondires, MD, and his husband had two different surrogates, one for each of their two children.

Gestational carriers must undergo a "rigorous screening process," says Leondires, who is also founder and medical director of Reproductive Medicine Associates of Connecticut (RMACT). There are a battery of tests to make sure her uterus is healthy enough to carry a pregnancy, she has no infectious diseases, and she's emotionally ready to undergo the process.

The ideal gestational carrier should be between the ages of 21 and 45, in good health, and have had at least one child of her own. That last part is important, Eaton says. "We know they're able to carry a pregnancy to term and had a history of having a healthy infant." She adds, "Studies have shown that women who have given birth to their own child are less likely to feel an attachment to the baby they're carrying for somebody else."

The couple also chooses donor eggs, which typically arrive frozen from an egg bank. The eggs are thawed, fertilized with sperm via in vitro fertilization (IVF), cultured in a lab, and then transferred to the gestational carrier's uterus.

A Lesbian Couple's Journey to Pregnancy

Female couples come into the process with eggs and a uterus, but they have an important decision to make. Who will carry the pregnancy, and who will provide the egg? The answer comes down to a combination of personal choice and biology.

Lorie Mason was already 42 when she and her wife, Shannon, started the process of having their first child. They decided Shannon, who is almost 8 years younger, would use her egg and carry the pregnancy. "I would have had to do all of these fertility treatments," Lorie Mason says.

From there, couples can decide to purchase sperm from a donor through a bank, or ask a friend or family member. Lorie Mason says they searched for their donor for months, a process she likened to buying a house. "We were looking for someone with a Polish background because I wanted to tie it into my culture. And blue eyes, because I have blue eyes. We obviously wanted someone who didn't have any major diseases in their extended family," she says. They also wanted an open process, to give their children the option of meeting their donor someday.

The most straightforward and cost-effective way for lesbian couples to conceive is through intrauterine insemination (IUI), in which the fertility clinic places the donor sperm directly into the uterus of the partner who is carrying. The clinic can either time the IUI to coincide with the woman's natural ovulation, or induce ovulation with medication.

IUI doesn't always work, however. The couple went through seven

cycles with no luck. Ultimately, they turned to in vitro fertilization (IVF), which took on the first try.

When both partners want to be part of the process, they can use reciprocal IVF. One partner provides the egg, which is fertilized via IVF. The other partner receives the embryo and carries the pregnancy. But because IVF is expensive and more invasive, “Usually that is not the first pathway couples will go down,” says Suneeta Senapati, MD, assistant professor of obstetrics and gynecology at the Hospital of the University of Pennsylvania, and director of third-party reproduction at Penn Fertility Care.

The Hurdles

The path to parenthood is filled with obstacles for same-sex parents. Two decades ago, many gay couples had to pretty much forgo having their own children because fertility options weren’t available to them. “That was our ‘cross to bear,’” Leondires says.

Even now, gay and lesbian couples face emotional, financial, and legal hurdles. The Masons were jealous of their straight friends who seemed to get pregnant with little effort. Having their two children “was a lot of work, and very emotional and expensive,” Shannon Mason says. “That’s one thing we can tell our kids,” Lorie Mason adds. “You were not a mistake. We meant to have you.”

Access to a Clinic

Just finding a fertility clinic that works with gay and lesbian couples can be challenging. One study found that only half of fertility clinic websites had LGBTQ-related content on their pages. Clinics in the Midwest and South were less likely to be inclusive than were clinics in the Northeast and West.

Using a clinic that’s experienced in the procedures lesbian and gay couples use to conceive is important. “There are very specific protocols that need to be in place when using eggs and sperm that are not from the couple,” Senapati says.

Cost

Every part of the fertility process costs money, starting with the eggs or sperm couples will need. Women have the advantage of already having an egg and uterus, but a single vial of sperm can cost close to \$1,000. And if a lesbian couple want genetically related children or are concerned they won’t get pregnant on the first try, they may need to buy several vials from the same donor upfront.

IUI costs between \$300 and \$1,000 per try, and the chances of getting pregnant each cycle are just 15% to 20%, even when there are no fertility issues involved. IVF costs an average of \$12,000 to \$15,000 per attempt, not counting medications. Fortunately, for Lorie and Shannon Mason, they were able to enroll in a clinical trial that paid for their IVF. “But even the drugs were \$3,000,” Lorie Mason says.

For men, the added cost of the surrogate — up to \$150,000 for the agency plus IVF — can be prohibitive. And it can take multiple embryo transfers to achieve a pregnancy.

Even if same-sex couples are lucky enough to have health insurance that covers infertility treatments like IVF and IUI, they may not qualify. Insurance coverage often doesn’t kick in until a couple has had unprotected sex for at least 12 months without conceiving, which leaves out gay and lesbian couples.

A few nonprofit organizations offer grants or scholarships to help offset the costs of fertility treatments, including the Cade Foundation (cadefoundation.org), the Baby Quest Foundation (babyquestfoundation.org), and Journey to Parenthood (journeytoparenthood.org). Organizations like the American Society of Reproductive Medicine (asrm.org) and Resolve (resolve.org) can also help couples find funding and other resources.

Legal Barriers

When a same-sex couple have a child, the partner who isn’t the genetic parent will need

legal documentation to have any rights over the child. In most states, the person who gives birth to the child is considered the legal parent, which means the gestational carrier must give up parental rights in order for the process to move forward. Because of the legal challenges involved, “We recommend that couples meet with a reproductive lawyer,” Senapati says.

Emotional Issues

Conceiving a child can be a stressful and sometimes frustrating process for same-sex couples. Even in the best of circumstances, fertility treatments may not work on the first try.

As women get into their late 30s and beyond, the less likely it is that they’ll conceive during any given cycle. “It takes a lot of cycles and a lot of time, emotional determination, persistence, and strength to get there,” says Taraneh Nazem, MD, a reproductive endocrinologist and infertility specialist at RMA of New York.

Acceptance can be another issue. Although nontraditional families are becoming more commonplace, sometimes friends and families aren’t immediately on board. “There are scenarios where people may not have the support they would like, or they feel very alone in this process,” Senapati says.

A visit with a reproductive psychologist can be invaluable before you try to conceive. “We met with a mental health professional who was experienced in third-party reproduction, who guided us through the decision making,” Leondires says. A psychologist can also help you decide how to tell your child their origin story someday.

Another place for couples to turn is an online or in-person support group, Nazem says. “Support groups are key in this process—knowing that you’re not the only one who’s had to break down barriers or deal with challenges.”

BY THE NUMBERS

114,000

The number of same-sex couples who are raising children in the United States.

24%

Amount of female couples who are raising children.

8%

Amount of male couples who are raising children.

Slumber in the Age of COVID-19

IS OUR SLEEP BETTER OR WORSE AMID THE PANDEMIC? THAT DEPENDS ...

BY Lisa Marshall REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Director

FIRST THE GOOD NEWS: One year into the pandemic, we're sleeping as much as, if not more than, we did before it started, new research shows. But the timing and—for some groups—quality of that sleep has changed radically, worrying some sleep specialists.

"We are seeing more people going to bed much later and waking up much later, and we have concerns that could have health consequences in the months and years to come," says neurologist Alon Y. Avidan, MD, director of the UCLA Sleep Disorders Center.

One study of 1,619 preschoolers in China found that after stay-at-home orders were implemented, they went to bed 57 minutes later and woke up an hour and 52 minutes later. Because they napped less, they ended up sleeping about as much total as prepandemic. Surprisingly, they also resisted bedtime less and had fewer nightmares.

Another study, of 139 U.S. university students, found that after classes moved online in spring 2020, they stayed up about 50 minutes later each night, but ended up getting about a half-hour more sleep on average. Those who were the most sleep-deprived pre-pandemic got a whopping 2 more hours of ZZZs nightly.

"It's not all bad news," says Judith Owens, MD, director of sleep medicine at Boston Children's Hospital and senior author of the Chinese study.

For some families, she says, remote work schedules have allowed parents to spend more time with their

children, a factor that could help them sleep more soundly. And for teenagers, who tend to naturally get tired later than adults, remote schooling has provided a rare opportunity to sleep in.

"Because they are more likely to get enough sleep, and the timing of that sleep is more in line with their natural circadian rhythms, adolescents may actually be benefiting," Owens says.

However, not everyone is sleeping soundly. Youth with autism and ADHD, who tend to find comfort in a set schedule, have been flooding Owens's clinic complaining of sleep problems since quarantines threw those schedules into chaos.

While adults have been shown to be sleeping about 13 minutes more, they are increasingly struggling with nightmares and anxiety, Avidan says.

He also worries about what will happen when patients who have been staying up until 1 a.m. and sleeping until 11 a.m. have to resume hitting the shower at dawn to make an 8 a.m. class or meeting.

And he notes that, regardless of age, chronic night owls tend to miss out on the many health benefits of early morning sunlight. Due to impacts on hormones and metabolism, they are also at greater risk of obesity, diabetes, and depression.

Your best bet, pandemic or not, they say: Shoot for 7 to 9 hours of sleep (more for children), pick a reasonable bedtime, and stick to it.

"We have known for a long time that, no matter your age, having a consistent bedtime is associated with more sleep and better sleep," Owens says.

5 TIPS FOR BETTER SLEEP

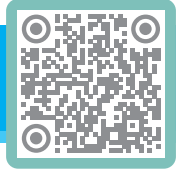
- Use light-blocking shades to keep your room dark.
- Use a fan to keep your room cool.
- Refrain from using electronics within 1 hour of bedtime (the blue light can suppress hormones that promote sleepiness).
- Get bright light in the morning (it promotes alertness).
- Keep a regular schedule. Eat meals, get exercise, and go to bed around the same time each day.

 Search for the article
Your Better Sleep Checklist at
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Taking Nothing for Granted

BY STEPHANIE WATSON

REVIEWED BY BRUNILDA NAZARIO, MD, WEBMD LEAD MEDICAL DIRECTOR



PHOTOGRAPHY: JIM JORDAN

After bouts with COVID-19
and breast cancer, actor
RITA WILSON
now has a new lease on life

In March of 2020, Rita Wilson and her husband, Tom Hanks, announced they'd tested positive for COVID-19, making them among the first celebrities to go public with the diagnosis. Their decision to come forward was heroic in its own way, given the fear associated with the virus. The revelation removed some of the stigma surrounding COVID-19, and emboldened other celebrities to reveal their own diagnoses.

