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JULY/AUG
2019

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HEALTHIER

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IN CHILD
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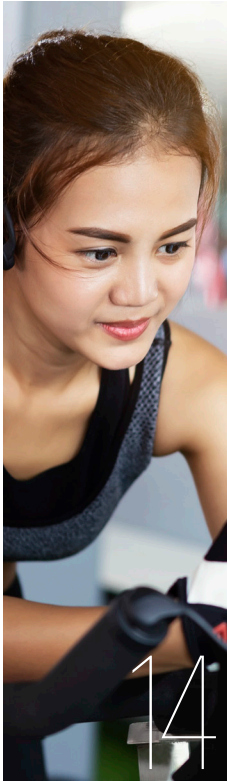
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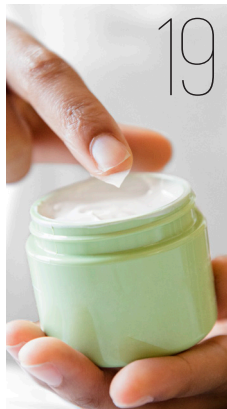
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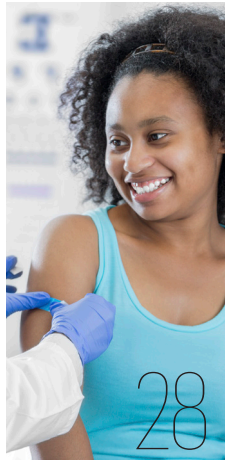
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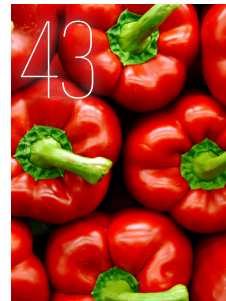
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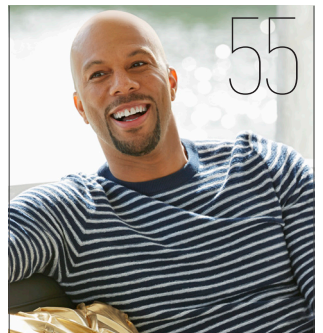
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FROM THE WEBMD TEAM



In this issue, actor Chris Hemsworth shares some of the physical training he's had to do to prepare for his movies. But he also explains how important fitness and nutrition are to him in his everyday life, especially in facing anxiety. When he's not on a shoot you might find him surfing with his kids to stay active. While surfing may not be your thing, if you like to exercise outdoors or have a focus on eating what's in season, your diet and nutrition regimen might change in the summer months. We asked our staff how they adjust.

Kristy

Kristy Hammam
Editor in Chief
kristy@webmd.com

How does your nutrition and exercise regimen change in the summer?



MIRANDA HITTI
WebMD Senior
Health Editor

I love to go to local farmers markets in the summer, when everything from tomatoes to peaches are so fresh. I'll keep watermelon slices in my fridge—a favorite way to stay hydrated. For warm-weather exercise, I like to add swimming to complement year-round ballet classes.

I've discovered a local farmer's market, which has really helped improve my salad game. I also take advantage of summer's later daylight hours for a run or walk after work. And I've always loved swimming, so when my condo pool opens, I'm in!



PAUL KERCHER
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MICHAEL W. SMITH, MD
Chief Medical Editor

It's fresh summer vegetable season, so I fill half my plate with non-starchy veggies. I work out more outside to enjoy the warm sunshine. I drink extra water before and during my workouts and stick to early morning or evening to avoid heat illness. And I always wear sunscreen.



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SUMMER

Stings & Itches

With pool parties and picnics comes exposure to insects that sting and plants that irritate. Watch out for a number of critters that could bug you this summer.

36
HOURS

Amount of time a tick has to feed on a human host before it can transmit Lyme disease.

500

How many people a pinhead-size amount of urushiol—the irritating oil in poison ivy, oak, and sumac—can make itch.

UP TO
5 YEARS

How long urushiol oil stays active on clothes, gardening tools, and other surfaces.

1/16 of an inch

Size of a biting fly nicknamed the “no-see-um,” which leaves a painful and sometimes blistering bite.

3
millionths of a liter

How much blood a female mosquito takes in when she bites—about the equivalent of her body weight.



**COLLEEN
PARETTY**
Editorial Director,
colleen@
webmd.com

3

Hours per day that kids 0 to 2 years old spend on screens. That's double the amount spent 15 years ago. Pediatricians recommend no screen time before 18 months.

SOURCE: JAMA

IN THE NEWS

Families Fighting for Cures

Sometimes you have to take things into your own hands. That's the conclusion some families come to when doctors say no cure or even effective treatments exist for a rare disease. Refusing to take no for an answer, they find ways to fund research and drug development themselves. And sometimes, they are successful. In **"A Crowdsourced Future"** (page 35), we follow the story of one mom whose son developed a rare genetic disease. Determined to fight for a cure on her own, she joined others online to raise attention and money for a clinical trial. She's one of nearly 200 patient-led organizations actively funding research today. We hope you find her story as inspiring as we do. — *Colleen*



INSOMNIA AND HEART DISEASE

Too little sleep can raise your risk for heart disease. The link between the two could be genetic, new research shows. In a study that analyzed the genes of more than 600,000 people, researchers found 57 different regions within genes that are associated with insomnia. Some of these regions suggest connections between insomnia and heart disease. Drugs that target 16 of these 57 regions already exist. These findings could lead to new and more effective treatments for chronic insomnia and heart disease.

SOURCE: Nature Genetics

16.5%

Percentage of U.S. kids who have at least one mental health disorder. Half don't receive treatment.

SOURCE: JAMA Pediatrics

RACE GAP CLOSING

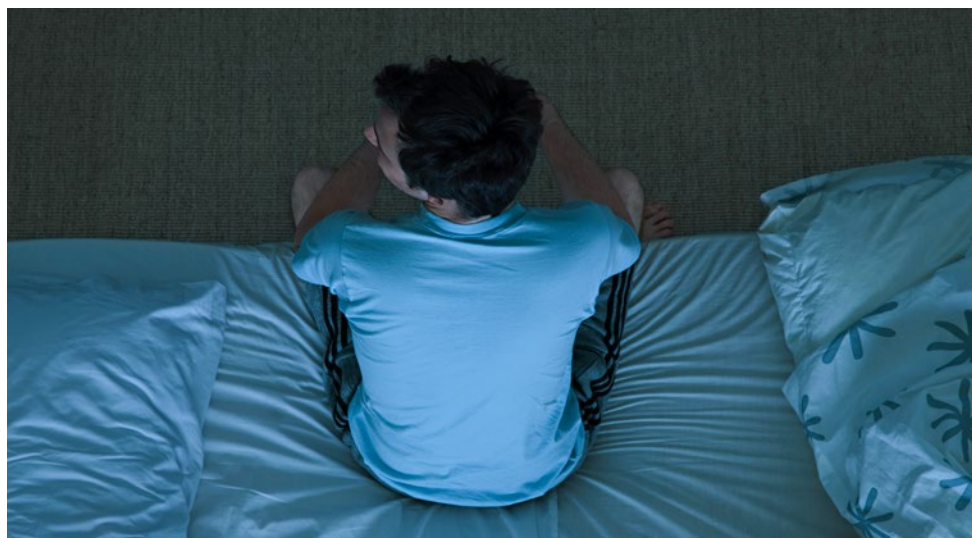
The overall cancer death rate is dropping faster in African Americans than in whites, mostly because of steeper drops in African American death rates from lung, prostate, and colorectal cancers.

SOURCE: CA: Cancer Journal for Clinicians

6 IN 10

Number of Americans who worry about higher health insurance premiums.

SOURCE: Gallup



ALCOHOL AWARENESS

The last decade has seen dramatic increases in alcohol-related health problems, yet alcohol sales have held steady. How could this be? Americans are consuming the same number of beverages as always, but they are increasingly choosing drinks with a higher alcohol content.

SOURCE: *Alcoholism: Clinical and Experimental Research*



WRITE IT WHEN YOU BITE IT

If you want to lose weight, study after study shows that the key to success is logging your food, calorie, and fat intake every day. Recording this information can make you more aware of the calories you consume and help you think before you eat. But many people dismiss the strategy as too much trouble. New research shows, however, that it's not that burdensome. In the study, unsurprisingly, those who were most successful on a weight-loss diet logged their food intake two to three times daily. Surprisingly, it only took less than 15 minutes a day.

SOURCE: *Obesity*



POSITIVITY AND PAIN

Optimism before a painful experience could mean less pain after the fact. Researchers asked 20,734 U.S. Army soldiers questions to measure their optimism before deployment. After deployment, when many veterans develop chronic pain, the researchers collected reports of new pain from the soldiers. Those who were the most optimistic before deployment were least likely to report new pain, such as back pain, joint pain, and frequent headaches. The protective effect of optimism even applied to soldiers who were in combat or other circumstances likely to cause pain or injury.

SOURCE: JAMA

STROKE RECOVERY DISCOVERY

Until now, doctors didn't know why some people survived a mild stroke without disability while others suffered memory lapse, limb weakness, and loss of muscle control. Neuroscientists have discovered that people who were born without the gene CCR5 recover better from mild stroke than others. The discovery could lead to a pill that aids recovery. That's because CCR5 plays a role in HIV, too. It opens the door to the immune system and lets the virus infect it. An FDA-approved drug that prevents HIV infection shuts CCR5 down. This pill or a similar one could one day help people recover from stroke.

SOURCE: Cell

OSTEOPOROSIS AND MEN

Women are three times more likely than men to receive treatment for osteoporosis when they need it. That's especially a problem for men older than 80. Almost all of them meet osteoporosis criteria.

SOURCE: Journal of Investigative Medicine

WHOLE GRAINS & LIVER CANCER

You know whole grains are good for you. Liver cancer prevention may be another one of their many virtues. In a study that tracked more than 125,000 people for 24 years, those who ate the most whole grains—about 33 grams or two servings per day—were significantly less likely than those who ate the least—7 grams a day or less—to develop liver cancer during that time. For each additional 12 grams per day that people ate, their liver cancer risk dropped by 16%.

SOURCE: JAMA



WORTH IT?

Could you quit Facebook if it paid you? The average price people put on dropping the social media platform for one year was \$1,000, a study found.

SOURCE: PLOS One



GROWING UP GREEN

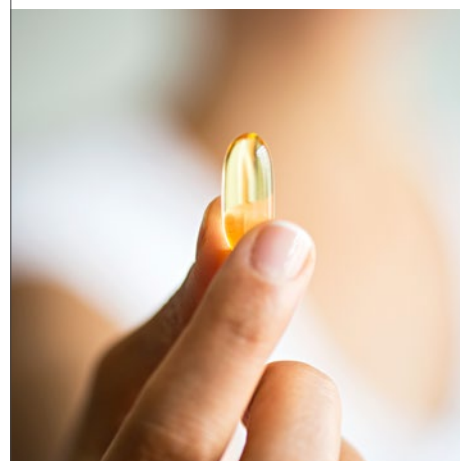
A green childhood could make for a happier adulthood. Researchers used satellite data to map the childhood homes of nearly a million Danish people, then linked it to the now-adults' health records. People who had been surrounded by green space for the longest from birth to age 10 were up to 45% less likely to develop a mental illness in adulthood—regardless of their other risk factors.

SOURCE: PNAS

WAS THAT NECESSARY?

A person at average risk may never need a colonoscopy. In a study that included 120,255 people, each person did a stool-sample test, which finds hidden blood in stool, and later a colonoscopy. Both tests had similarly high detection rates for colorectal cancer. The researchers say that for the average person a colonoscopy may only be necessary after a positive stool-sample test.