On March 29, shortly after she'd recovered, Wilson posted an Instagram message in which she wrote, "I am so thankful for my health."

As it happened, the date marked another milestone—5 years had passed since her medical team declared her breast cancer-free. In the same post, she expressed gratitude for "the doctors, nurses, friends and family who got me through that time."

Wilson was originally diagnosed with lobular carcinoma in situ (LCIS), abnormal cells in her breast's milk-producing glands, called lobules. LCIS isn't cancer, but it increases the risk for invasive breast cancer. The LCIS eventually turned into pleomorphic lobular carcinoma in situ (PLCIS), a form doctors believe is more likely to turn into cancer than LCIS. After Wilson had lumpectomies

(surgery to remove the abnormal tissue), her doctor told her she didn't have cancer, but "I had a gut feeling," she says.

"Some fraction of patients who are diagnosed with LCIS will eventually go on to develop an actual cancer, either from that original site or somewhere else in the breast," says V.K. Gadi, MD, PhD, professor and director of Medical Oncology at the University of Illinois at Chicago. (He did not treat Wilson.)

It turned out Wilson was one of them. When she got a second opinion, she learned that her PLCIS had progressed to invasive lobular carcinoma.

Suddenly, she saw that cancer was no longer a disease that only happened to other people. "Once you have something happen to you, you realize that you're just a statistic," she says. "There's nothing that protects you."

SURVIVING CANCER

The months following Wilson's cancer diagnosis were filled with a series of critical tasks needed to plan and carry out her treatment. Therapy for invasive lobular carcinoma can involve a lumpectomy or a mastectomy. Wilson opted for a double mastectomy, followed by breast reconstruction surgery.

Staying focused on the process of surviving left her little time to dwell on the enormity of having cancer. "Once I had the permanent implants put in and the surgery went well, then I could start feeling a bit more relaxed," she says.

Mindfulness meditation helped her get through that dark time. She made it a permanent part of her post-cancer lifestyle, along with other healthy habits like swimming, walking, and practicing yoga. She began to eat less red meat, replacing it with more fish and grains. And she cut back on alcohol, which some studies suggest can increase the risk for breast cancer recurrence.

"These things are now a part of my life. They're not going to change," she says. "Once you've had a health crisis, you don't want to mess around with it."

"THROW ME A PARTY"

Before Wilson was pronounced cancer-free and could begin to feel a sense of relief, she had moments of anxiety and fear. The uncertainty of not knowing whether her cancer would cooperate with treatment, or if she'd survive her surgery, led to a discussion Wilson never expected to have in her 50s.

"I was having a conversation with my husband, which was about if I should go before him, certain things that I'd like to have happen. One of them was, 'I'd like you to throw me a party. And I want to have all of my friends there,'" she recalls. "I wanted it to be something that allowed people to celebrate my life."

She captured her request in the song, "Throw Me a Party," featured on her 2019 album, *Halfway to Home*. One line goes, "I always lived like there wasn't enough time." Cancer brought a keen awareness that time is a resource in limited supply.

"The choices that I made after that were that I only wanted to do the things that I really love ... and do the work that I feel is really meaningful," she says.

WHAT DO I WANT?

The discovery of her life's meaning came relatively late. Her acting career had already spanned more than 30 years, with memorable roles in films like *Sleepless in Seattle*, *Runaway*

Bride, and *Jingle All The Way*. In 2005, Wilson had a soul-searching moment when she finally asked herself, "What do I want?"

The impetus for the question came from an interview with Oprah Winfrey she'd read in the *Los Angeles Times*. The multimedia icon attributed her success to her ability to find clarity about her purpose in life. "I ask people what it is they want," Winfrey said in the article, "and you would be amazed at how few of them know."

*"I feel
like people have things
inside them that they
want, that are yearnings
... something that they
feel is a true part of who
they are. For me that was
always music ..."*

—Rita Wilson

... If you focus on what you want, things clear up. If you don't, you get stuck in this muddled, fuzzy place."

Wilson had been so caught up with her acting career and family (she has two sons with Hanks), that she hadn't even considered what she wanted. But once she stopped to think about it, the answer was clear.

"It was music," she says.

"I feel like people have things inside them that they want, that are yearnings ... something that they feel is a true part of who they are. For me that was always music, but I had become an actor at such a young age and that took off, and I never really looked back."

In 2012, she released an album of cover songs called *AM/FM*, but she secretly yearned to be a singer-songwriter. Without the ability to read music or play an instrument fluently, Wilson figured it was out of the question. Then, a chance meeting with



Surviving Cancer

Rita Wilson was diagnosed with lobular carcinoma in situ (LCIS), and later with invasive lobular carcinoma. V.K. Gadi, MD, PhD, explains what that means:

- **LCIS is a precancerous condition** in which abnormal cells form in the milk-producing glands (lobules) of the breasts.
- **People with LCIS are seven to 11 times more likely** to develop invasive cancer in either breast.
- **LCIS is hard to feel.** Because it hides in normal breast tissue, it doesn't form a lump. Doctors monitor their patients who are diagnosed with LCIS with regular mammograms, and possibly MRI.
- **Treatment depends on the extent of the disease.** Mastectomy is one option. Bilateral (double) mastectomy can be done to treat the cancer, prevent cancer in the other breast, or make reconstructive surgery easier. Some people get hormone therapy afterward to prevent their cancer from returning.
- **The prognosis for lobular cancer is generally good.** If it's well-managed, it doesn't come back very often.



Performing at The Drop in the GRAMMY Museum in L.A. in 2019



TOP RIGHT: WILSON ATTENDS THE WOMEN'S CANCER RESEARCH FUND'S 'AN UNFORGETTABLE EVENING' IN BEVERLY HILLS IN 2020

BOTTOM LEFT AND RIGHT: THE HUSBAND-AND-WIFE DUO ATTEND THE 2019 CEREMONY HONORING WILSON WITH A STAR ON THE HOLLYWOOD WALK OF FAME

*"It's
really
about not
taking
anything
for
granted.
Not one
thing."*

-Rita Wilson





PHOTOGRAPHY: JIM JORDAN

producer/songwriter Kara DioGuardi landed her a mentor. “Kara asked me, ‘What do you want to do?’ I said, ‘I’d give anything to write a song like you.’ She said, ‘Well, why can’t you do that?’” DioGuardi offered to write the first two songs with her.

Her first original album, the country/pop-inspired *Rita Wilson*, came out in 2016. It included collaborations with a roster of top songwriters/producers (Kristian Bush of Sugarland, Richard Marx, and the Warren Brothers, among others). She followed it up in 2018 with *Bigger Picture*.

COVID DAYS

Wilson now counts herself among the members of two survivor communities—breast cancer and COVID-19. She and her husband fell ill with the virus and recovered in Queensland, Australia, where Hanks had been filming a Baz Luhrmann movie about the life of Elvis Presley, and Wilson had performed a concert at the Sydney Opera House.

It’s an experience she doesn’t want to relive. “It was about 10 days of very bad [symptoms]. I had a relatively high fever. I was extremely nauseous. I had vertigo. I had stomach issues, achiness, and a headache that would not go away. I lost taste and smell. All of these things, combined with this unbelievable shivering,” she says. “I never want to get it again.”

If there could be any upside to her two-weeklong quarantine in Australia, it was the surprising collaboration that came out of it. On March 22 of last year, Wilson posted an Instagram video of herself rapping along with Naughty By Nature’s 1992 classic, “Hip Hop Hooray.” She’d learned the tongue twister of a song for the 2019 film *Boy Genius*, a process that she compares to “learning Shakespeare, but if you’ve never spoken English.”

COVID-19 had left her feeling a little “fuzzy.” She recorded herself performing the song to see if her mind was still limber enough to remember the lyrics. “I thought, maybe I’ll post it to let people know I’m doing OK,” she says. “And it became crazy viral.”

The hip-hop trio loved it so much that they teamed up with Wilson on a remix. All profits from the song go to support the MusiCares COVID-19 Relief Fund, which helps musicians affected by the coronavirus pandemic. “It was so much fun!” she says. “They invited me to do it live with them when they go back on tour. You know I’m going to do that!”

GIVING BACK

Wilson found another way to put a positive spin on her COVID-19 ordeal. Both she and Hanks plan

to donate their plasma (the liquid portion of their blood) to UCLA (as of our interview date), in the hope that the antibodies their immune systems produced against the virus might help others who get sick. Researchers there are studying immune responses against the virus, as well as the effectiveness of convalescent plasma therapy, an experimental treatment for severe COVID-19.

“The hope is that the antiviral antibodies in the plasma could reduce the effects of the virus, assist in recovery, and hopefully reduce mortality,” says Otto Yang, MD, professor of medicine and associate chief of infectious diseases at UCLA’s David Geffen School of Medicine.

Yang’s team is looking at the level of antibodies in people who’ve been infected, and how quickly those antibodies drop over time. Theoretically, antibodies could provide protection against future infection with the virus. He appreciates the awareness Wilson and Hanks have brought to UCLA’s research efforts. “They’ve been supportive and have publicized this project and a couple of others,” he says.

Wilson says she and her husband were more than happy to help. “We knew that it would be incredibly helpful to people,” she says.

TAKING NOTHING FOR GRANTED

Living through two major health scares has left Wilson with a profound sense of gratitude. She has a lot to be thankful for—not only good health, but also several musical projects she’s launched since getting over COVID-19. In 2020, she released the songs “When This Is Over,” a collaboration with country artists Jimmie Allen and the Oak Ridge Boys, “What I Would Say,” about dealing with a loved one’s addiction, and “Everybody Cries” for the war drama *The Outpost*, which has been generating some Oscar buzz. She’s also collaborated with country music legend Dolly Parton, as well as Monica, Jordin Sparks, and Sara Evans, on the single “PINK.” A portion of the proceeds will support Susan G. Komen’s mission to save lives from breast cancer.