SOURCE: *Annals of Internal Medicine*



BODY FAT & BREAST CANCER

Doctors often use body-mass index (BMI)—the height-to-weight ratio used to determine whether a person is overweight—as an indicator of breast cancer risk. But the number doesn't distinguish between muscle and fat, and new research suggests it's not the best predictor of cancer risk. In a study that tracked 3,460 post-menopausal women with a normal BMI for 16 years, those with the highest levels of body fat were the most likely to develop certain types of breast cancer.

SOURCE: *JAMA Oncology*

SLEEP HEALS

New research that compared the blood samples of people as they slept through the night to those who stayed awake all night finds your healing immune T-cells are more potent when you are not sleep-deprived.

SOURCE: *Journal of Experimental Medicine*



RELATIONSHIPS

Hug It Out

FIGHTING WITH YOUR KID, YOUR SPOUSE, YOUR IN-LAWS? SCIENCE SUGGESTS AN OLD PRESCHOOL ADAGE REALLY CAN HELP YOU GET THROUGH IT.

ARGUING WITH A LOVED ONE CAN RUIN YOUR MOOD FOR HOURS OR EVEN DAYS AFTERWARD. BUT IT DOESN'T HAVE TO. Researchers at Carnegie Mellon University studied 400 adults for two weeks and found that receiving a hug the same day they had a conflict is linked with a decrease in negative emotions. Read: You don't feel quite so bad. And the effects can last up to a day following the disagreement. While questions remain (scientists are unsure if the hug needs to be from the person you're in conflict with), it's worth a try. Regularly receiving hugs has been associated with many other benefits, including lower anxiety, a stronger immune system, and better heart health. —COLLEEN OAKLEY

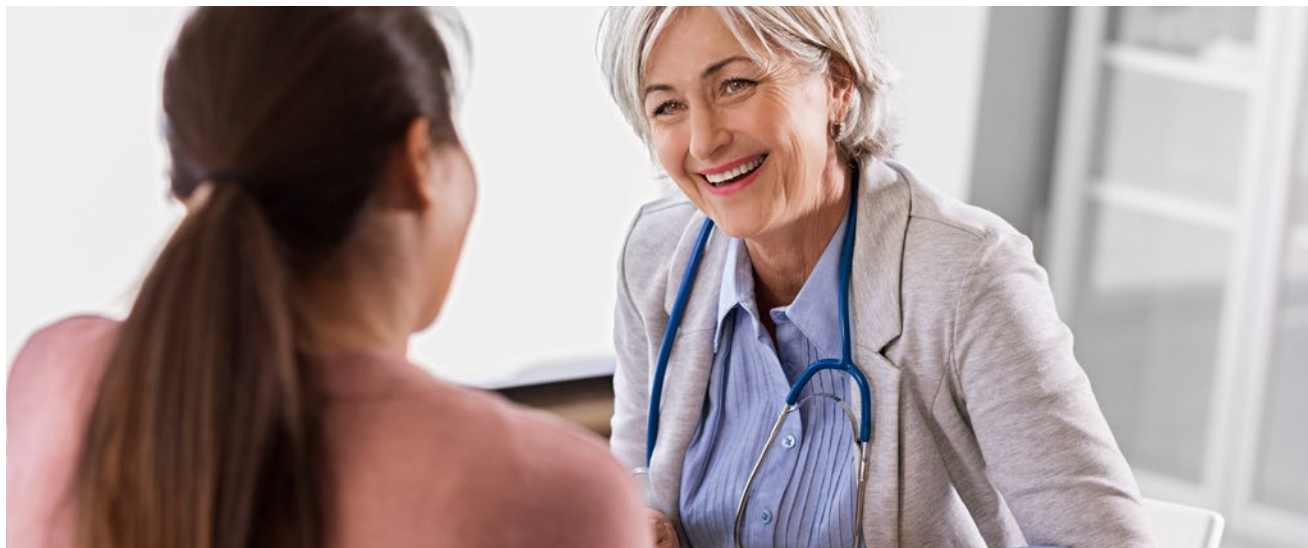
OB/GYN Intel

WHAT YOUR GYNECOLOGIST WANTS YOU TO KNOW

BY Barbara Brody REVIEWED BY Brunilda Nazario, MD, WebMD Senior Medical Editor



Search for the slideshow **What to Expect From an OB/GYN**
Visit at WebMD.com.



WHETHER YOU'RE AT YOUR OB/GYN'S OFFICE FOR A ROUTINE CHECKUP OR BECAUSE YOU'RE WORRIED ABOUT WEIRD SPOTTING, your doctor knows there are a million places you'd rather be. But while you might feel self-conscious, for her it's just another day at the office.

"It's not awkward for me—I'm someone who thinks you should be able to say 'vagina' on TV—but I know it can be embarrassing for patients," says Mary Jane Minkin, MD, clinical professor of obstetrics, gynecology, and reproductive sciences at Yale University School of Medicine. Still, it's in your best interest to get comfortable (enough) in those stirrups, to be honest about your most intimate health concerns, and to find out what she's really thinking while you're shivering in that flimsy gown.

'I hope you're being honest'

"My standard opening line is, 'How can I help you today?'" says Minkin. In order to get good care, you need to answer that question honestly. Whether your libido has taken a nosedive, you pee a little when you cough, or you want to talk about birth control or STD testing, your provider can help—if you open up and tell her what's going on.

'I'm not judging you'

A good OB/GYN will ask a lot of questions,

but it's not because she's nosy. Depending on your age and history, she might ask if you are having sex with multiple partners, are properly protected against pregnancy, or have plans to become pregnant in the future, says Minkin. Her only vested interest is making sure you're doing everything you can to protect your health.

'Don't stress about odor for my sake'

Most vaginas have a slight odor. As long as you practice good hygiene (you should regularly rinse the external part of your genitals with a mild cleanser or just plain water), your scent is probably normal. That said, an unusually strong odor may signal an infection, so if you suspect something's off, ask. "The only reason I would care [about a patient's odor] is if I suspected she had an infection," says Minkin, who notes that a strong odor usually goes hand-in-hand with irritation, pain, or weird discharge.

'Grooming down there? I don't care.'

How you style the hair (or lack thereof) in your nether regions is a matter of personal preference. "My older patients have no idea that younger women wax," says Minkin. And, no, some extra fuzz won't interfere with her ability to examine you. The only reason she might be concerned about hair removal? "We just don't want you getting irritation from shaving or waxing," she says.

3 TIPS

MARY JANE MINKIN, MD, SUGGESTS A FEW WAYS TO GET THE MOST OUT OF AN OB/GYN APPOINTMENT.

1. SEE A PROVIDER YOU LIKE AND TRUST

If you don't feel comfortable, trust your gut and find someone new.

2. PLAN AHEAD

It's normal to blank under those fluorescent lights. If you have specific questions, jot them down ahead of time so you don't forget.

3. MAKE YOUR PRIORITIES CLEAR

Be honest and straightforward. Also important: If your gynecologist is the only primary care provider you're seeing, make sure she knows that. Otherwise, she may assume that your internist has things like screening you for heart disease covered.

Drop and Give Me 40!

NEW RESEARCH SHOWS THAT PUSH-UPS—AND EXERCISE IN GENERAL—MAY HELP PROTECT MEN'S HEARTS

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



Sign up for the slideshow
**14 Ways to Shed
Pounds After 40** at
WebMD.com.

IN A 10-YEAR STUDY PUBLISHED IN FEBRUARY, RESEARCHERS REPORTED THAT MEN WHO CAN DO 40 PUSH-UPS HAVE A WHOPPING 96% LOWER RISK OF HEART DISEASE than guys who can't muster 10. The average man in the study: Nearly 40 years old and overweight, but not obese. All 1,562 men were physically active firefighters rather than office workers. The study's results strengthen the case that muscle-building promotes heart health.

"Resistance training is super important," says Kaiser Permanente sports medicine specialist Robert E. Sallis, MD, who was not involved in the study. "It seems to have the same benefits as cardiovascular exercise."

Can't do 40 push-ups? Don't sweat it. In the study, even men who could do only 11 push-ups dropped their risk of heart disease by 64%. The biggest difference, says Sallis, lies between those who do no exercise and those who at least do some: "Even if you can only do a little exercise, you get tremendous benefits."

The study focused on push-ups, but don't limit yourself to that one exercise. Your workout should include a variety of movements that work as many muscles as you can. Sallis recommends weight lifting, sit-ups and

pull-ups, and interval training. "Your goal shouldn't be simply to do more push-ups in order to live longer," he says. "It's about your overall fitness."

Sallis says that men often become discouraged when their exercise routine does not lead to weight loss: "They think their program's not working, but that's wrong." He says that fitness—or your capacity for exercise—is a much better indicator of your health than weight, at least up to a point.

"All of the data tells us that if you can be active and do those push-ups or other exercises, the weight doesn't matter unless you're morbidly obese," says Sallis.

New to exercise? Start slow and ramp up. Sallis recommends daily brisk walks at first, building up to 150 minutes per week, or 30 minutes a day.

"Try 10 minutes a day at first," he says. "If that's all you can do, I'll take it. Even low doses of exercise provide benefits."

And if you don't like push-ups? That's OK. Do something else. "I don't necessarily want people to do more push-ups," says Sallis. "I want them to be more fit. Do whatever you want to do—you've got a large menu."

ASK YOUR DOCTOR

Q Should I avoid some types of exercise?

Some underlying conditions will make certain exercises a bad choice. For example, shoulder arthritis may make push-ups impossible. Try other bodyweight exercises.

Q Do I need to be evaluated before I exercise?

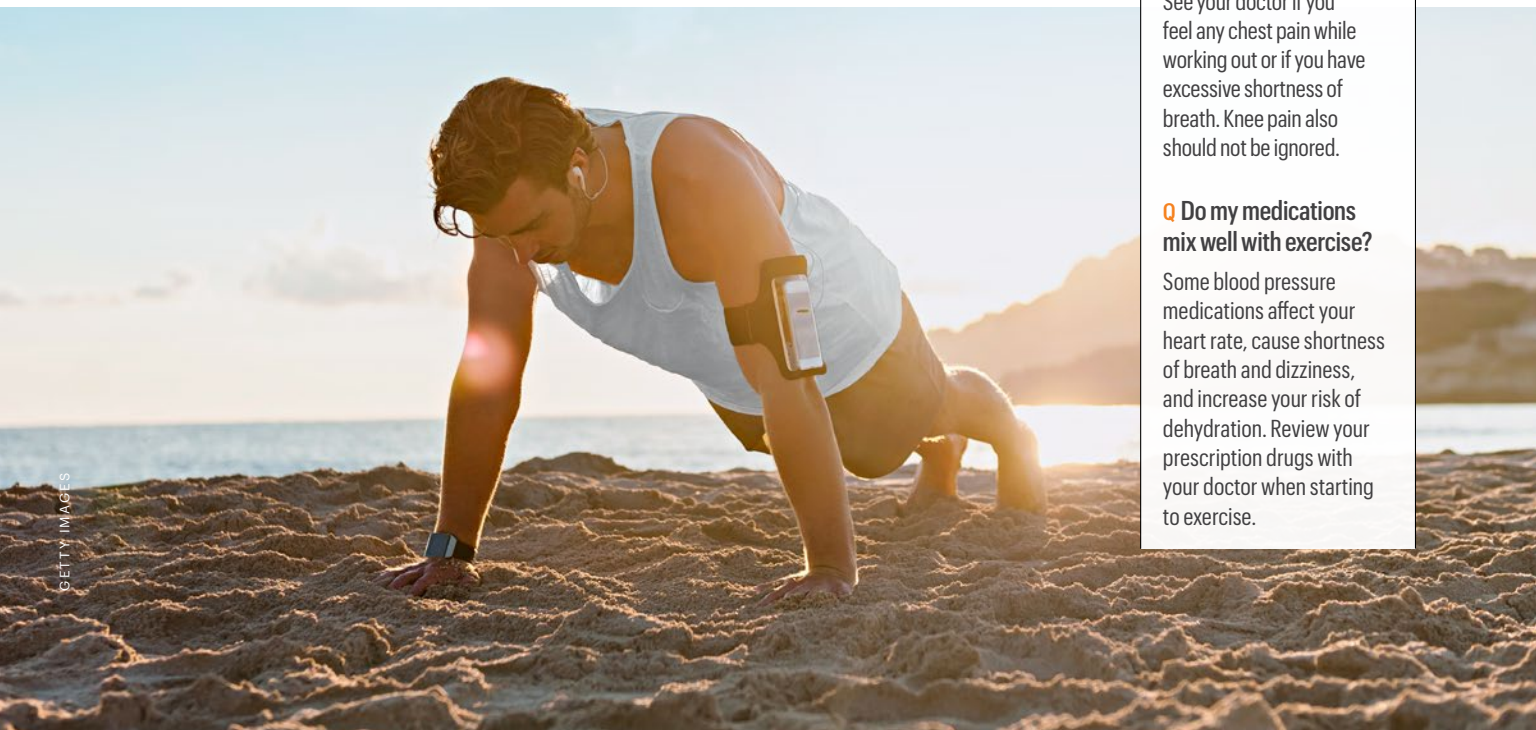
Most people don't need a doctor's permission to start moderate exercise, like a walking program, but if you have heart disease, diabetes, or other chronic health problems, check in with your physician.