“What I learned was that each day is so precious and so valuable, and life is so fragile. I really do not want to live one day not telling the people I love that I love them, not finding joy in everything I do, and not without a huge sense of gratitude that I get to be creative, that I get to write music, and produce movies, and act, and do the things that I love to do,” she says. “It’s really about not taking anything for granted. Not one thing.”

EVERYDAY HEROES

*We honor essential workers who have worked selflessly and tirelessly on the frontlines of the pandemic response. WebMD presents the **CDC Foundation** the Frontline Champions Health Heroes award on behalf of essential workers nationwide.*



BY STEPHANIE WATSON

REVIEWED BY HANSA BHARGAVA, MD, WEBMD SENIOR MEDICAL DIRECTOR

WHEN COVID-19 BEGAN ITS RAMPAGE ACROSS THE COUNTRY last spring, Americans' attention turned to the everyday heroes in our midst—the doctors, nurses, retail clerks, teachers, firefighters, and farmworkers who have risked their own health and safety to keep us clothed, fed, educated, and healthy.

These essential workers are “the backbone of our society,” says Judy Monroe, MD, president and CEO of the CDC Foundation. “They’re called essential workers because honestly, society doesn’t function without them.”

Since the beginning of the pandemic, the CDC Foundation—a nonprofit organization that supports the Centers for Disease Control and Prevention’s health efforts—has been providing critical aid to our frontline workers. When personal protective equipment (PPE) was scarce, the Foundation distributed over 7.3 million masks, gloves, and gowns to health care workers. It also provided laboratory and medical equipment, and hired over 1,000 nurses, doctors, contact tracers, and other staff members to help state and local health departments respond to the crisis.

The CDC Foundation couldn’t have responded as quickly and comprehensively as it did without the corporations and individuals who financially support its work. “We had our largest year ever in donations,” Monroe says. “It’s only because of those donations that we were able to provide critical support to individuals and communities.” For the first time, some of those donations came from children, who sold lemonade, created artwork, and performed shows to raise money for the frontline workers.

WebMD recognizes the work the CDC Foundation does in supporting essential organizations nationwide, including the Atlanta Fire Rescue Foundation, Rocky Mountain Tribal Leaders Council, South Forsyth High School, Imperial Valley Wellness Foundation, and the Paterson Department of Health & Human Services. We take a look at how these five groups continue to make a difference in communities impacted by COVID-19.

“It’s very important as first responders that we protect ourselves, which in turn protects the public and our families.” –Sgt. Cortez Stafford



ATLANTA FIRE RESCUE STATION 1: C SHIFT

Atlanta Fire Rescue Foundation

WHENEVER A FIRE OR OTHER EMERGENCY THREATENS THE lives of Atlanta’s residents, the firefighters and EMTs of the Atlanta Fire Rescue Department jump into action to help. Now COVID-19 has put their own health and safety on the line. The department responds to about 100,000 calls a year, any one of which could expose them to the virus.

“There’s no way not to think about going home to your family after a shift and what you may come into contact with,” says Sgt. Cortez Stafford of Atlanta Fire Rescue Station 1, which covers downtown Atlanta. “That’s why it’s very important as first responders that we protect ourselves, which in turn protects the public and our families.”

The firefighters and EMTs needed a rescue mission of their own, which they got from the nonprofit Atlanta Fire Rescue Foundation. “Immediately when COVID happened, we created the response and recovery fund, for which we’ve had major support, including from the CDC Foundation. We started getting supplies that were in a national shortage—masks, gloves, cleaning supplies,” says Shirley Anne Smith, MPA, executive director of the

Atlanta Fire Rescue Foundation.

Beginning in late April 2020, the CDC Foundation sent over more than 3,000 care kits full of necessary items, including hand soap, disinfectants, and surface cleaners. Over a 3-month period, the Atlanta Fire Rescue Foundation provided three kits to each firefighter and staff member, which they could not only use on the job, but also take home with them.

So far, these efforts—plus the hazmat suits, N95 masks, safety glasses, and gloves the first responders wear to every call—have helped to keep most of Atlanta’s firefighters healthy. “We have been fortunate to have had a very limited number of members who tested positive for COVID,” Smith says.

She adds that many of the firefighters have told her how thankful they and their families were for the supplies. “I think it gave their spouses and loved ones peace of mind, knowing that the Atlanta Fire Rescue Foundation was there to take care of them.”

“For these [kits] to get sent directly to the men and women on the frontlines was definitely a lifesaver,” Stafford adds. “I know I appreciated it and my family appreciated it.”



Rocky Mountain Tribal Leaders Council

“There’s such a unique perspective and experience that we have and bring to the table. We are the best advocates for our own health.”

—Dyani Bingham



COVID-19 HAS LEFT ITS MARK ON ALL AMERICANS, but particularly so on Native Americans, who are four times more likely to be hospitalized and nearly three times more likely to die from the virus than are white people. The inequities are stark.

“We definitely found that to be the case in Montana,” says Dyani Bingham, public health officer at the Rocky Mountain Tribal Leaders Council. Though Native Americans make up less than 7% of Montana’s population, they have accounted for 36% of the state’s COVID-19 deaths. In September 2020, the Northern Cheyenne tribe of Wyoming was holding an average of one funeral a day.

Each one of those deaths tore a hole in the fabric of these close-knit communities.

“I think nearly every Native American family has lost someone or known someone who has lost someone,” says Bingham, who lost a member of her extended family, as well as one of her colleagues at the Rocky Mountain Tribal Leaders Council.

The Council is the unified voice that represents nearly a dozen tribes in Montana, Wyoming, and Idaho on a variety of issues, including health. When the pandemic began, it mobilized immediately to determine what challenges the tribes faced.

Since then, the Council has held monthly virtual site visits with each tribal health department to assess their needs, and has provided weekly data surveillance reports to keep tribal communities informed about the number of positive COVID-19 test results in their midst.

Working alongside their own team members have been five surge staff members—two epidemiologists, one training coordinator, one communications specialist, and a statistician—provided by the CDC Foundation. These additional staff have offered assistance and training with contact tracing, as well as educational materials on hygiene and other COVID-19 prevention methods. Bingham calls them a “huge asset.” “They have been a wealth of knowledge and have built great relationships in a short amount of time with the tribes we serve.”

The CDC Foundation also provided more than 50,000 articles of PPE—including face masks, shields, lab coats, disinfectant spray, and hand sanitizer—that the Council distributed to their tribal communities.

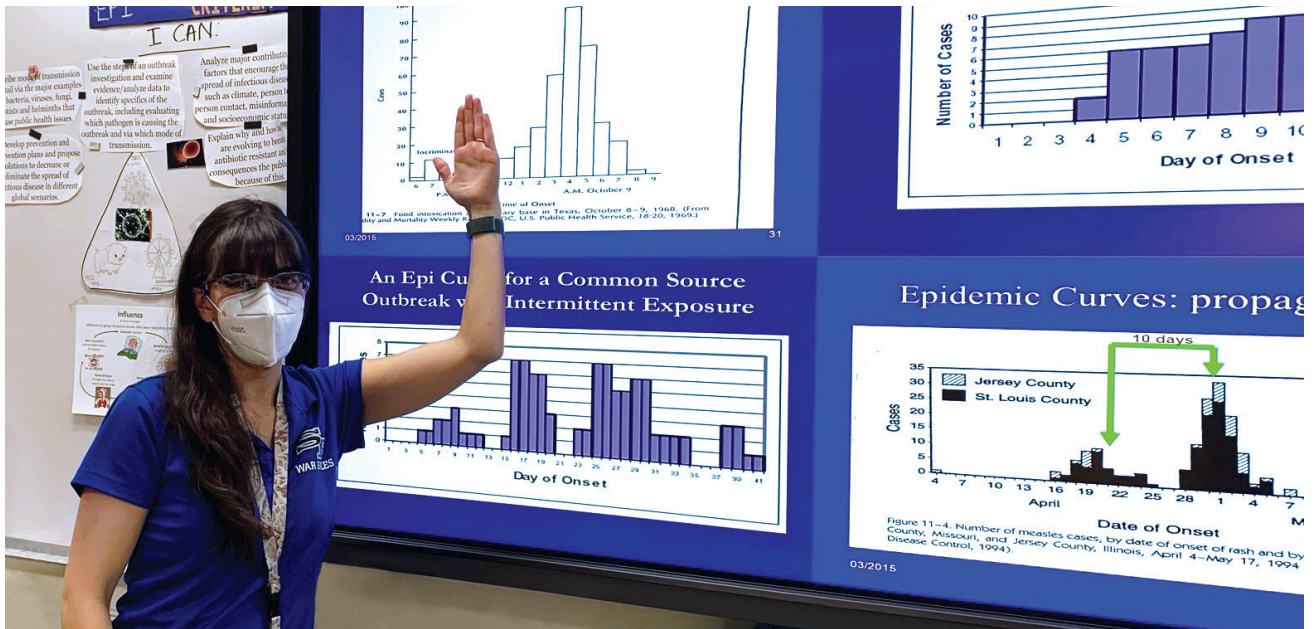
The Foundation’s assistance has helped the Council get a better handle on the pandemic, but Bingham says systemic changes are needed as well, and Native American health professionals should be involved in making them. “There’s such a unique perspective and experience that we have and bring to the table,” she says. “We are the best advocates for our own health.”



BLACKFEET TRIBAL HEALTH DEPARTMENT STAFF MEMBERS PATTY HOMEGUN, JEANSUE MURRAY, ROSEMARY CREE MEDICINE, AND LOREN YOUNGRUNNINGCRANE RECEIVE PPE FROM THE CDC FOUNDATION



South Forsyth High School



PARENT TEACHING AN EPI CURVE LESSON

AT THE START OF EVERY SCHOOL YEAR, Kelsey Parent welcomes a new group of students, and prepares to head off another wave of misinformation. The students taking her epidemiology class come in asking about conflicting information they have gleaned from social media or people they know, like, “masks don’t work” or that COVID-19 is no worse than the flu. “The spread of misinformation is its own pandemic,” Parent says.

In the 4 years since Parent started teaching the class at South Forsyth High School in Cumming, GA, she’s made it her mission to improve science literacy and prevent her students from growing into misinformed adults. She likens her efforts to “planting a seed that spreads into a forest.” “Educating students now leads to a better educated society in the future,” Parent says.

Now she’s spreading the message across the country. With the help of the CDC Foundation, Parent is consulting with the CDC to develop a curriculum to help other STEM (science, technology, engineering, and mathematics) educators teach public health related to COVID-19. The project grew out of the CDC’s Science Ambassador Fellowship program, in which Parent has participated and is

now a peer leader. During the program’s workshops, she trained with epidemiologists and collaborated with other educators to develop STEM lesson plans.

The new COVID-19 curriculum will cover the typical kinds of questions students have, including: What exactly is a pandemic? How do you test for disease? How are public health data collected and used? And why is contact tracing so important?

Each downloadable lesson module will answer one of those questions through an interactive video lesson. Then, students will be asked to apply what they’ve learned in an activity featuring a real-world situation.

“This is a curriculum that’s going to help students understand public health,” the CDC Foundation’s President and CEO Judy Monroe, MD, says. “It’s really forward-thinking in its approach.”

Parent’s aim is to send kids off with a solid foundation of scientific information that they can then share with their peers. Her ultimate wish is that her students become so passionate about the subject that they pursue it as a career. “We really need more students to consider STEM careers, including public health,” she says.



“The spread of misinformation is its own pandemic.”

—Kelsey Parent



FIELDWORKERS
HARVESTING A
FIELD OF BROCCOLI

"It's been very difficult for our farming community, and for our community as a whole."

James Garcia

Imperial Valley Wellness Foundation



YOU MAY NOT HAVE HEARD OF THE Imperial Valley, but there's a good chance you've eaten something grown in this agricultural region in the southeastern corner of California, just north of the U.S.-Mexico border. The area is known as "America's Winter Salad Bowl" because it produces more than \$2 billion worth of crops, including lettuce, cabbage, beets, and carrots each year.

Despite this bounty of food, residents of the Imperial Valley suffer from food insecurity. Roughly 40% of the county's children don't have enough to eat. More than 1 in 5 people in the region live in poverty. Add to that the hundreds of farm workers who cross the border from Mexico each day to perform low-wage jobs in the fields. When COVID-19 arrived, it was a disaster waiting to happen.

"It's been very difficult for our farming community, and for our community as a whole," says James Garcia, program committee chair at Imperial Valley Wellness Foundation. This past summer,



IMPERIAL VALLEY FOOD BANK (IVFB) VOLUNTEER IGNACIO CASTILLO HANDS OUT FOOD AT ONE OF THE MOBILE FOOD PANTRIES PROVIDED BY THE IVFB

the Imperial Valley's main hospital, El Centro Regional Medical Center, was overwhelmed with COVID-19 cases.

Garcia and the other members of the nonprofit Imperial Valley Wellness Foundation (IVWF) have been working to help vulnerable populations in the county get through the pandemic. Thanks to a \$150,000 donation from the CDC Foundation, the IVWF has been able to grant money to the Imperial Valley Food Bank, Cody's Closet (which provides clothing, household items, and hygiene products to those in need), House of Bread Ministries (which distributes meals), and Cancer Resource Center of the Desert.

Through these grants, the IVWF has made life just a little bit easier for residents of this border county. "We're proud to be able to provide benefit to our community in any way that we can. We're grateful to have entities that contribute to us, so we can contribute to groups that are making a big difference out there," Garcia says.



Paterson Department of Health & Human Services

“Homeless people don’t have any place to wash their hands, to wash their clothes, to use the bathroom. They don’t have the proper PPE.”

—Tenee Joyner



A CRISIS IS UNDERWAY IN PATERSON, NJ. The state’s third largest city, located a half-hour northwest of Manhattan, has seen a surge in homelessness. With a population of about 145,000 residents, the city’s homeless numbers in 2020 grew to more than 400, up 26% from the previous year. The arrival of COVID-19 created the potential for a humanitarian disaster.

“Homeless people don’t have any place to wash their hands, to wash their clothes, to use the bathroom. They don’t have the proper PPE,” says Tenee Joyner, project manager at the Department of Health & Human Services in Paterson. “With COVID-19, a lot of folks are losing their homes and are on the street.” Just as the need for temporary housing rose, some of the city’s shelters shut down because their staff lacked basic protective supplies and COVID-19 medical support.

That’s when the CDC Foundation stepped in, providing the city’s homeless shelters with masks, gloves, lab gowns, and disinfectants, which early in the pandemic were hard to come by. They also sent in doctors and nurses to administer exams and rapid COVID-19 tests to people coming into the shelters. It was Joyner’s job to direct those supplies and personnel to where they were needed most.

Medical personnel provided another valuable service, refilling prescriptions and providing health checks to prevent chronic conditions like high blood pressure from spiraling out of control. “It was a time when a lot of people couldn’t get to a doctor’s appointment—even people with insurance,” Joyner says.

The CDC Foundation has enabled Paterson’s shelters to safely keep their doors open with less fear of the virus spreading. Without their help, “I truly don’t know where we would be,” Joyner says.



(CLOCKWISE FROM BOTTOM RIGHT) VANESSA PORTER, ANGELIA WAITE, IKEPO BAMKOLE, ARIANNE JAMISON, AND KIMBERLY RIVADENEIRA PREPARE FOR COVID-19 TESTING AT THE YMCA OF PATERSON

CDC FOUNDATION'S COVID-19 CORPS MONITOR PATIENT'S BLOOD PRESSURE



WHEN ANTHONY FAUCI, MD, WAS CALLED TO HELP LEAD the country's COVID-19 response in January 2020 as part of the White House's coronavirus task force, it was far from his first time around with a health crisis involving a deadly virus. As the nation's top infectious disease expert, Fauci, who joined President Joe Biden's administration as the chief medical adviser, has overseen efforts to reign in HIV/AIDS, Ebola, and Zika. Still, he says he's never seen anything quite like the new coronavirus.

"HIV evolved insidiously, and not for a very long period of time did people fully appreciate how serious it was and what the extent of it was," he says. Though the magnitude of HIV was enormous—nearly 33 million people globally have died from AIDS-related illnesses since the epidemic started in 1981—the speed of COVID-19 has been extraordinary. "You have a brand new virus that evolved in December of 2019, was identified in January of 2020, and then literally, within less than a year, has exploded upon the planet to be the most challenging and devastating pandemic of a respiratory-borne infection in 102 years."

For years, Fauci has worried—and warned—about the possibility of a virus jumping from animal to human and spreading easily from person to person, causing millions of deaths. He's called it his "worst nightmare." "Now I'm living through what I had described," he says. "I was hoping that we would never have such an outbreak, but unfortunately for us, we do have it."

"The better prepared we are to address a pandemic, the less likelihood that we will get an outbreak of the magnitude that we're seeing now."

—Anthony Fauci, MD



Anthony

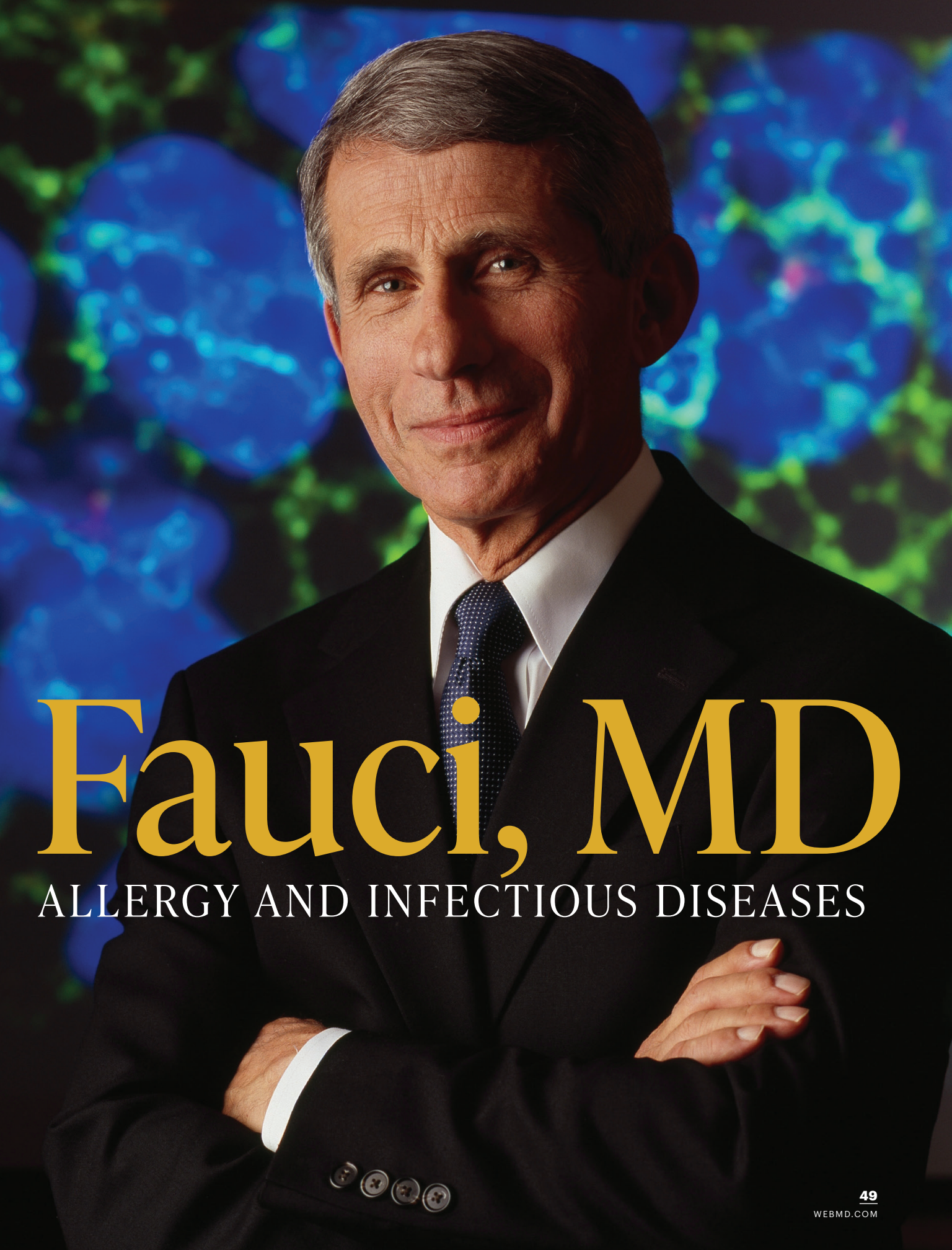
DIRECTOR, NATIONAL INSTITUTE OF

The effort to control the pandemic and minimize the number of lives lost keeps Fauci up at night, and working 18-hour days. That the outbreak hit right in the middle of a divisive election year only added to the difficulty of containing it. "It is stunning when you have more than 500 million people [as of early March 2021] who have died and people are saying it's not real. It's a hoax. It's very difficult to get your arms around that," he says.