Q What red flags should I watch for?

See your doctor if you feel any chest pain while working out or if you have excessive shortness of breath. Knee pain also should not be ignored.

Q Do my medications mix well with exercise?

Some blood pressure medications affect your heart rate, cause shortness of breath and dizziness, and increase your risk of dehydration. Review your prescription drugs with your doctor when starting to exercise.



A LITTLE HELP

Tap into an app for help in planning, tracking, and pushing your workouts.

FITNESS

Your Mobile Health Tool

LOVE YOUR SMARTPHONE BUT WISH SCREEN TIME WASN'T SO BAD FOR YOUR HEALTH? THESE SIX TIPS WILL TRANSFORM YOUR PHONE FROM GUILTY PLEASURE INTO FITNESS BUDDY.

BY Kara Mayer Robinson

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

WHY THINK OF YOUR SMARTPHONE AS A FITNESS BUSTER? It's loaded with resources to boost your fitness. Here's how to use it for good.

1. WORK OUT (ANYTIME, ANYWHERE)

"No gym? Not a problem," says Jessalynn G. Adam, MD, a sports medicine physician at Mercy Medical Center in Baltimore. "You have tons of options for fitness apps and many are free."

Try a cardio or yoga class on YouTube. Or fire up a seven-minute workout app. You'll find all different skill levels, intensities, and durations.

2. SET REMINDERS

"Apps are only helpful if you remember to use them, so the best way to use your phone for fitness is to schedule exercise reminders throughout the day," says family physician Tisha Rowe, MD, in Houston.

Set an alarm or turn on reminders to work out, take a walk, do stretches, or simply get up from the computer every hour. Be specific, says Rowe. For example, customize a 7 a.m. reminder to say, "Good morning, Sunshine! Do 25 sit-ups."

3. JOIN A COMMUNITY

"Tap into the social media fitness community," says Adam. "The daily posts are a fun way to keep you accountable and chart your progress."

Join a Facebook fitness group. Compare notes with fellow runners on Strava. Try an Instagram yoga challenge. Have fun sharing, comparing, and competing with friends on apps like PK Coin.

4. GET COACHED

Apps like Trainiac and FitMyTime sync you up with remote trainers

4 PICKS

LOOKING FOR A NEW FITNESS APP? TRY THESE TOP CHOICES FROM THE AMERICAN COUNCIL ON EXERCISE.

1. RUNKEEPER

Track your distance, duration, speed, and calories burned with this free running app that uses your phone's GPS to measure distance.

2. ENDOMONDO

Get social with this app that connects you with fellow fitness fans locally and globally. You can send and receive real-time pep talks during workouts.

3. GAIN FITNESS

After you input your goals and fitness level, this free app will give you customized workouts based on an algorithm created by fitness experts.

4. PUMPONE

You can follow preset workouts on this subscription app (there's a fee) or stream hundreds of group fitness classes on its sidekick app, FitnessClass.



Search for the slideshow [How to Put Tech to Work for Your Health](#) at [WebMD.com](#).

to take you through workouts via audio, video, and text messaging. Programs like Habit House keep you on track with personalized text messages sent by a wellness coach.

5. TRACK YOUR PROGRESS

Many fitness apps help track your fitness, says Lea Genders, a National Academy of Sports Medicine-certified personal trainer. Try tracking calories with MyFitnessPal. Monitor your running progress with Strava. Watch your strength increase with BodySpace. Track your daily steps with Apple Health. If you have wearables, you can also track your heart rate data and sleep.

6. TAKE SELFIES (YES, REALLY)

The best smartphone tracker of all, says Genders, is the camera. Daily changes are subtle, so you may not notice progress in the mirror or on the scale. "I recommend taking weekly photos—front view, side view, and back view—in similar clothes to track those changes you might not notice," she says.

Cary Williams, an Olympic-level boxing coach, uses her camera to record workouts. It helps her critique her form and motivates her to push harder, especially if she posts them on social media. "If I'm on camera," she says, "I want everything to look great, and I want to work hard."



SKIN CARE

Cool the Burn

EASE THE PAIN OF TOO MUCH SUN WITH THESE SKIN-CALMING TIPS YOU CAN TRY AT HOME

DESPITE YOUR BEST EFFORTS TO LIMIT UV EXPOSURE BY APPLYING (AND REAPPLYING) SUNSCREEN AND COVERING UP DURING PEAK SUN HOURS, ACCIDENTAL SUNBURNS STILL HAPPEN—AND THEY'RE NO FUN. For sunburn relief, step one is to get out of the sun, says New York City dermatologist Janet Prystowsky, MD. "Then apply cooling agents such as aloe (pure aloe or in a lotion) or wash cloths soaked in cold water to stop the burn in its tracks." Take an over-the-counter pain reliever to help quell the inflammation set in motion from overexposure to ultraviolet radiation (sunlight) that causes skin to sting. Blistering? Prystowsky suggests an ointment made with vitamins A and D (look for diaper rash treatments, which often also have zinc oxide that acts as a skin barrier) to prevent additional irritation. Bye-bye, lobster look! —AYREN JACKSON-CANNADY

Beauty

Clear Days Ahead

KEEP YOUR COMPLEXION BREAKOUT-FREE WITH THESE PRO PICKS FROM **DEBRA JALIMAN, MD**, ASSISTANT PROFESSOR OF DERMATOLOGY, ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI, AND AUTHOR OF *SKIN RULES: TRADE SECRETS* FROM A TOP NEW YORK DERMATOLOGIST

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



Search for the video
**How to Get Rid of
Blackheads** at WebMD.com.



FOR SENSITIVE SKIN
**PCA Skin BPO 5%
Cleanser, \$39**

"Chamomile and aloe team up to make this benzoyl peroxide-infused cleanser gentle on irritated, acne-prone skin."

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FOR DRY SKIN
Honevo Acne, \$35

"This pharmaceutical honey has antibacterial properties to help reduce acne and is clinically shown to soothe and calm redness and provide improvement in two weeks."



FOR MATURE SKIN
**Murad Advanced Acne &
Wrinkle Reducer, \$54**

"This acne treatment has retinol and glycolic acid, which target fine lines and wrinkles to improve the skin's texture. It also has salicylic acid to help to unclog pores and keep you breakout-free."

FOR COMBO SKIN
**The Ordinary
Niacinamide 10% +
Zinc 1%, \$6**

"Infused with niacinamide and other vitamins, this boosts your skin's overall health. The niacinamide helps clear acne while improving the appearance of enlarged pores and dullness."





DERM Q&A

Vein Fix

DON'T SPEND YOUR SUMMER COVERING UP UNSIGHTLY VARICOSE VEINS—YOU HAVE OPTIONS

BY Kara Mayer Robinson REVIEWED BY Mohiba K. Tareen, MD, WebMD Medical Reviewer

WISH THOSE SWOLLEN, TWISTED VEINS WOULD DISAPPEAR? Varicose veins can be uncomfortable to live with, not just because of their appearance. They can cause symptoms like fatigue, burning, throbbing, tingling, heaviness in your legs, itching, muscle cramps, soreness, swelling, discoloration, and leg ulcers, making it painful to walk or stand up.

Susan Bard, MD, a New York City-based dermatologist, has the low-down on varicose veins—and what you can do about them.

Q What are varicose veins and spider veins—and what's the difference?

BARD Varicose veins are enlarged, tortuous veins in which blood pools due to poorly functioning valves, which impairs your body's ability to pump the blood back up to your heart. Spider veins are a smaller, milder variant of varicose veins.

Q What causes them?

BARD The predisposition for varicose veins is often genetic. It's exacerbated by prolonged standing and other conditions that increase pressure in your veins, like pregnancy, obesity, and weightlifting.

Q Can I prevent them or stop them from getting worse?

BARD Yes. Seeking treatment early can help prevent varicose veins from getting worse and slow down the development of new varicose veins.

Q What can I try at home?

BARD Wearing compression stockings will support your legs and thighs and prevent pooling in the vessels. It's a great at-home treatment, as is leg elevation. Horse chestnut seed extract, an over-the-counter supplement, has been shown to be helpful as well.

Q How do I know if I need medical treatment?

BARD Leg swelling, discomfort, worsening of existing veins, dermatitis, or ulcer formation are signs to seek medical care.

Q What can a doctor do?

BARD We can inject, laser, or cut out the varicose vein. We can also treat any resulting complications like venous dermatitis and ulceration. Sclerotherapy, a procedure in which a sclerosing agent is injected into spider vessels, helps your body scar over and eliminate the vessels. Endovenous ablation, in which a laser or radio-frequency fiber is threaded into a main vessel, feeding varicose veins below, helps eliminate larger varicose veins and can prevent new varicose veins from forming.

Q What kind of results can I expect?

BARD In-office treatments have very high success rates, although some cases require multiple treatments and maintenance treatments as your body continues to make new varicose vessels.

4 TIPS

STOP VARICOSE VEINS IN THEIR TRACKS WITH THESE PRACTICAL TIPS.

1. LOOSEN UP

Wear loose-fitting clothes. Take a pass on anything that constricts your waist, groin, or legs—except for compression stockings.

2. WATCH YOUR LEGS

Try not to cross them when you're sitting. Don't sit or stand in the same position too long.

3. SHAPE UP

Try to shed extra pounds. Exercise can help. It also increases circulation, which is helpful.

4. PUT YOUR LEGS UP

Elevate your legs for 30 minutes, twice a day. Do it while you're sitting or simply lie down.



Search for the slideshow **Spider and Varicose Veins: Causes, Before-and-After Treatment Images** at WebMD.com.



10 Anti-Aging Hair Care Tips

JUST LIKE YOUR SKIN, HAIR SHOWS SIGNS OF AGE. BUT WITH THESE EXPERT HINTS, YOUR STRANDS CAN LOOK THICK, SHINY, AND STRONG.

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

YOUR HAIR, LIKE YOUR TASTE IN MUSIC AND COMFORT LEVEL WITH SOCIAL MEDIA, CAN GIVE AWAY YOUR AGE. Hair undergoes changes with age just like the rest of your body. “Hair follicles get smaller, sebum production declines, and some people lose pigment cells and go gray,” says Francesca Fusco, MD, assistant clinical professor of dermatology at Icahn School of Medicine at

Mount Sinai School of Medicine in New York City.

As hormones change, the hair sheds more and grows back more slowly, causing it to thin, says David Kingsley, PhD, president of the World Trichology Society. In addition, hormones trigger a reduction in sebum production that can leave the hair feeling dryer. At the same time, pigment cells in the hair bulb are diminished over time, Fusco explains, so hair turns gray.