As unimaginably dark as the pandemic has been, there have also been bright spots. Three vaccines have been developed, approved, and rolled out and into millions of arms within a matter of months—an effort that would


have previously taken 7 to 10 years. "If there's anything we should be very proud of, it's how the scientific community responded," Fauci says.

He adds that the combination of a vaccine and widespread adherence to public health measures such as mask wearing and social distancing will finally "end the outbreak as we know it." Yet the possibility of another pandemic looms large on the horizon. "We will continue to have outbreaks of new infectious diseases. ... The trick is, how do we respond to them?" he says. "The better prepared we are to address a pandemic, the less likelihood that we will get an outbreak of the magnitude that we're seeing now."

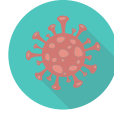


Fauci, MD

ALLERGY AND INFECTIOUS DISEASES

A woman with short dark hair and glasses, wearing a bright yellow and orange jumpsuit, stands in front of a textured, reddish-brown rock wall. She is smiling and looking upwards and to the right. Her hands are in her pockets.

“I want to work on sustainable solutions for the future to deal with the problems we face—food insecurity, lack of jobs, land issues, environmental genocide. I’m incredibly committed, because this is the future of my tribe.” –Amy Denet Deal



Amy Denet Deal



FOUNDER, ORENDA TRIBE

A FEW YEARS AGO, AMY DENET DEAL (formerly Amy Yeung) was a highly sought-after fashion executive in Los Angeles. When her daughter, Lily, graduated from high school in 2018, Denet Deal left LA and moved to New Mexico to reintegrate with the Diné (Navajo nation), her birth mother's tribe. Yeung was adopted and changed her name to honor "the Diné matriarch that brought me into this world."

"I had decided that I wanted to commit the rest of my life to being of service," she says. "I'd done everything I wanted to do. I'd taken care of my child and she was ready to go off in the world. It was my time."

Denet Deal was concerned about the lack of basic infrastructure she found. Nearly one-third of Navajo homes don't have running water and an estimated 15,000 lack electricity. Just 13 supermarkets service an area that stretches 27,000 square miles, and residents have to drive an average of 1 to 3 hours to get food.

COVID-19 has dealt a crushing blow to an already vulnerable population. "Do you know how hard COVID-19 has been for us when you can't wash your hands and you can't get WiFi, so you don't know what's going on?" Personal protective equipment (PPE) was nearly nonexistent in the early days of the pandemic.

Denet Deal realized she had the skills to fill a critical need. "I have run really large corporations in my lifetime. I know how to raise funds. I know how to make masks," she says. She transitioned her upcycled clothing company, Orenda Tribe, to manufacturing face masks, and called in connections at companies like Patagonia and Outdoor Voices for fabric. To finance her efforts, Denet Deal solicited donations and held fundraisers. The Voices of Sihasin benefit concert, held in July 2020 with Grammy-winning singer/songwriter, Jewel, raised \$200,000—enough to fund 42,000 care boxes for the children of the Diné community and their families.

In 2020, Denet Deal and the group of female volunteers who make up her Dził Asdzáán (Mountain Woman) Command Center raised more than \$835,000 and distributed more than 1 million PPE units and more than 1 million servings of food.

In the near-term, Denet Deal is focused on meeting her tribe's needs through the pandemic, but she has bigger long-term goals. "I want to work on sustainable solutions for the future to deal with the problems we face—food insecurity, lack of jobs, land issues, environmental genocide," she says. "I'm incredibly committed, because this is the future of my tribe."



DENET DEAL WITH VOLUNTEERS AT THE WORLD CENTRAL KITCHEN
OPERATION CENTER AT BEE HÓŁDZIL FIGHTING SCOUTS EVENTS CENTER



Taft Foley III

ENTREPRENEUR AND HIGH SCHOOL STUDENT



HOW MANY OF US HAVE LOOKED AT THE RISING COVID-19 cases in our communities and wondered, “What can I do to help?” Eighteen-year-old Taft Foley III turned that thought into action, starting his own mobile COVID-19 testing lab.

Foley got the urge to help after watching videos of 9/11, which happened before he was born. “The one thing that stuck out to me the most was that, as one of the towers fell and the dust rose, you could see people running away from the fire and the danger. But there were also people running toward the building,” he says. Adding, “This scene profoundly influenced my sense of duty, honor, and courage.”

Last summer, at just 17 years old, Foley III became the youngest EMT in Texas. He cared for many desperately sick COVID-19 patients in the back of an ambulance. “It was pretty scary,” he says. “They were in very bad shape. People were almost unable to breathe at all.”

After he completed the clinical portion of EMT training, Foley III had to get a COVID-19 test. He noted the 3- to 4-hour waits at the state’s testing centers, and the 2 weeks it took to get his results. “During those 2 weeks, I was quarantined. I said, ‘There has to be a better way.’”

He raised \$60,000 (by selling his vintage comic books and video game collection, doing yard work in the neighborhood, among other things), which his father matched, and used the money to buy a van and testing supplies. While finishing his senior year of high school, he spends 20 hours a week working in his Texas Mobile Medical Labs vehicle, bringing 15-minute COVID-19 tests to anyone in the Houston area who needs one. He charges a \$150 fee to those who can pay. A portion of that fee goes to fund free tests for the elderly, homeless,

and veterans in the community. To date, the business has provided more than 4,000 free tests. “I’d like to think that I am having a big impact—making the Houston area a little bit safer,” he says.

As for life after high school, he has an impressive list of potential colleges: Harvard, Stanford, Yale, Columbia, and Princeton. “I’d like to become a trauma surgeon or plastic surgeon,” he says. “As long as I can save lives and help other people, I’ll be a happy person.”

THE TEXAS MOBILE MEDICAL LABS UNIT, WHICH FOLEY III DESIGNED, IS EQUIPPED WITH TWO REFRIGERATORS, THREE CHUTES, A TWO-WAY AUDIO COMMUNICATION SYSTEM, AND CUSTOM STORAGE FOR TESTING AND VACCINATION NEEDS



*“As long as I can save
lives and help other people,
I’ll be a happy person.”*

–Taft Foley III



**DON'T HAVE
ENOUGH MONEY
TO STOCK UP ON
FOOD. WE ONLY
HAVE MONEY
FOR GROCERIES
FOR THE NEXT
TWO DAYS.**

Elsa, Texas

**HELP
FOOD BANKS
FEED FAMILIES
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Search for the article **Apricots: Health Benefits, Nutrition, and Uses** at [WebMD.com](https://www.webmd.com).

GOOD FOR YOU

Delicate Delight

GET YOUR FARMERS MARKET BASKET READY! AS APRICOT SEASON APPROACHES, YOU'LL WANT TO TAKE HOME THESE LUSH MORSELS, WHICH OFFER DELECTABLE NUTRITION AND TERRIFIC TART FLAVOR.

TENDER, VELVETY APRICOTS ARE ONE OF THE TREATS of late spring. In addition to their terrific texture and sweet but tart flavor, two fresh apricots provide 6% of an adult's daily value of fiber (beneficial for digestion), 26% of the daily value of vitamin A, which supports the immune system, and 6% of the daily value of potassium (helpful for heart function). To soften underripe apricots, place them in a closed paper bag on the kitchen counter for a day or two. Enjoy them by slicing in half, placing on the grill, and then serving on leafy salads. Dice apricots and fold them into chicken salad. Or poach them in water, a little orange juice, and honey, and spoon over vanilla yogurt. —ERIN O'DONNELL

Savor the Seafood

ADD MEATY, FULL-FLAVORED CRUSTACEANS TO YOUR COOKING REPERTOIRE FOR SPECIAL OCCASIONS OR SIMPLY SATISFY THE HOUSEHOLD ANY DAY OF THE WEEK WITH THIS ALL-AROUND STAPLE

BY Matt McMillen

CRAB, LOBSTER, CRAWFISH, AND SHRIMP—these crustaceans regularly feature on restaurant menus. But don't limit your experience of them to nights out. "Crustaceans are a great choice for the at-home cook," says Anton Bolling, executive chef at fish-focused Fiola Mare in Washington, DC. "Simple preparations allow the natural flavor of the seafood to shine." Here are some of his top picks.

CRAWFISH **(AKA CRAYFISH)**

They are slightly salty but mild, tasting of a blend of crab and shrimp. Steam over fish or chicken stock in a stockpot filled with andouille sausage, corn, potatoes, lemon, and fresh herbs.

SPINY LOBSTER

Briny and succulent, their complex flavor benefits from simple preparations like steaming, which takes less than 10 minutes. Delicious when steamed in water along with parsley stems, crushed garlic, thyme, rosemary, and lemon slices.



SOFT-SHELL BLUE CRABS

These crabs boast rich, buttery, flaky meat, while their edible shell adds crunch. Bread them very lightly with seasoned flour and buttermilk before a quick, shallow fry.



Search for the article
**Health Benefits of
Shrimp** at WebMD.com.

MAINE LOBSTER

Sweet like shrimp, these lobsters should be bought live. The most common preparation may be boiling, but better still: split it open down the middle, season it simply, and set it on the grill.

SHRIMP

Naturally sweet in flavor with a meaty texture. Sauté shrimp, preferably fresh rather than frozen, in olive oil, lemon, and fresh herbs like basil or parsley. His favorite variety: North Carolina white shrimp.

Meatless Mondays

THESE MEAT-FREE FAMILY MEALS ARE NOT ONLY ECONOMICAL, THEY'RE ALSO RICH IN VEGGIES AND WHOLE GRAINS. START OFF YOUR WEEKNIGHT ROTATION WITH ONE OF THESE TASTY ENTRÉES.

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

MEDITERRANEAN MAGIC

Whole-Wheat Pasta and Veggies With Goat Cheese and Walnuts

This colorful, kid-friendly dish is packed with flavor and protective antioxidants from ingredients such as cherry tomatoes. (We like the combination of red and yellow tomatoes here.) To make the recipe vegan, skip the goat cheese.

MAKE IT Cook 12-oz pasta according to package directions. Drain, reserving 1 cup of pasta water. Set pasta and water aside. In the same pot, over medium heat, add a little olive oil and broccoli, cut into bite-size pieces. Cook 7 to 9 minutes, until tender. Remove broccoli from pot and set aside. To the pot, add another drizzle of olive oil, halved cherry tomatoes, and 4 minced garlic cloves. Cook 5 to 7 minutes over medium heat. Turn off heat. Add in drained pasta, more olive oil, and broccoli; salt and black pepper, and red pepper flakes to taste. Stir in a little pasta water, $\frac{1}{2}$ cup crumbled goat cheese, and the juice and zest of 1 lemon. Add more pasta water as needed to create a creamy sauce. Garnish with toasted walnuts and chopped basil. **SERVES 4**

PER SERVING (ABOUT 2 CUPS COOKED PASTA AND $\frac{3}{4}$ CUP VEGGIES) 501 calories, 17 g protein, 69 g carbohydrate, 19 g fat (4 g saturated fat), 7 mg cholesterol, 12 g fiber, 4 g sugar, 247 mg sodium. Calories from fat: 35%

THE MIX

BOW TIE OR PENNE PASTA,
OLIVE OIL, BROCCOLI,
CHERRY TOMATOES, GARLIC,
RED PEPPER FLAKES,
CRUMBLD GOAT CHEESE,
LEMON, BASIL,
WALNUTS



THAI-INSPIRED SPREAD

Lentil Lettuce Wraps With Peanut Sauce

Fuel up with these healthy, crisp vegan wraps. We like using butter lettuce leaves, but any large-leaf lettuce should work. The peanut sauce includes sriracha, a kicky red condiment found in the Asian food section of large supermarkets.

MAKE IT Place a heavy-bottom pot on medium heat. Add a little olive oil and onion, carrots, celery, all finely chopped with several cloves of garlic, minced. Cook 5 to 7 minutes until soft. Add 1 cup rinsed lentils, 2 cups vegetable broth, and 2 tsp cumin. Bring to a boil, reduce to simmer, and cover for 15 to 20 minutes, until lentils are tender and most of the broth has evaporated. Add a splash of vinegar, and salt and pepper to taste. Make peanut sauce: Whisk together 4 tbsp unsalted peanut butter, 2 tbsp soy sauce, 1 tsp grated ginger, the juice of 1 lime, 1 tsp sriracha, and 2 to 4 tbsp hot water until smooth, adding additional water if needed. To assemble, place a spoonful of lentils on a large clean, lettuce leaf. Top with shredded carrot, red pepper slices, avocado slices, a few cilantro leaves, and a drizzle of peanut sauce. Roll lettuce like a taco to eat. **SERVES 4**

PER SERVING (2 LETTUCE WRAPS) 449 calories, 19 g protein, 50 g carbohydrate, 21 g fat (4 g saturated fat), 0 mg cholesterol, 12 g fiber, 10 g sugar, 525 mg sodium. Calories from fat: 42%

THE MIX

OLIVE OIL, ONION,
CARROTS, CELERY, GARLIC,
FRENCH LENTILS, LOW-SODIUM
VEGETABLE BROTH, CUMIN,
CIDER VINEGAR, PEANUT BUTTER,
SOY SAUCE, GINGER,
BUTTER LETTUCE,
AVOCADO

**THE MIX**

DRY WHITE BEANS, OLIVE OIL, ONION, RED BELL PEPPER, GARLIC, BABY KALE, FIRE-ROASTED TOMATOES, VINEGAR, STONE-GROUND CORNMEAL, LOW-SODIUM VEGETABLE BROTH, PARMESAN CHEESE

A HEARTY HELPING**White Beans and Vegetables Over Creamy Polenta**

This dinner is a filling, festive way to celebrate spring. To make it vegan, leave out the Parmesan cheese. We encourage you to start with dry beans (they're easy to prepare and economical), but if you're in a hurry, use three cans of white beans, rinsed.

MAKE IT Place a heavy-bottom pot over medium heat. Cook 2 cups dry white beans according to package directions until tender. Place a large skillet on medium heat, add olive oil, chopped onion, and red bell pepper. Cook 5 to 7 minutes. Add minced garlic, 2½ cups kale, and 1 can of tomatoes. Reduce heat to medium low and simmer for 6 to 8 minutes. Stir in cooked beans, a splash of vinegar, and salt and pepper to taste. Keep mixture warm over low heat. In a large saucepan over medium-high heat, bring 6 cups vegetable broth to a boil. Whisk in 1½ cups cornmeal. Reduce heat and stir often until polenta is a creamy puree, about 15 minutes. To serve, spoon polenta into six bowls. Top each one with cooked kale mixture, a few fresh kale leaves, and a sprinkle of Parmesan. **SERVES 6**

PER SERVING (ABOUT 1½ CUPS POLENTA WITH VEGETABLES) 426 calories, 21 g protein, 75 g carbohydrate, 6 g fat (2 g saturated fat), 3 mg cholesterol, 22 g fiber, 4 g sugar, 323 mg sodium. Calories from fat: 18%

THE LATEST

New Discoveries Help Catch RA in Stealth Mode

RHEUMATOID ARTHRITIS IS A DISEASE OF FLARES AND REMISSION. BUT EVEN WHEN SYMPTOMS AREN'T PRESENT, THE DISEASE MAY BE ACTIVE IN THE BODY. RECENT STUDIES ZERO IN ON WAYS TO MONITOR IT.

A RHEUMATOID ARTHRITIS FLARE MAY SEEM TO COME OUT OF NOWHERE. But unseen and unfelt processes in the body lead up to those bouts of pain. Researchers at Howard Hughes Medical Institute in New York have discovered a never-before-seen cell type that accumulates in the bloodstream about a week before a flare and then disappears once the symptoms start. The new discovery could lead to a blood test that would warn of an oncoming episode of swelling and discomfort. The test would help people with the condition prepare for what's ahead. The breakthrough could also pave the way for development of medications that would target these precursor cells and potentially stop flares before they start. That would be a game-changer for anyone living with the disease.

Researchers at Staffordshire University in England believe they can monitor disease activity by checking the temperature of patients' feet. That's right, foot temperature. In a study, thermal imaging—pictures that show how much heat an object is giving off—showed that even when people with rheumatoid arthritis were in remission, they emitted much more heat from the major joints in their feet than people who don't have arthritis. This suggests that inflammation can still be high during remission. Thermal imaging could be a promising new way to watch the progress of the disease. The tool could alert people to extreme inflammation that they may not feel. That way, they could adjust their treatment and prevent further joint damage. —SONYA COLLINS



FIRST PERSON

Living With Relapsing-Remitting MS

MY STORY FROM DIAGNOSIS AND TREATMENT TO LIVING LIFE TO THE FULLEST

BY Chris Nettleton REVIEWED BY Brunilda Nazario, MD, WebMD Lead Medical Director

I LOVE PLAYING GOALIE IN PICKUP HOCKEY games. Toward the end of 2008, after a scrimmage, I realized that my feet were numb, and not from the cold. It didn't go away, so I saw my general practitioner. He ordered X-rays, which came back fine, and other tests, and then referred me to a neurologist. That doctor ordered an MRI, which showed a spot on my brain.

The neurologist said, "You either have a tumor, or multiple sclerosis." To figure out which it was, he gave me a round of IV steroids, explaining that if the steroids shrank the spot, it was MS. The lesion did shrink.

I was 29 when I was diagnosed, and didn't know much about MS back then. The first time I went to the pharmacy to fill the prescription for my medication, I was stunned when they told me the copay was \$5,000. I didn't know that pharmaceutical companies have copay assistance programs. Once I figured that out, it was a lot easier. My first medication involved an intramuscular injection, and I'm deathly afraid of needles, so once a week my wife, Megan, would give me a shot in my thigh. I was on the medication for about three years, until my liver numbers became elevated, and I had to switch medications. We eventually settled on a drug that involves one pill a day. I was happy to not need injections anymore.

When I was first diagnosed, I was working as a sports reporter for a TV news station in Minnesota. Later, when I applied for a new job at a station in Boise, ID, I was hesitant to share that I had MS. But I did mention it, and the news directors responded so well. They had a relationship with the local chapter of the National MS Society. I was hired by the station, and they asked me to serve as the host of the Boise MS walk. It was amazing. I met great people with MS who became like family. Eventually my wife even went to work for the National MS Society. It's been so important for us.

I haven't had a relapse in about eight years, since I started the oral medication. I do have balance issues. When I play goalie, sometimes I fall over for no apparent reason. And I have incredible fatigue. Megan and I have two sons, and when the 3-year-old goes down for a nap, I definitely need one too. Sometimes I feel guilty about that, but I've learned to do what I need to do to function as normally as I can.

I ride bikes with my oldest and coach Little League. My kids push me to do things. When you're first diagnosed with MS, it feels like the worst thing that can happen, but after living with the disease for as long as I have, you realize, "I'm actually really lucky." I'll continue to do as much as I can for as long as I can.



CHRIS'S TIPS

1. FIND A MENTOR

Connect with someone who can provide guidance about living well with MS. The National MS Society navigator program can help.

2. BE OPEN

Some people decide to keep their MS diagnosis private, but Chris has found that when he shares this information with others—such as other parents on the Little League team he coaches—they're eager to help.