But while your hair undergoes some inevitable changes with age, you can update

it. We asked the experts to share their best anti-aging hair-care tips and tricks to keep your strands looking healthy and youthful to represent your individual style.

SEE YOUR DOCTOR

“Address any thinning early,” Fusco says. “We have treatments like Minoxidil and Propecia that work to regrow hair,” she says. “But it’s best to rule out other causes like anemia, iron deficiency, autoimmune disorder, or the side effects of medication.”

GET THE RIGHT CUT

"As your hair thins, it's not a bad idea to cut your hair a bit shorter, but it's a myth that you have to cut your hair short once you reach a certain age," says Nunzio Saviano, owner of Nunzio Saviano Salon in New York City. "You can have beautiful hair that's below your shoulders as long as it's cut in longer layers that move together and give the illusion of fullness." He explains that too many layers only emphasize thinning texture but longer layers hold shape and look full.

DELVE INTO YOUR DIET

"Protein and iron are the two most important things to have in your diet for healthy hair," Fusco says. "If your diet is restricted it can affect hair loss." She advises asking your doctor about a blood test and a medical history to check for a deficiency in iron, vitamin D, or other minerals. Once that's ruled out, Fusco likes the supplement Nutrafol because it contains zinc and other antioxidants that promote hair growth. "There is good research, and my patients have been happy with the results," she says.

WHEN IN DOUBT, MOISTURIZE

Saviano tells his clients to avoid drying

mousses and gels because they can cause hair to look dull and strip away shine. His trick: "I like to use mousse designed for curly hair because it tends to be moisturizing and less drying for the hair," he says. Fusco also recommends rich, conditioning treatments to hydrate aging strands. She likes macadamia nut oil masks as a rich conditioning treatment once a week.

BRUSH WITH GREATNESS

There's an old wives' tale that you should brush 100 strokes a day. That isn't necessary, Saviano says. However, gentle brushing can encourage healthy blood flow to the scalp, which is good for the hair. In fact, some research shows that scalp massage may help increase hair thickness. He suggests using a Mason Pearson soft boar bristle brush because the natural bristles are gentle on delicate strands and will distribute the hair's natural conditioning oils.

"PROTEIN AND IRON ARE THE TWO MOST IMPORTANT THINGS TO HAVE IN YOUR DIET FOR HEALTHY HAIR."

CHECK THE LABEL OF YOUR LATHER

"Look for a zinc pyrithione shampoo—it's usually in dandruff formulas," Fusco says. She says that the ingredient is hydrating and soothing, whether you have dandruff or not, and can be beneficial to anyone feeling tightness or itchiness due to decreased sebum production on the scalp.

KEEP YOUR COOL

Heat styling can be especially damaging to thinning hair fibers. The stress can cause breakage, and since the hair is producing less sebum, you have less natural protection against the heat. Fusco warns against using too many heat tools and recommends keeping any time you expose hair to flat irons or blow dryers to a minimum.

STAY AWAY FROM SPRAY

Jet Rhys, owner of Jet Rhys Salon in Solana Beach, California, tells her clients not to use too much hair spray.

Continued on page 20

THE SCOOP



SKIN-CARE SECRET: CERAMIDES

IF YOU FEEL LIKE YOU'VE TRIED EVERY MOISTURIZER IN THE AISLE AND YOUR SKIN IS STILL DRY, EXPERTS SUGGEST REACHING FOR ONE INFUSED WITH CERAMIDES. HERE'S WHY:

NATURALLY FOUND IN SKIN

Ceramides are essentially fatty molecules in the skin's top layer that help keep the skin soft, moisturized, and protected from the elements. Think of them as the mortar between bricks that are the skin cells.

EFFECTIVE ON DRY SKIN CONDITIONS

Skin that is overly dry or irritated—such as skin with eczema and psoriasis—has inadequate or poorly managed ceramide content, says Inessa Fishman, MD, a facial plastic surgeon in Atlanta. "People with eczema don't have enough ceramides in their skin," she says, "and people with psoriasis have different ratios of certain ceramides."

AVAILABLE OVER THE COUNTER

Ceramide-containing moisturizers, like CeraVe, can help maintain moisture in the skin without making it greasy, and they can be very soothing for dry, irritated, and eczema-prone skin. According to Fishman, they can be used on all skin types—young, mature, and skin undergoing dermatologic treatments.

BACKED BY RESEARCH

A Japanese study looked at patients' eyelids over a course of four weeks and found scientifically significant changes in the moisture levels of those that received the ceramide treatment. Another study showed that topical ceramide creams improve the skin barrier.

Continued from page 19

The drying alcohols in these stylers can cause hair to become dry and brittle.

BUILD BODY

"There is a wonderful product called Toppik that uses vegetable fibers to camouflage areas of thinning hair," says Mona Gohara, MD, associate clinical professor of dermatology at Yale University. She has seen it make a significant difference in terms of creating the appearance of hair thickness in a believable way.

GLOSS OVER GRAY

Gray hair naturally has a wiry, dull texture that reflects less light, Rhys explains.

"Semi-permanent or permanent color can improve the texture and add body, but you don't have to completely cover your gray," she says. "You can just add a few ribbons to add some shine." She also says that color has the perk of increasing volume, so it helps thinning hair feel fuller as well. "A few highlights around the temple can make a big difference in creating the look of volume and shine," Saviano says.

DIRTY SECRET

"I sleep in my extended-wear contacts."



RISKY BUSINESS

"I strongly discourage sleeping in any kind of contact lens. Wearing them overnight increases the chances of infection and inflammation. The CDC reports that sleeping in lenses can raise your risk of eye infection up to eightfold. You're risking permanent damage to the cornea, which can be sight-threatening."

LET THEM 'BREATHE'

"During the day, you encounter dirt and debris as well as microbes that can cause infections and possibly abrasions if you allow the bacteria and foreign material to linger in your delicate eye membrane. Plus, your eyes are likely not getting optimal levels of oxygen when you leave your lenses in to sleep. Wearing extended-wear lenses without removing them can also cause you to develop new blood vessels in your cornea, which has the potential to impair vision over time."

BEST PRACTICES

"Remove and throw away daily lenses before going to sleep. Extended-wear lenses should be removed before bed and disinfected with a hydrogen peroxide cleaner. Always rinse and store lenses in a sterile saline solution to keep them free of microbes and limit the chances of infection."

—Stephen Pflugfelder, professor of ophthalmology, Baylor College of Medicine, Houston

AISLE DO

SAVE FACE

THE BEST SUNSCREEN IS THE ONE YOU USE EVERY DAY. IF YOU'RE RESTOCKING FOR THE SEASON, CONSIDER THESE TOP PICKS FROM SKIN PROS.



PRODUCT PICK

ELTAMD ELEMENTS SPF 44 (\$33)

"This zinc-based sunscreen provides a slight tint, plus it has hyaluronic acid to moisturize and vitamin C for skin brightening and antioxidant protection. I use it as my tinted moisturizer on the weekends or as my base primer for applying makeup during the week."

Melanie Palm, MD
dermatologist, San Diego, California



PRODUCT PICK

LA ROCHE-POSAY ANTHELIOS AOX ANTIOXIDANT SERUM SPF 50 (\$43)

"I love this daily serum with sunscreen. It's super-lightweight so you can't feel it when it dries. Plus, it has the additional advantages of antioxidants."

Holly Happe, DO
physician and medical esthetician, Newton, Massachusetts



PRODUCT PICK

COLORESCIENCE SUNFORGETTABLE (\$65)

"One the main reasons people don't reapply their sunscreen throughout the day is because it's inconvenient. This completely mineral powder changes the game because you can sweep it right over makeup or anytime."

Susan Bard, MD
dermatologist, Brooklyn, New York

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PLAY IT SAFE

Germ Alert

SANDBOXES CAN TEEM WITH BACTERIA THAT COULD MAKE YOUR KIDS SICK, SO TAKE PRECAUTIONS

SANDBOXES ARE AS FUNDAMENTAL TO CHILDHOOD PLAY AS SWING SETS AND SEESAWS. Yet these communal play areas provide the perfect breeding environment for harmful bacteria carried in by animals or sick children. A study of playgrounds in Spain found *C. difficile* bacteria—the harmful kind that causes gastrointestinal illness—in nearly 53% of sandbox samples tested. As frightening as this sounds, you don't need to banish your kids from the sandbox. Just make sure they wash their hands before and after they play in the sand. If you have a sandbox at home, keep it covered when not in use. —STEPHANIE WATSON

Are You a Candidate?

DOCTORS SAY VAGINAL BIRTH AFTER C-SECTION CAN BE A SAFE AND APPROPRIATE OPTION FOR MANY WOMEN

BY Rachel Reiff Ellis REVIEWED BY Niviv C.S. Todd, MD, WebMD Medical Reviewer



Search for the article [Can I Have a Vaginal Birth After a C-Section?](#) at WebMD.com.

WHEN COMPARED TO THE MAJOR ABDOMINAL SURGERY OF A C-SECTION, choosing a vaginal birth after C-section (VBAC) seems like a no-brainer—it usually involves a shorter recovery time, a lower chance of infection, and less blood loss.

True, VBACs come with risks, enough so that doctors keep close tabs whether the rewards outweigh those risks. But even though the most recent studies show slightly higher adverse outcomes for moms and babies after VBACs that fail (compared to a repeat C-section from the start), overall, most doctors agree that VBACs are a sound option—for the right candidate in the right environment.

“When performed in the appropriate setting, the medical opinion has always been that VBAC is a reasonable option for appropriately counseled women,” says Michael Trifiro, MD, assistant clinical professor in the division of obstetrics and gynecology at UC Davis Health.

VBAC is safe, he says, but it’s safest when done in a hospital ready to deal with the rare but dangerous problems that can occur. “The biggest concern is that where the incision was made on the uterus to deliver the baby will open up,” says Trifiro. Luckily, he says, for the most common type of C-section done, the risk of this kind of uterine rupture is low (less than 1%). But when it does happen, it means there is internal bleeding for both the mother and baby, a true emergency.

“The placenta can also attach to your C-section scar and invade the uterus, causing severe bleeding, the need for early delivery, or a potential

hysterectomy and injury to other organs at the time of delivery,” says Trifiro. And that risk goes up the more C-sections you have.

Still, research shows 60% to 80% of women who attempt a VBAC have a successful vaginal delivery. The American College of Obstetricians and Gynecologists’ most recent statement on VBACs says, “Attempting a VBAC is a safe and appropriate choice for most women who have had a prior Cesarean delivery.” It also notes that even some women who’ve had two C-sections may fall into that category.

So, who is VBAC *not* for? To answer that question, doctors do a deep dive into a mom-to-be’s medical history—looking especially for information about her previous birth experiences.

Whether you’re best suited for a VBAC depends on factors such as past vaginal birth success, the plan for future pregnancies, and the reason for previous C-sections.

“If the baby got stuck because the mom stopped dilating or was unable to deliver after pushing, you’re less likely to have a successful VBAC,” says Trifiro. Other scenarios, like a baby whose heart rate couldn’t tolerate labor or a breech situation before C-section, point to a better chance VBAC will go well. The direction and location of the incision your surgeon made during your C-section also plays a part in your risk of uterine rupture.

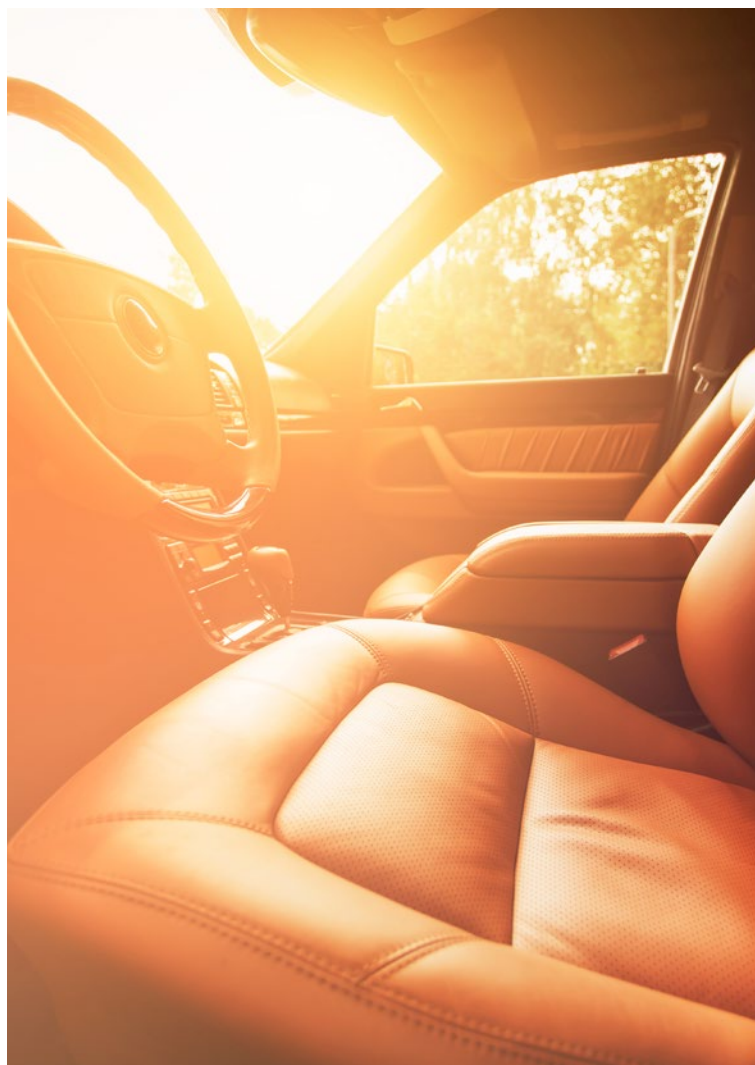
Ultimately, though, Trifiro says the medical community has abandoned the “once a C-section, always a C-section” mode of thinking and embraces VBAC as a viable choice.

WEIGHING THE ODDS

IS VBAC FOR YOU? **MICHAEL TRIFIRO, MD,** SAYS THESE HEALTH MARKERS INDICATE A HIGHER CHANCE OF VBAC SUCCESS:

- You’ve had a **previous vaginal birth.**
- You’ve had **two or fewer previous C-sections.**
- It’s been **more than 18 months** since your C-section.
- You had a **low transverse or low vertical incision** with your C-section.
- You’ve **never had a uterine rupture.**
- Your **C-section was not performed** because of a dilation issue or a baby that was stuck.





PARENTING

Hot Seat

MANY OF THE DOZENS OF CHILDREN WHO DIE EACH YEAR IN OVERHEATED CARS ARE UNINTENTIONALLY FORGOTTEN BY DISTRACTED CAREGIVERS. COULD IT HAPPEN TO YOUR CHILD?

BY Lisa Marshall

REVIEWED BY Roy Benaroch, MD, WebMD Medical Reviewer

FIFTY-ONE CHILDREN DIED IN HOT CARS IN 2018, THE WORST YEAR ON RECORD FOR PEDIATRIC VEHICULAR HEATSTROKE DEATHS. While many may assume the caregivers were neglectful or malicious, that's typically not the case, experts say.

Surveys show a quarter of parents have intentionally left their young child alone in a parked vehicle; 11% admit to having forgotten a child in the car at least briefly.

While those fleeting moments of forgetfulness are often near-misses, they can also lead to tragedy, says David Diamond, a University of South Florida Psychologist who published a recent paper exploring why kids get forgotten in hot cars. "People can make really tragic memory errors, and it is entirely unintentional," he says.

Such tragedies are often a failure of "prospective memory"—remembering to do something in the future, he says. While certain areas of the brain are responsible for making a plan and remembering to execute it, they can be overridden by regions which enable us to go on "autopilot" when we carry out a routine.

"It's like when you are driving home from work and have every intention to pick up the groceries, but then you arrive and realize you forgot to stop at the store," Diamond says. "In that process of multitasking, the memory of the child in the backseat sometimes gets lost."

Such instances have skyrocketed since 1998, when car manufacturers began putting airbags in the front seat, requiring children to be placed in the back. With no visual reminder of a sleeping toddler behind them, it became easier for parents to forget, says Jennifer Vanos, an assistant professor who studies climate and human health at Arizona State University.

Sometimes children climb into the car to play and get locked in. Other times, parents wrongfully assume that if they crack the window, park in the shade, and leave the child briefly, all will be OK. "People don't realize that even in the shade it can still quickly reach lethal temperatures," says Vanos, noting that because children don't sweat as much as adults, they can't cool themselves as easily.

Her advice: Leave something in the front seat like a diaper bag or stuffed animal to remind you of your precious cargo. Some cell phone apps will send a reminder to parents when they arrive at their destination. Another idea: Place something essential, like your house keys or purse or briefcase, in the back seat with the child. Be sure to lock your car—even in your own driveway. And never ever leave a child unattended in a vehicle.

BY THE NUMBERS

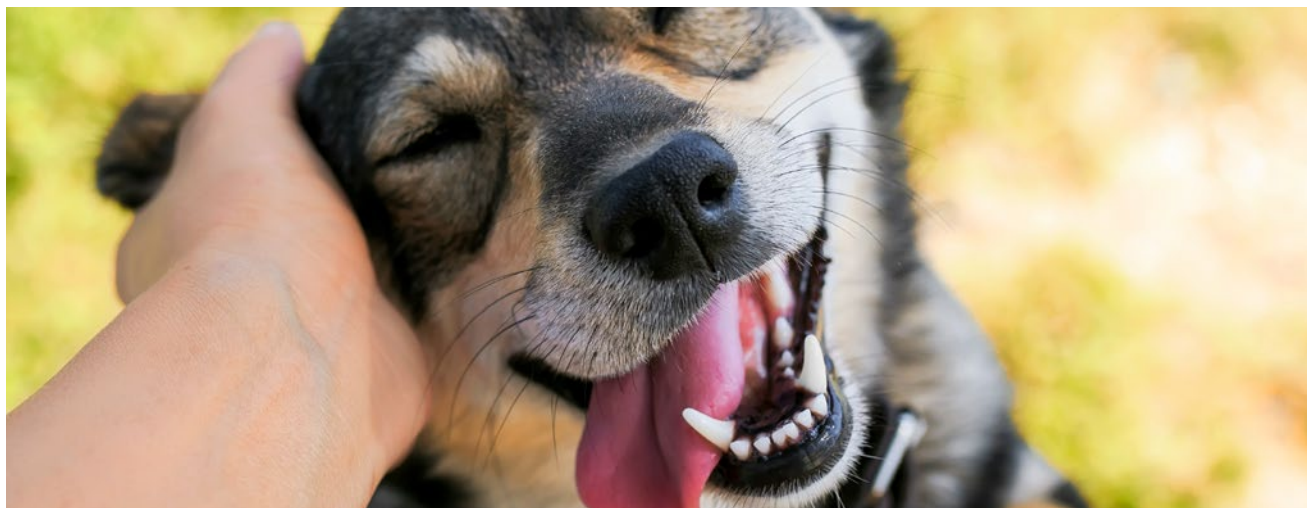
116 DEGREES Average temperature inside a car on an 80-degree day after one hour.

104 DEGREES Average core body temperature at which a child will suffer heatstroke.

54% Percentage of U.S. child car heatstroke deaths resulting from a caregiver forgetting the child.

794 Number of deaths since 1998.

GETTY IMAGES



PETS

A Winning Smile

THE SECRET TO KEEPING YOUR DOG HAPPY AND HEALTHY LONGER? BRUSH UP ON THEIR ORAL HEALTH.

BY Colleen Oakley

REVIEWED BY Will Draper, DVM, WebMD Medical Reviewer

YOU'RE A MODEL DOG OWNER. YOU TAKE YOUR PET FOR LONG WALKS, PLAY FETCH, read labels on dog food, and never miss a veterinarian appointment. But you're probably not keeping up with dental care. A recent survey shows that while 57% of dog owners admit their pet has bad breath, only 6% schedule a cleaning to take care of the problem.

Here's why you should: Bad breath is more than just a sign your pooch needs a good tooth brushing; he might have a more serious issue like an oral infection or gum disease. In fact, more than 75% of dogs develop gum disease by middle age, which can affect more than their dental health. A recent study points to a clear link between gum disease and heart disease in dogs.

To keep your dog's mouth and pearly whites in tip-top (and healthy) shape, follow these guidelines.

See your vet for a dental exam. Visit your veterinarian at least once each year for a dental exam (under anesthesia, if necessary) and complete dental X-rays. "Only a fraction of the tooth can be seen on the exam," says Andrea Hilden, DVM, of the Animal Care Center of Green Valley, Green Valley, Arizona. "The rest of the tooth is covered by the gums and bone, and without dental radiographs a large percentage of painful disease processes can be missed." If your dog has a history of dental disease, see your vet more often. If you notice bad breath, make an appointment immediately.

Set up an at-home routine. "Discuss with your veterinarian a complete at-home dental wellness plan that includes tooth

brushing; it may also include water additives, dental chews, specialized diets, oral gels, and rinses," says Hilden. "When it comes to keeping your dog's mouth clean, a multifaceted approach is often the most beneficial."

Brush as often as you can. Once given the go-ahead by your veterinarian, begin a tooth-brushing regimen (using a toothpaste created for dogs, not humans). "Make it attainable," says Hilden. "If you're not brushing your dog's teeth at all, don't expect to start brushing all teeth every day without fail. You and your dog need to develop a routine."

Hilden recommends a reward-based system. "Start with getting your dog to like the flavor of the toothpaste," she says. Try putting a small amount of the dog toothpaste on your finger. Let your dog lick it off and follow it up with a dog treat. Once your dog has learned to look forward to licking the toothpaste, then place a small amount of toothpaste on your finger and rub it along the gum line of two or three teeth and follow that up with a treat. Then introduce a toothbrush and have your dog lick the toothpaste from the toothbrush, followed by a treat.

Once he is comfortable with that, use the brush to spread the toothpaste along the cheek side of the teeth, followed with a treat. "You can practice this two to four times per day," says Hilden. "Just like any other training, the more frequently you practice the quicker your pet will acclimate to the process. Eventually, you will be able to brush all your dog's teeth in a single sitting."

Look for signs. Remember, any odor from the mouth, swelling of the face, drooling, bleeding from the mouth, eating more slowly than usual, discoloration of the teeth, or chipped or broken teeth are most likely signs of a painful problem. Schedule an appointment with your dog's vet right away. Whatever you do, don't attempt to brush his teeth after you notice a problem, says Hilden, even if it's as simple as bad breath.

"If there's already an infection in your dog's mouth, brushing could even be more damaging and will likely be painful for your dog," she says.



Work for Peanuts

RESEARCH SHOWS EARLY INTRODUCTION TO PEANUTS MAY PREVENT ALLERGY, WHILE DESENSITIZATION THROUGH CLINICAL, DAILY EXPOSURE MAY BUILD TOLERANCE AMONG THOSE AT HIGH RISK FOR NEGATIVE REACTION

BY Lauren Paige Kennedy REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Editor

FOR DECADES, ALLERGISTS AND PEDIATRICIANS BELIEVED TWO THINGS ABOUT PEANUT ALLERGY. First: New parents should wait to introduce peanuts to children until they were past infancy to lower the risk of a negative reaction. Second: If a reaction did occur, and allergy was confirmed through testing, the only safe measure for the 80% of kids who never outgrow this food aversion was strict avoidance of peanuts—for life.