3. SEEK OUT THE RIGHT NEUROLOGIST

Chris sees a neurologist at an MS clinic, where the medical team has deep knowledge of the disease. He found the clinic through the National MS Society.

4. GIVE YOURSELF A BREAK

To cope with MS fatigue, Chris tries to take rest breaks. "Even lying down for a few minutes can be amazingly beneficial," he says.

GETTY IMAGES; PHOTOGRAPHY: CHRIS NETTLETON IMAGE PROVIDED

5 Questions

BRING THESE UP WITH YOUR DOCTOR EVERY YEAR



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

BY THE NUMBERS

11% Amount of people who take more than five drugs a day.

9,500 Number of people diagnosed with skin cancer every day in the U.S.

2x How much more likely patients with diabetes are to die from heart disease than those without the disease.



Search for the article
How to Work With Your Doctor at [WebMD.com](https://www.webmd.com).

TIME WITH YOUR DOCTOR CAN BE BRIEF.

To get more out of your visit, don't just focus on your current health problems, also talk about ways to prevent disease or treat it early on. Write down these questions or put them in your phone—and don't leave until you get them answered!

What's my risk for heart disease?

Heart disease remains the most common cause of death in the U.S., killing nearly 650,000 people each year. You and your doctor can use several online calculators (one is the American College of Cardiology/American Heart Association tool at cvriskcalculator.com) to measure your 10-year risk of having a heart attack and rank that risk as low, medium, or high. Your score will also help determine if you might benefit from being on a medicine to lower cholesterol.

Am I at risk for diabetes?

Nearly 30 million people have diabetes, and 7 million people don't know they have it. In addition, nearly 85 million people have prediabetes, a condition that increases your chance of developing diabetes. There are several different tests that can be done to determine your risk for diabetes. Use this information to help you make changes to your diet and physical activity.

Do I need any shots?

Not all vaccines give lifetime immunity. We tend to think shots are something we get when we are in school and then don't need to think about

them anymore. But adults need boosters to continue to protect against some diseases such as tetanus. Other adult vaccines prevent shingles or pneumonia. Of course, you need to get a flu shot every year.

Can I stop any medications or reduce the dose?

More than 10% of people take more than five drugs a day. Once you start taking a prescription medicine, it may be difficult to stop or reduce the dose, even if you may no longer need it, such as when a drug automatically renews. Also, some medicines can cause more side effects as you age. You can check the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults online to see if any of your medicines may need to be adjusted. The list, updated by the American Geriatrics Society, will also help you discuss the risks and benefits of medications with your doctor. Don't just stop any medicine on your own; talk with your doctor about whether you should still be on a certain drug or perhaps on a different dose.

Can you check my skin?

Many people never get a full skin exam. But skin cancer is the most common cancer in the U.S. Currently, experts estimate that 1 in 5 Americans will develop skin cancer in their lifetime. The chance of getting the disease increases as we get older, so be sure your doctor examines your skin every year. Point out any moles or rashes.

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

COVID-19 Shots

ANSWERS TO SOME OF YOUR MOST FREQUENTLY ASKED QUESTIONS

BY Kathleen Doheny **REVIEWED BY** Brunilda Nazario, MD, WebMD Lead Medical Director



Search for the health center
COVID-19 Vaccine at [WebMD.com](https://www.webmd.com).



WITH SHIPMENTS OF COVID-19 VACCINES UNDERWAY, everyone has questions. Here's a breakdown of what you need to know.

What is a vaccine?

A vaccine is a substance that stimulates your immune system to make antibodies—blood proteins produced in response to a foreign substance—as it would if you were exposed to the actual disease. After vaccination, you develop immunity to the disease, so you are protected from getting sick if you get infected.

Are eggs involved in the making of the COVID-19 vaccines?

Unlike some other vaccines, the COVID-19 vaccines viewed as front-runners do not use eggs to make them.

How do the vaccines work?

The vaccines from Pfizer-BioNTech and Moderna use a technique known as mRNA, or

messenger RNA. These vaccines “give instructions for our cells to make a harmless piece of what is called the ‘spike protein,’” according to the CDC. This protein is found on the surface of the coronavirus that causes COVID-19.

Once these vaccine instructions, or mRNA, are injected, your cells use them to make the spike protein; then the instructions are broken down and eliminated. The protein piece is displayed on the cell surface, triggering our immune system to make antibodies against it, just as it would if it were exposed to the real coronavirus that causes COVID-19. In this way, the body learns how to protect itself when and if the real virus shows up.

The mRNA vaccines don't use the live virus that causes COVID-19, nor does the mRNA get into the cell's nucleus, which is where our DNA (genetic material) is stored.

The vaccine from Johnson & Johnson is made using a type of virus called adenovirus type 26, or Ad26. Adenoviruses are viruses that cause the common cold. The Ad26 carries a harmless piece of the DNA, or genetic material, from COVID-19. This teaches the immune system to react against COVID-19 if infected with the virus. The Ad26 virus is modified so it can't replicate or make the person sick.

How many doses do you need?

One dose for the Johnson & Johnson vaccine, and two separate doses for the vaccines from Moderna and Pfizer.

What is the interval between doses?

For the Moderna vaccine, the two doses are given 4 to 6 weeks apart. For Pfizer's vaccine, the two doses are given 3 to 6 weeks apart. The U.S. government and the manufacturers have partnered to make sure there are enough doses available for everyone to get two.

What happens if you don't take the second dose?

Protection is assumed to be less. In data that

Moderna submitted to the FDA before its Dec. 17 review for its request for emergency use authorization, for instance, its analysis suggested that the first dose provides protection from getting COVID-19, but the data did not allow for a “firm conclusion,” the FDA says. Both the Pfizer and Moderna vaccines are believed to be around 50% effective after just one dose.

After the required doses, how long until it takes effect and provides protection?

That happens “about a week after the second dose,” says Naor Bar-Zeev, PhD, an associate professor of international health and vaccinology and deputy director of the International Vaccine Access Center at Johns Hopkins Bloomberg School of Public Health. Once the second dose kicks in, both the Pfizer and Moderna vaccines have shown in studies to be about 95% effective. The Johnson & Johnson vaccine was found 72% effective (based on 28 days after the inoculation) in preventing moderate-to-severe COVID-19 in U.S. studies.

How long does the protection last?

Because the vaccines are new, this is not yet known for sure. Based on other viruses that are similar to the coronavirus that causes COVID-19, the COVID-19 vaccines that are shown to be highly effective might protect people for a few years, says Paul Offit, MD, director of the Vaccine Education Center and a professor of pediatrics at Children’s Hospital of Philadelphia. That’s an educated guess based on his expertise and known facts about the virus that causes COVID-19.

After the FDA’s emergency authorization (EUA) is granted, are the vaccines still tracked?

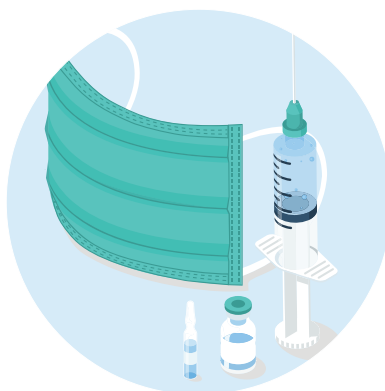
Yes. The FDA expects the manufacturers to continue their clinical trials to find out more about how safe and effective they are, and pursue full FDA approval or licensure. The EUA, which is different from FDA approval, is based on the FDA’s evaluation of available evidence, assessing risks and benefits. It issues the EUA if the benefit-risk balance is favorable.

Do the COVID-19 vaccines not only keep the person from getting sick, but also from spreading the virus if exposed?

That is not yet known. As more data and monitoring are done, experts will be able to find out if a vaccinated person, if exposed to the virus, can still spread it even if they don’t get the disease themselves, says Bar-Zeev of Johns Hopkins.

“THE ABILITY
TO REDUCE
TRANSMISSION
WILL REQUIRE
NOT JUST
HIGH VACCINE
UPTAKE, BUT
ONGOING SOCIAL
DISTANCING AND
MASKS.”

—NAOR BAR-ZEEV, PhD



Are the vaccines free?

Yes, for patients, but the health care providers will bill insurance companies, Medicaid and Medicare, or tap federal funds for the uninsured. In one estimate, the cost per dose was \$37 for Moderna’s vaccine, \$20 for Pfizer’s, and \$10 for Johnson & Johnson.

Will it be possible to choose which vaccine you prefer?

In general, it does not matter, since once a vaccine gets the FDA’s emergency use authorization (EUA), they all work. And even as more vaccines become authorized and available, you may have only one choice.

If a vaccine needs two doses, can you switch to another vaccine for the second one?

No. Experts advise staying with the same vaccine for both. That’s true even for the Moderna and Pfizer vaccines, which use the same general approach yet are different.

How much of the population is likely to get vaccinated?

It’s not possible to say, although surveys have cited a problem with “vaccine hesitancy,” even among health care workers. But that may change. “I think this will be a desired vaccine,” Offit says.

How much of the population needs to be vaccinated for so-called herd immunity?

“Herd protection is not a goal of the initial rounds of vaccine deployment,” Bar-Zeev says. “Only once populationwide vaccination is a reality would herd protection be even considered.”

After I get vaccinated, do I still have to wear a mask?

Yes. Even after vaccination increases, say Bar-Zeev and other experts, preventive behaviors will still be needed. “The ability to reduce transmission will require not just high vaccine uptake, but ongoing social distancing and masks,” he says. And herd protection may require high rates of vaccination in groups that are themselves at low risk, he says, “so [that] raises ethical questions.”

When can we expect to get vaccinated?

On March 2, President Joe Biden announced that he had ramped up production, vowing there will be enough vaccine doses so every U.S. adult could be immunized by May.

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Adapting to Change

A MILLENNIAL USES HER TYPE 2 DIABETES JOURNEY TO INSPIRE OTHERS

BY Mila Clarke Buckley REVIEWED BY Brunilda Nazario, MD, WebMD Lead Medical Director



MILA'S TIPS

1. MAKE SMALL STEPS

Sometimes when you try to think of the big picture, it can scare you. Take it one day at a time so you don't get overwhelmed.

2. FIND A COMMUNITY

A lot of people get diagnosed in isolation. They don't have anyone to turn to about their frustrations. Find a diabetes support group. Just listening to other people talk can be helpful.

3. MAKE INCREMENTAL CHANGES

When you get that diagnosis, you don't have to change every single thing about your life. Make small changes and you'll really see your successes.

4. FOCUS ON THE GOOD

You'll have good days and bad days. Focus on the good ones. It's important for people to know that there are positive aspects to having this condition.

I ALWAYS THOUGHT IN THE BACK OF MY mind that I might get type 2 diabetes. I just assumed it would happen *after* I got pregnant. My mother had gestational diabetes that turned into type 2 after her pregnancy, and so did my grandmother. When my symptoms started at age 26—dizziness, blurred vision, getting up to go to the bathroom every hour at night—I just figured I was working too much. I was social media manager for a nonprofit, putting in 50 to 60 hours a week.

I lived with symptoms for about 4 months. Finally, it got to the point where I felt really bad and tired. That forced me to go to the doctor to find out what it was.

My doctor did a physical exam, checked my blood pressure and weight, and did an A1c test of my blood sugar. My A1c was 12%, which was way higher than normal. My doctor said, "If you stay on this path, you're going to do a lot of damage to yourself. You need to shape up and change your life."

I already was pretty health conscious, aside from working too much. My first 3 months of treatment just focused on diet and exercise. My

doctor wanted me to keep a food log so he could see what changes I needed to make to my diet. He also gave me the directive to add more exercise. When I came back 3 months later, my A1c had dropped from 12% to 10%.

I thought that was a pretty good change in 3 months, but my doctor wasn't satisfied. He added a diabetes drug and a combination long-acting and short-acting insulin. The other thing he had me do was six to eight finger sticks a day to check my blood sugar. That was difficult for me, having to stop my life several times a day to test. I eventually discovered a continuous glucose monitoring device with a sensor that I wear on the back of my upper arm for 14 days. Now I just scan the device to get accurate, real-time glucose readings without the pain of fingersticks.

I've changed what I eat to adapt to my blood sugar level. I'm now on a long-acting insulin, which prevents me from getting blood sugar spikes at mealtimes. I also exercise more. I run, take a boxing class twice a week, and practice yoga. At my last checkup, my A1c was 6.1%—in the healthy range.

I started my blog, *Hangry Woman*, in 2016 to give people a sense of what life with type 2 diabetes looks like. You can live a pretty healthy and happy life. You have to work pretty hard at it for sure, but it's achievable and possible.



Learn, Find strength, Shine

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Checkup

DOCTOR Q&A

Irritable Bowel Syndrome

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LEARN THE BASICS ABOUT IBS. DID YOU KNOW THAT DOCTORS FIRST RULE OUT OTHER CONDITIONS OF THE GUT BEFORE THEY ZERO IN ON THIS ONE?

BY Sonya Collins REVIEWED BY Brunilda Nazario, MD, WebMD Lead Medical Director



WHAT DO YOU KNOW ABOUT IRRITABLE BOWEL SYNDROME? **Lisa Ganjhu, DO**, a gastroenterologist at NYU Langone Health explains symptoms and treatment for this often stress-related condition.

Q What is irritable bowel syndrome?

GANJHU Irritable bowel syndrome, or IBS, is a hypersensitivity and hypo[motility] or hypermotility of the digestive tract. That means you may be more sensitive to certain stimuli, such as food or stress, and your digestive tract moves slower or faster than the average person.

Q What are the symptoms of IBS?

GANJHU You'll have abdominal pain, cramping or bloating that's relieved by having a bowel movement. You can have a lot of gas, diarrhea, and constipation. Some people can't go to work because of the diarrhea or because they are doubled over in pain from gut spasms.

Q How do you diagnose it?

GANJHU Before I give anyone a diagnosis of IBS, I rule out any other causes of these gastrointestinal (GI) symptoms—reflux, food sensitivities, inflammatory bowel disease, cancer, diverticulosis—all the big GI

conditions. Then, the criteria to diagnose IBS is abdominal pain, at least once a week for at least 3 months, that is relieved or worsened by having a bowel movement, or connected to a change in stool frequency, or connected to a change in stool form or appearance.

Q Is there a cure for IBS?

GANJHU There is not a cure, but you can have remission from flares. It's a matter of managing the condition to avoid those flares.

Q How do you manage IBS?

GANJHU Management of IBS is trigger management. Sometimes food triggers it. So, we try a low FODMAP diet for at least 4 weeks to reset the gut bacteria. FODMAP stands for fermentable oligosaccharides, disaccharides, monosaccharides and polyols—these are sugars and carbohydrates that cause your gut to increase gas production. Most of the time, stress is a trigger. So, you have to manage stress. We can use biofeedback, hypnotherapy, stress reduction practices, sleep therapy—all of those can increase your resilience in stressful events. We also use antispasmodic medications to relax the cramps that cause the pain. The digestive tract is just a giant muscle, so like a charley horse that you can get in your leg, you can get that in your gut. That's where the antispasmodics and relaxation therapy come in.

DOCTOR Q&A:

TIPS TO HELP WOMEN LIVING WITH HR+, HER2- METASTATIC BREAST CANCER UNDERSTAND THEIR TREATMENT OPTIONS



Once the type of metastatic cancer is determined, what are the next steps to decide on a treatment? Is it important to make a decision quickly?

- **The type of cancer helps determine treatment selection.** For example, hormone receptor positive (HR+) cancers might be treated with therapies that target estrogen, and HER2+ cancers might be treated with therapies that target HER2
- **It is important that everyone involved is informed and comfortable with the treatment option chosen.** However, you should work with your healthcare team to get all necessary tests in a timely manner
- **Treatment of MBC depends on several factors—**including prior treatment history, menopausal status, hormone receptor (HR) and HER2 status, and where the cancer has spread
- **Treatment decisions should be a team effort** between you and your doctor. Asking the right questions will help you manage expectations and determine the best course of action for your treatment



What can you do to prepare for your appointment so that you make the most of your conversations and time spent with your doctor?

- **Be your own advocate** and stay informed by doing research about MBC and treatment options. This can help you be prepared and think of questions to ask your doctor
- **Office visits can be overwhelming, so it may be helpful to write down any questions** you have for your doctor ahead of time
- A daily journal is a great way to **keep track of how you feel and make notes** to discuss with your doctor. You can also take notes during your appointment
- **Enlist your caretaker** and make sure they know what you want to discuss during your appointment so they can help you remember

1. WHEN COVID-19 HIT, YOU SPRANG INTO ACTION WHERE YOU LIVE IN FORT GREENE, BROOKLYN, TO HELP FRONTLINE WORKERS. TELL US ABOUT IT.

Two restaurant-owner friends and I launched an initiative called Brooklyn for Life, that, with the help of others, raised about \$1.5 million to deliver more than 170,000 meals to hospitals and FDNY EMS stations. The meals were provided by 50 mom-and-pop eateries, some of which may have closed had it not been for the support.

2. GIVEN THAT WE'RE IN THE MIDST OF A SECOND WAVE, WHAT'S THE PLAN?

Right now, we mainly support One Community in Fort Greene, which delivers food to families and seniors in public housing, but we're keeping an eye on the larger situation in case we need to spring into action again.

3. HOW HAS ACTIVISM INFORMED YOUR ART?

It has made me more aware of the privilege we have as actors to tell people's stories and in some instances, help them tell their own.

4. OTHER THAN THE HBO MINISERIES ANGELS IN AMERICA, WHAT IS THE MOST FULFILLING PROJECT YOU'VE EVER DONE?

The staged reading of *We Are Not Done Yet*, which I later produced as a documentary for HBO, was one of the most powerful nights I've ever had in theater. It's about a group of military veterans who use creative writing to process personal trauma from their time in service. I was brought in to direct the vets in a theatrical presentation of poems they'd written about their experiences to help facilitate healing. I keep in touch with many of those vets today.

5. FROM A MENTAL HEALTH STANDPOINT, WHAT WAS THE BIGGEST TAKEAWAY FOR YOU?

The universality of trauma and PTSD. You realize that certain outcomes in society are being driven by injuries that



Jeffrey Wright

Award-winning actor and activist, 55

Brooklyn, NY

"SURFING HAS CHANGED MY LIFE AND REALLY, IN SOME WAYS, SAVED IT."

individuals and groups have historically faced, that go unaddressed and unresolved. If we look at our country on a whole, we can see that running through it is a deep vein of unresolved trauma that point to some of the [social justice] issues bubbling up today.

6. WHAT MAKES YOU FEEL THE MOST ALIVE?

Surfing has changed my life and really, in some ways, saved it. I got into it about 6 years ago when I was filming *Westworld* in LA. Similar to my philanthropic work, it has been a way for me to navigate anxiety and uncertainty during the pandemic. It's just the most cleansing, on a molecular level, thing I've ever done.

7. HOW DO YOU STAY FIT WHEN YOU CAN'T GET TO THE OCEAN?

Cycling. It allows me to get my adrenaline up without putting too much pressure on old injuries.

8. WHAT'S IT BEEN LIKE FILMING IN THE MIDDLE OF A PANDEMIC?

We've been in a pretty reasonably enclosed bubble filming *Batman* over here. I get tested regularly, at least, two to three times a week and everyone on set is fully masked. And we wash our hands ad nauseam. We do what we've got to do to keep matriculating the ball down the field.

9. WHAT IS YOUR HAPPY PLACE?

Spending time with my kids in nature. That to me, is peace.

10. WHAT MOVIES CAN WE EXPECT TO SEE YOU IN WHEN WE CAN GET BACK SAFELY INTO THEATERS?

Batman, which I'm currently filming in the U.K. It is going to be pretty dope as the kids say. We're having a really good time. There's a dynamic script and we're doing some interesting things. Also, the new James Bond movie, *No Time to Die*, *The French Dispatch*, and a new Netflix film called *Monster*. As usual, there is a lot to look forward to.

—TOMIKA ANDERSON



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