While everyone agrees that peanut allergy can trigger anaphylaxis—hives, respiratory distress, vomiting, and, in some cases, even death—guidelines are evolving on the other fronts, says Maria Garcia-Lloret, MD, professor of pediatric allergy and immunology and co-director of the UCLA food allergy clinic.

“We now believe peanuts, which are not actually nuts but are legumes, should be given to babies as early as 4 months, when solids are first introduced,” she says. “It should not be the very first food a parent gives; I suggest mixing a little bit of peanut butter in some oatmeal. However—and this is critical—babies with eczema and other established food allergies are considered high-risk. For those kids, introduction to peanuts should be carefully monitored under the guidance of a pediatrician.”

In addition, Garcia-Lloret reports how the evidence now strongly suggests “kids and adults with existing peanut allergy can build sustained unresponsiveness through a process of gradual desensitization.” In other words, slow and sustained exposure to peanuts under clinical guidance may reduce the risk for accidental anaphylaxis down the line.

The Results of Early Exposure

The shift in thinking came in 2015, when the results of a randomized controlled clinical trial known as LEAP (Learning Early About Peanut allergy) were published in *The New England Journal of Medicine*. (The study is supported by the National Institutes of Health and the Immune Tolerance Network.)

It revealed how early exposure to peanuts produced an 81% reduction in peanut allergy among high-risk children, deemed so because they had already tested positive for other food allergies and/or had eczema. More than 600 children ages 4 to 11 months either consumed, or strictly avoided, peanuts until age 5. Of the children who avoided peanuts, 17% developed peanut allergy by age 5, compared to only 3% in the peanut-consuming group.

Prevention vs. Desensitization

LEAP focuses on preventing peanut allergy; oral immunotherapy (OIT) focuses on retraining the immune system response in children and adults with established peanut allergy, which causes a mild to severe reaction in approxi-

FACTS & STATS

1/3

HIGHER RISK

If you're allergic to peanuts, you have a 25% to 40% higher chance of also being allergic to tree nuts, including almonds, cashews, and hazelnuts.

1.8

MILLION KIDS

An estimated 1% to 2% of U.S. children have a mild to severe allergic reaction after eating or being exposed to peanuts.

94%

OF SEVERE REACTIONS

Peanut allergy is the most common food allergy because most people don't outgrow it; it also causes a disproportionate rate of life-threatening anaphylactic reactions.

mately 1% to 2% of the U.S. population.

Garcia-Lloret, who ran a 2016 UCLA clinical trial on peanut allergy, is among several researchers in the U.S. now offering (OIT) desensitization in a clinical setting. She says the ongoing results from her program, which tracks approximately 60 pediatric patients, and other programs like it strongly confirm LEAP's findings.

And, she adds, her patients with established peanut allergy have successfully shown how gradual exposure to trace amounts of the peanut protein under clinical guidance—followed by a daily regimen of slowly increased doses over many months or even years—builds immune tolerance.

Additional desensitization approaches also under study include peanut protein exposure through the skin via a peanut patch, as well as placing droplets of the peanut antigen under the tongue.

And recent research shows that healthy infants and toddlers may be able to be introduced to multiple, potentially allergenic proteins (including peanut, soy, cashew, fish, and more) at the same time for several consecutive weeks without negative reactions. Some pediatricians are hopeful that this type of early introduction may help prevent allergy, but more research needs to be done.

Peanut Allergy on the Rise

Anxious parents may welcome the news. According to a FARE (Food Allergy Research & Education) study, allergy to peanuts is on the rise among U.S. children, with rates more than tripling between 1997 and 2008. Overall food allergy rates, including but not exclusive to peanuts, rose 50% between 1997 and 2011, according to the Centers for Disease Control and Prevention.

While the most common food allergies among kids age 2 and younger are to milk and eggs, “80% outgrow these two food aversions,” says Garcia-Lloret. Only 20% of children outgrow peanut allergy, making it a lifelong condition, which also has a disproportionately high rate of inducing severe, even life-threatening reactions, according to multiple studies.

Garcia-Lloret and other prominent researchers are still searching for the reasons why. “It’s likely multi-factorial, involving changes to the microbiome,” she says of the body’s complex immunological ecosystem and what may be triggering it to overreact to seemingly harmless proteins in foods. Overly sanitized modern life may be at root—our love for antibacterial soaps and the overuse of antibiotics means the body never confronts, and thus never fights off, all sorts of germs, which is what it’s designed to do. It may be itching for a fight—just the wrong one.

Other theories, she adds, include vitamin D deficiency—kids playing inside on their computers rather than outside in the sunshine and dirt—and how we mass-produce our food, with both cross-contamination and pesticides as possible factors. “It may be a combination of all these things working together,” says Garcia-Lloret.

A Desensitization Success Story

No matter the causes, if you’re a parent of a child with a dangerous peanut allergy, every meal must be monitored. Food labels must be scrutinized. And epinephrine auto-injectors are always at the ready at play dates, birthday parties, and restaurants.

Erica Broido from Los Angeles is such a mom. Her daughter Jemma, 12, currently participates in Garcia-Lloret’s pediatric OIT program. Jemma is allergic to peanuts and to many tree nuts. She also has eczema and is considered high-risk.

Broido describes Garcia-Lloret’s approach using desensitization. “It began with Jemma consuming just milligrams of peanut powder in Garcia-Lloret’s clinic,” she says. “We’d stay for a few hours under observation. When no reaction occurred, we’d leave. Then, I’d measure out that same amount of peanut powder—I even purchased a diamond scale to get it exactly right—each night at home for the next few weeks or even months until the doctor said Jemma was ready to up the dose.”

Up-doses always occur in a medical setting, Broido says, with mandatory

observation time before release. At times, Jemma did experience stomach pain that was treated with an over-the-counter acid reducer (such as Zantac) and a scratchy throat, treated with an antihistamine (such as Benadryl). Gradually, she built up immune-tolerance.

“We’ve been doing this for more than two years now. Jemma has graduated beyond the powder. She now consumes two regular peanuts at home each night,” says Broido. And she’s doing so lately, Broido adds, without any negative immune response.

The goal is to reach what’s called a maintenance dose, though researchers are still actively trying to discern exactly what a maintenance dose should be—and for how long at what frequency it should be ingested to protect immune tolerance, says Garcia-Lloret.

According to the American Academy of Allergy, Asthma and Immunology, maintenance level is 3,000 mg of peanut powder, or the equivalent of five to 10 peanuts, consumed each day. However, a promising oral medication for peanut allergy is currently being reviewed by the Food and Drug Administration (FDA), which sets its maintenance dose at just 300 mg, according to Garcia-Lloret.

For Jemma, getting to two peanuts a day feels monumental. Her big goal is to be able to finally eat “regular” nut-free Halloween candy, Broido says. That’s because most popular chocolate bars are exposed to peanuts during the manufacturing process, including those without nuts in their regular ingredients, making them off-limits for anyone with peanut allergy. Through OIT, she may be able to safely eat one this year.

Her mother is greatly relieved by such progress. “Jemma is brave—that’s just how she does life,” Broido says of her daughter. “I was nervous, but that nervousness was outweighed by my trust in the process—plus the prospect of no longer being terrified about keeping a child safe who is at such high risk.”

AR101

The name of the oral immunotherapeutic medication (a pill) currently being reviewed by the FDA as a potential treatment for peanut allergy in children ages 4 to 17.

2x
to
4x

MORE LIKELY
Children with food allergies are at least twice as likely to have related conditions including asthma and other non-food allergies such as an allergy to pollen.

CLOSE TO
1/2

More than 40% of children with food allergies have had a severe allergic reaction such as anaphylaxis.

BABY

Baby x 2

A PEDIATRICIAN AND MOM OF TWINS DISHES ON WHAT IT'S REALLY LIKE TO CARE FOR TWIN OR TRIPLET NEWBORNS AND OFFERS HER TAKE ON HOW PARENTS CAN COPE

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



THE BIRTH OF TWINS OR TRIPLETS CAN BE A JOYFUL EVENT. But it's also overwhelming to care for multiple babies. Amy Romashko, MD, FAAP, medical director of the Children's Hospital of Wisconsin Urgent Care, and mom of twins, offers this advice on navigating the first few months.

Acknowledge the difficulties. Lack of sleep and endless feedings can make life with multiple newborns stressful. It's important to be honest about that. "The first few months can be really brutal, and it's easy to feel conflicted, because you don't want to complain, and you're supposed to be happy," Romashko says. "But honestly, there's not much happiness for a few months."

Adjust your expectations. Romashko warns parents of multiples against comparing themselves to parents of singletons. Avoid Instagram photos of calm, perfectly posed babies. Romashko's own twins fussed and cavorted through their one-year photo shoot, which felt like a failure at the time, she admits. But those photos have become faves because they so perfectly reflect the reality of that moment.

Arrange your home for multiples. You'll change lots of diapers, so save yourself steps by creating several changing stations around your home, where diaper supplies are always available. Once her babies started to roll over, Romashko created a

baby-proof space on the dining room floor, where she could safely place the babies any time she ran to the bathroom or answered the door.

Make feeding choices. When weighing breastfeeding or formula-feeding, decide what works best for you and your babies, Romashko says. (The American Academy of Pediatrics recommends breastfeeding until age 1 for multiple benefits.) She chose to breastfeed and acknowledges that it was challenging. "Over time it was actually easier for me because I didn't have to make formula and clean bottles," she says. She used a nursing bracelet with moveable beads to remember which baby had nursed last and on which side.

Seek safe sleep. Some multiples sleep best when placed in a bassinet or crib together, but Romashko found that her twins slept better in separate spaces. Whether babies sleep together or separately, the same safe sleep rules apply to help reduce the risk of sudden infant death syndrome (SIDS): Place babies to sleep on their backs on a firm surface free of objects such as pillows and blankets. Babies should sleep near parents, but in a separate bed.

Find other parents of multiples. "Moms of multiples support groups can be really great resources because you're talking to people who get it," Romashko says.

GETTY IMAGES

Take a Shot

THE SCIENCE PROVES THAT VACCINATIONS LOWER YOUR KIDS' RISK FOR DISEASE AND EVEN DEATH. WHY, THEN, ARE SO MANY TEENAGERS NOT FULLY INOCULATED?

BY Lauren Paige Kennedy

REVIEWED BY Hansa Bhargava, MD, WebMD Senior Medical Editor

Search for the article [Back-to-School Vaccinations Made Simple](#) at [WebMD.com](#).



TOO MANY U.S. CHILDREN AND TEENS ARE NOT GETTING THEIR FULL ROSTER OF VACCINATIONS, says H. Cody Meissner, MD, director of pediatric infectious disease at Tufts Medical Center and professor of pediatrics at Tufts University School of Medicine. Lack of information, socio-demographic disparities, and mistrust in science may all be factors.

The HPV (human papillomavirus) vaccine is one example of this. “HPV vaccination rates have gone up a few percentage points this past year but are still discouragingly low,” Meissner says. “There are about 31,000 cases of HPV-associated cancers in men and women each year in the U.S. The current HPV vaccine protects against 90% of those infections.”

Meissner reminds parents the HPV vaccine is a series of three inoculations, but “if the first dose is given before the 15th birthday, a teenager only needs two doses,” he says. “If the first dose is given after the 15th birthday, three doses are needed.”

According to the CDC, in 2017 only 48.6% of all U.S. adolescents were up-to-date with the HPV vaccine series, compared with 43.4% in 2016. A continuing trend is how the first HPV dose remains lower among teens living in non-metropolitan areas, at 59.3%, compared to teens

living in cities, at 70.1%.

Meissner is also concerned about parents skipping the MMR (measles, mumps, rubella) vaccine. “We’re seeing clusters of measles in pockets of the country where people are not vaccinating their children,” he says. “It’s disturbing and unfortunate, because we’d beaten measles. Now, it’s coming back. People don’t understand that the measles virus is still around. It will find people who are susceptible, and measles can kill. The CDC reports that in the first two months of 2019 we’ve already had as many measles cases as we did in all of 2018. Rates are definitely going up.”

Flu is another concern. Only half of all Americans, and about only one third of adolescents, get an annual flu shot. Several flu strains may circulate among the population each flu season, and these strains often change from year to year.

Scientists can’t yet produce a universal influenza vaccination that is highly effective against all strains. But don’t use that as a reason not to immunize your teen—or yourself or other family members, says Meissner. “Even if it’s only 30% effective, that’s 30% better than nothing,” he says. “Experience indicates that a breakthrough infection occurring after vaccination is likely to be less severe in a vaccinated individual than among individuals who were not vaccinated at all.

4 UPDATES

IN ADDITION TO AN ANNUAL FLU SHOT FOR ALL PEOPLE, YOUNG AND OLD, **H. CODY MEISSNER, MD**, SHARES THE FOLLOWING 2019 UPDATES ON VACCINATIONS FOR CHILDREN AND TEENS.

1. HEPATITIS A

The CDC now recommends that infants ages 6 through 11 months be vaccinated if they are traveling internationally. In addition, homelessness is an increasing risk factor for hepatitis A due to unsanitary living conditions in which clean water may not always be available.

2. INFLUENZA AND EGG ALLERGY

Meissner says the CDC has clarified that egg allergy is no longer considered a reason to avoid the flu vaccine. The amount of egg protein in the vaccine is so low that an allergic reaction is extremely unlikely.

3. MENINGOCOCCAL

All 11- to 12-year-olds should get one shot of meningococcal conjugate (MenACWY). A booster shot is recommended at age 16. Teens 16 to 18 years old may be vaccinated with a serogroup B meningococcal (MenB) vaccine.

4. BOOSTER SHOTS

If there is a cluster outbreak of measles, mumps, or meningococcal disease in your town, state, or college campus, Meissner advises speaking with your individual provider, who should confer with the state health department to determine if booster vaccinations are needed.





everyday **HERO**

WHILE THE CHARACTERS
Chris Hemsworth PLAYS
PROTECT THE UNIVERSE, THE
ACTOR WORKS TO PROTECT
CHILDREN, HIS FAMILY,
AND HIS MENTAL AND
PHYSICAL HEALTH

BY MATT McMILLEN

REVIEWED BY MICHAEL W. SMITH, MD, CPT
WEBMD CHIEF MEDICAL EDITOR

I

n the run-up to the April release of *Avengers: Endgame*, a typical morning for the actor who plays Thor includes dropping the kids off at school and then cleaning up the chaos of toys and other debris they have left in their wake.

"It's pretty exhausting," says Chris Hemsworth. He laughs over the irony that the man who plays one of Marvel's fittest, most muscular superheroes could get laid low by such mundane concerns. "My knees and back get the most grief picking up their endless trail of bits and pieces they leave around the house," he says.

By the end of March, he had been off the set for about a month, following a long and grueling schedule of filming. In addition to *Endgame*, he also had filmed *Men in Black: International*, the reboot of the MiB franchise that Hemsworth co-helms with Tessa Thompson, his co-star from *Thor: Ragnarok*. "I did an eight-month run of work, and it was too much trying to juggle work and family," says Hemsworth. "I just felt like I was not doing either as well as I could have been."

Every time he returns to his family's home in Byron Bay, on the southeast coast of Australia, it takes days—sometimes weeks—to switch out of work mode. But he eventually slows down and re-domesticates himself. "My wife's a great reminder, telling me, 'You can stop now,'" he says of the actor Elsa Pataky. The two married in 2010.

At home, he limits his screen time to certain portions of the day and spends lots of time outdoors with his kids—often with his 5-year-old twin sons on skateboards or his daughter, 7, on horseback. That's when they're not all in the ocean together.

"I've been surfing from a young age, as long as I can remember," says Hemsworth, "and having them do it with me was always kind of the dream. I'm thankful that they've all taken to it."

As he talked about time with his family, he knew it would end soon. *Endgame* opened in April (and comes out on digital in July and Blue-Ray in August). *Men in Black* premiered in June. With those dates on the near horizon, he wanted to revel in home life as much as he could. "Part of the reason for living where we do is it's a quiet coastal town that couldn't be farther from Hollywood," says Hemsworth. "Most of the elements here ground me and help me get back to basics."

WORKOUTS FOR BODY AND MIND

Hemsworth, who turns 36 in August, spent most of his childhood in the city of Melbourne, also on the ocean though about 1,000 miles from Byron Bay. His parents, however, didn't limit their three sons' early years to city life. Hemsworth, his older brother Luke, and his younger brother Liam—both



TOP: WITH TESSA THOMPSON IN *MEN IN BLACK: INTERNATIONAL*

RIGHT: *AVENGERS: INFINITY WAR*

BOTTOM: WITH BRIE LARSON AND SCARLETT JOHANSSON IN *AVENGERS: ENDGAME*



actors—spent significant time with their parents in the remote Northern Territory of Australia's outback.

He began acting at 19. From 2004 to 2007, he starred in *Home and Away*, a popular Australian soap opera. He eventually left Australia for Hollywood. His first role there: a brief appearance as Captain Kirk's father in J.J. Abram's 2009 reimagining of *Star Trek*. Two years later, he landed the role for which he's best known: the hammer-wielding Thor, Avenger and Asgardian god of thunder. The 6'3" actor added about 20 pounds of muscle to play the part. And, he says now, it wasn't all the right muscle.

"I'd be fit and strong standing there doing a bicep curl, but then I'd be told to run and jump and roll and do a fight scene, and my body would sort of freak out. I'd have injuries or pain in places that I shouldn't," Hemsworth recalls.

His Thor workouts have evolved in the years since, during which he's played the character eight times. "For the last one, I lifted a lot of heavy weights but also incorporated a lot of functional movements," he says. "I'm much leaner in *Men in Black*. I did a lot of boxing for that, a lot of functional training around mobility, like bear crawls, air squats, lunges, sit-throughs, sprints, and kettle bells."

Hemsworth's workouts do more than sculpt his body. They also help ease his mind. Anxiety has troubled him as long as he's been acting. It plagued his early career with worries that a single screw-up could have career-ending consequences.

"I found that training was a form of meditation for me," says Hemsworth. "It was exhausting enough that I couldn't think of anything but that. It would expel a lot of that nervous energy and get it out of my system. Or I could confront it and use it and exhaust it."

Good nutrition amplified exercise's positive impact, says Hemsworth: "Nutrition and movement had the biggest effects on any sort of anxiety I had or any moments of depression."

Eventually, Hemsworth learned to harness his fear of failure and

found joy in improvisation and risk-taking on set. As a result, a new Thor emerged in 2017's *Thor: Ragnarok*. Funnier, looser, more human. "I fret as thoroughly as I ever have, but when I step on the set, I like to exist in a place that can just fall apart at any minute," he says. "If you capture that energy just prior to that, that's something pretty cool."

Off set, Hemsworth has taken what he's learned about physical and mental fitness and put it into a paid subscription app called Centr. Two years in development, it released in February.



I FOUND THAT TRAINING WAS A FORM OF meditation FOR ME.

"The genesis for the app was looking back at what got me to this point in my life," Hemsworth says. The app is built around what he calls his "three pillars of happiness": nutrition, movement, and mindfulness. He wants everyone to reach those pillars and recognizes that different users will need different paths. "We designed a variety of different training methods rather than one particular route," says Hemsworth. "The same with the nutrition and the mindfulness."

PROTECTING CHILDREN

Who are Hemsworth's own heroes? He doesn't hesitate: "My parents, who worked in child protection, were my heroes and still are. Their duty was to protect those who were most vulnerable—children—ensuring their safety and supporting them." His father, Craig, is a social worker, and his mother, Leonie, teaches English.

For more than 10 years, Hemsworth has supported the Australian Childhood Foundation (ACF), an organization founded in 1986 that advocates for and supports children traumatized by abuse, neglect, or violence and works to prevent such harms. Hemsworth's parents and his brother, Liam, also work with the ACF. The organization estimates that



**OUR
EXPERIENCES
AS KIDS FORM
THE FOUNDATION
*for the rest of
our lives. ... IF YOU*
GET LOVE AND SUPPORT,
THERE'S AN OPPORTUNITY
FOR CHANGE AND HEALING.**

**>> A PUBLICITY PHOTO FOR
HEMSWORTH'S CENTR APP**

half the children they assist entered care before age 5, while 40% had been abused for five years or more. (For the scope of this problem in the U.S., see sidebar.)

In addition to raising money for ACF, Hemsworth has spearheaded an awareness campaign and voiced characters for an app the organization produced to help teach children calming techniques and problem-solving skills. His involvement, says the foundation's CEO Joe Tucci, PhD, "helps to give the message that protecting children from abuse is a community's responsibility."

Hemsworth points to his own childhood as inspiration for his ongoing support of ACF. Every child, he says, deserves the type of support, care, and love that he got from his parents. "Our experiences as kids form the foundation for the rest of our lives," he says. "If they are shaped by trauma and fear, the ripple effect beyond childhood can be devastating, but if you get love and support, there's an opportunity for change and healing."

Chandra Ghosh Ippen, PhD, agrees. Traumatic experiences leave a lasting impression even in very young children. "Their brains are developing at that time, and trauma impacts memory, learning, and structured thought," says Ghosh Ippen, associate director of the Child Trauma Research Program at the University of California, San Francisco. "That's why it's so important to have people like Chris Hemsworth and others ask how we can, as grownups, stand together to ensure children's safety."

Hemsworth wants nothing for his children so much as to give them love and make sure their home is a safe place. But he also tries to model the meaning and value of empathy, particularly for those who do not have what they do. "Their brains are so young and so vulnerable and searching constantly for experiences that will help them develop and grow," he says. "You have to be there to shepherd that."

He laughs when he starts to recall his attempts to sit his children down and share "wisdom" with them (his air quotes come through loud and clear despite being on the phone many thousands of miles away). Instead, he says, he wants to lead them down the right path by showing rather than telling. His work with ACF is part of that. "Leading by example is so important," he says.

Hemsworth's days as a superhero may be numbered—he has not signed a new contract to play Thor again. How does he feel that *Avengers: Endgame* may truly be the end? "It's just been such an epic journey on every level," he says. "When the time comes to hang up the hat or boots or hammer or whatever it is, I'm going to be sad."

He struggles to name something he won't miss about his days as an Avenger, but he worries the universe will give him a slap if he carps about anything more than his "slightly uncomfortable costume." (An understatement of heroic proportions: He wore four layers of rubber and leather during fight scenes filmed in the summer in Albuquerque, New Mexico.) "It's what I dreamed of as a kid, running around the house pretending to be a superhero," he says. "So now, as a slightly bigger kid, I don't think I can complain."

CHILD ABUSE IN AMERICA

**DOMESTIC VIOLENCE OCCURS
IN AN ESTIMATED 20% OF U.S.**

HOUSEHOLDS. Approximately 700,000 American children suffer from abuse or neglect each year and nearly 2,000 children, the vast majority younger than age 3, die from it. Such trauma can profoundly affect a child's sense of safety, says Chandra Ghosh Ippen, PhD, associate director of the Child Trauma Research Program at the University of California, San Francisco.

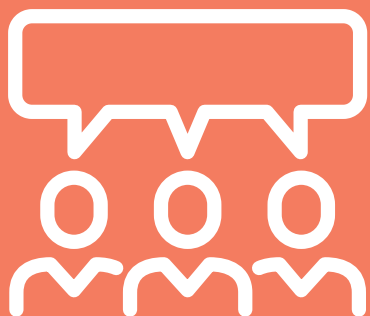
"Their source of protection becomes their source of fear," says Ghosh Ippen. "Traumatized children become wired for danger."

Such children often become anxious, lose sleep, and have nightmares. They can't concentrate and may themselves become aggressive. Over time, this can increase the likelihood that they'll turn to drugs and alcohol as they grow older and develop emotional disorders, like depression and post-traumatic stress disorder, that will follow them into adulthood. Trauma also challenges their ability to trust and to bond.

"They ask themselves, Do I expect grownups to stick around, given my history?" says Ghosh Ippen. "It's about what they learn."

Childhood trauma presents very complex problems with no easy solutions, Ghosh Ippen says. But there are good pathways to action and to helping kids. For more information, visit the federally funded National Child Traumatic Stress Network at nctsn.org.





A CROWDSOURCED FUTURE

.....

WHEN NO CURE EXISTS FOR A RARE DISEASE, SOME FAMILIES MARSHAL THEIR CONNECTIONS AND RESOURCES TO FUND THEIR OWN RESEARCH

BY NEHA PATHAK, MD REVIEWED BY BRUNILDA NAZARIO, MD, WEBMD SENIOR MEDICAL EDITOR

When her son was born in 2011, Nicole Henwood, MD, noticed a small, white patch of skin on his thigh. A few years later, she noticed two new, darker-colored spots. She didn't think much about them after doctors told her there was nothing to worry about. At 6, A.J. was a smiling, energetic boy who loved to adopt animals and entertain his family with his plans to become a baseball player, wondering if he should be a pitcher or play first base.

When A.J. started school, his pediatrician noticed that his vision wasn't quite as sharp as expected. Henwood, who lives in suburban Philadelphia, brought him to a pediatric eye doctor for what she thought was a routine evaluation for glasses. This led to an appointment with an eye cancer specialist for a concerning "freckle" on his retina. She spent the next few hours sobbing in the office after the doctor told her that the spots in his retina combined with the patches on his skin made neurofibromatosis 2 (NF2) the most likely diagnosis. Suddenly, A.J. had a crippling, rare genetic disease with no cure that would cause tumors to grow in his brain and along his nerves. The disease affects 1 in 30,000 people worldwide.

**THERE ARE 7,000 KNOWN RARE DISEASES,
BUT ONLY 5% HAVE APPROVED TREATMENTS.**

"For the first month after A.J.'s diagnosis, I cried every day and could barely get myself out of bed," says Henwood, an anesthesiologist. She and her husband, Andy, a Naval officer, said they felt lost, alone, and devastated at the thought of watching their son deteriorate in front of their eyes.

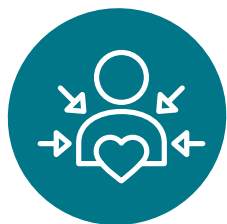
Further tests to confirm A.J.'s NF2 diagnosis showed tumors on both of his hearing nerves. He also had a benign brain tumor called a meningioma dangerously close to several blood vessels and nerves, several small tumors in his lower spine, and small tumors, called hamartomas, in both of his eyes. Though he doesn't have symptoms from these tumors yet, it is only a matter of time before they start to cause problems. A.J.'s neurologist told Henwood and her family that the best course of action was to teach her son sign language so that he can communicate when he loses his hearing.

Beyond that, they would monitor each tumor to check for growth and watch for new tumors, deciding if they needed to intervene. Currently, surgery and, in some cases, radiation are the only options to remove tumors when they cause severe symptoms. Both can cause more damage to underlying nerve and brain tissue.

With no hope for effective treatment options on the horizon, Henwood and her family decided to fight for a cure on their own. "I just woke up one day with a fire in my belly and decided that I wasn't going to let this happen to my son," she says.



HENWOOD AND FRIENDS AT
A GENE THERAPY FOR RARE
DISORDERS EVENT



RARE DISEASES AND ORPHAN DRUGS

According to the National Institutes of Health (NIH), there are 7,000 known rare diseases, but only 5% have approved treatments. Because of the small number of people diagnosed with each of these conditions, drug companies have traditionally had little incentive to conduct research or develop treatments for these “orphaned” diseases.

In 1983, Congress approved the Orphan Drug Act (ODA) to spur development of treatments for rare diseases. It provides tax credits and seven years of exclusive rights to market for any drug the FDA approves with an “orphan” designation. But progress toward finding cures for the 7,000 remains slow.

In the meantime, families find themselves in a race against time. Some have found that the most dependable route for discovering a treatment that may achieve orphan drug status is to fund the research and development themselves. The National Organization for Rare Disorders (NORD) reports close to 200 patient-led member organizations are actively funding research.

THE NATIONAL ORGANIZATION FOR RARE DISORDERS (NORD) REPORTS CLOSE TO 200 PATIENT-LED MEMBER ORGANIZATIONS ARE ACTIVELY FUNDING RESEARCH.

Chris Coburn, chief innovation officer of Partners Healthcare System of Harvard University’s affiliate hospitals, says his office has seen a steady growth in rare disease family foundations working with Harvard researchers over the past 15 to 20 years. These foundations often fill in the gaps for researchers in terms of both funding and expertise, accelerating the research process and changing research priorities. He’s also seen these groups supporting early career investigators with grant funding and support.

In most cases, family foundations, eventually, have to rely on larger pharmaceutical companies to carry out the later clinical trials because of their high cost. They also need the pharmaceutical industry to manufacture the therapies. When drug prices are then set at astronomical amounts, it can be a shock for the foundations that helped fund the early work. Many of these foundations get no share of the profits, and parents struggle to pay for lifesaving medications for their children.

For now, Henwood says she can’t wait for the day when she has to face that hurdle. “It is definitely a huge problem, but it will be a blessing to worry about pricing the drug. It would mean that we will have raised enough money, moved the process along to clinical trials, and found a company that will be able to manufacture the therapy.”

SOCIAL NETWORKING

In her quest for answers, Henwood searched through Facebook groups devoted to supporting families with NF2. She eventually joined a group called The Science of NF2, whose members

shared papers detailing the latest research and cutting-edge therapies for the disease.

She learned about trials involving targeted cancer drugs, but she was drawn to research around gene therapy. The goal of most gene therapies is to insert a gene into a person’s cells that can either replace a damaged gene with a healthy one or turn off a broken gene. Because NF2 is caused by damage to a single gene, Henwood hoped that this disease would be a good fit for gene therapy approaches.

Henwood learned about another doctor-mom who had raised over \$1 million to fund gene therapy research for Sanfilippo syndrome, a genetic condition affecting her daughter that causes severe brain damage in childhood. Through a Facebook group for doctor-moms, Henwood contacted her. She and her husband helped Henwood set up her nonprofit, NF2 BioSolutions. Henwood and several other NF2 families have grown the nonprofit with an all-volunteer army and ambassadors worldwide to raise the funds necessary to support research and educate other NF2 families about the best options for care. They have raised more than \$175,000 since 2018 with a goal of \$1 million needed for studies.

SCIENCE WITH HEART

For more than 10 years, Gary Brenner, MD, PhD, has been working to unlock the mysteries behind Schwann cell tumors, also known as schwannomas. Schwann cells produce the myelin that insulate parts of nerve cells, but when the signal to stop replicating is lost due to genetic damage, these mutated cells can form bulky tumors around nerves. Schwannomas are responsible for the hearing loss seen in NF2. Several genetic diseases increase the chance of developing schwannomas.

Brenner sees patients at Massachusetts General Hospital’s Pain Management Center. His research centers on a gene therapy that targets mutated Schwann cells and reprograms them to self-destruct, leaving the underlying nerve intact and functional. So far, his research shows encouraging results against human schwannoma cells injected in mice. The therapy has reduced the size of the tumors and improved pain without causing nerve damage. The next steps include preclinical studies to ensure safety before clinical trials to learn if the benefits extend to patients. These trials are costly, time-intensive, and require a thorough understanding of the regulations around the FDA process. By some estimates it can take 10–15 years and \$1 billion to develop one new medicine for human use.



BY SOME ESTIMATES IT
CAN TAKE **10-15 YEARS AND**
\$1 BILLION TO DEVELOP ONE
NEW MEDICINE FOR HUMAN USE.

When Henwood connected with Brenner, they immediately worked to accelerate the timeline to move the gene therapy to human trials. "It's motivating to know about Henwood's child, who's almost the same age as my own," Brenner says. "I can't imagine and can't help but feel empathy. ... There is an inequity, a lack of justice in rare diseases that don't receive attention due to financial reasons."

Henwood jokes that she sometimes sees herself functioning as Brenner's executive assistant, sending alerts when paperwork is due or informing him of documents that need to be signed to move the work along. "What NF2 BioSolutions lacks right now in monetary support, we make up for in terms of expertise provided by volunteers who come from pharmaceutical industry and FDA backgrounds. They know the FDA regulatory process inside and out. Without these volunteers, I don't know what we would do. I've seen some FDA consultants charge over \$100,000 for advice," Henwood says.

NOT JUST NF2

Though Henwood's experience has shown her how fragmented the drug development process still is, she does say that the pieces of the puzzle have been much easier to find because there have been so many people who have stepped out of their siloes to help. "Every time I have needed someone to guide me, or when I reached a potential hurdle, the people I needed with the skills to help have come out of the woodwork. And no one has asked me for a penny," says Henwood. "They have all donated their talents to help these children. It has been humbling to see."

Her next major goal is to raise enough money to fund a toxicology study as required by the FDA before clinical trials can begin. With adequate funding, the gene therapy could be in human trials as early as 14 months. She has created an Ineedacure.org campaign to help raise funds and is also working with other NF2 organizations to advocate for increased federal funding for research.

Henwood's determination to fight for a treatment for her son will not only benefit those with NF2. Strategies that work for one rare disease can also enhance treatments for other diseases.

In the whirlwind of a full-time job, a nonprofit to run, and a mix of fundraisers, advocacy trips, and research conferences, Henwood has much less time to spend with her daughter and son. "I wish I could spend more time with A.J. now, but I have to choose: Spend time with him now and watch him suffer in a few years, or hope that I can make up the time in the future after we find a treatment," she says. "Right now, all he knows is that he has some spots that need to be watched and that mommy is out there fighting for him."

<10

NUMBER OF FDA-
APPROVED TREATMENTS
FOR RARE DISEASES
BETWEEN 1973 AND 1983.

**25 TO 30
MILLION**

NUMBER OF
AMERICANS
LIVING WITH A
RARE DISEASE.

10 TO 15

NUMBER OF YEARS IT
CAN TAKE TO COMPLETE
CLINICAL TRIALS FOR
ONE NEW MEDICINE
BEFORE HUMAN USE.

**350
MILLION**

NUMBER OF PEOPLE
LIVING WITH A RARE
DISEASE WORLDWIDE.

7,000

ESTIMATED NUMBER
OF RARE DISEASES
CURRENTLY IDENTIFIED.

200,000

MAXIMUM NUMBER OF PEOPLE
AFFECTED BY A DISEASE FOR IT TO
BE DEFINED AS RARE IN THE U.S.



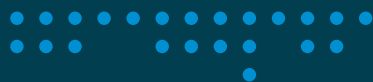
HEAR

BY SONYA COLLINS

As the market prepares for over-the-counter hearing aids, health experts debate the pros and cons



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REVIEWED BY BRUNILDA NAZARIO, MD, WEBMD SENIOR MEDICAL EDITOR

Tommy McDonell used to have her aide take all her phone calls. The 67-year-old artist and retired educator couldn't hear well enough to talk on the phone.

"The volume on my TV could probably kill the people next door," she says of her neighbors in the retirement facility where she lives in Southern Pines, North Carolina. Having multiple sclerosis makes her hearing loss worse. "If you test my hearing when my MS is good, then my hearing isn't absolutely awful, but if you test me when my MS is having a bad day, my hearing gets worse and worse."

Her hearing loss only adds to the difficulty in thinking her MS sometimes causes.

When she decided to get hearing aids, McDonell had two choices: the traditional route that requires a medical

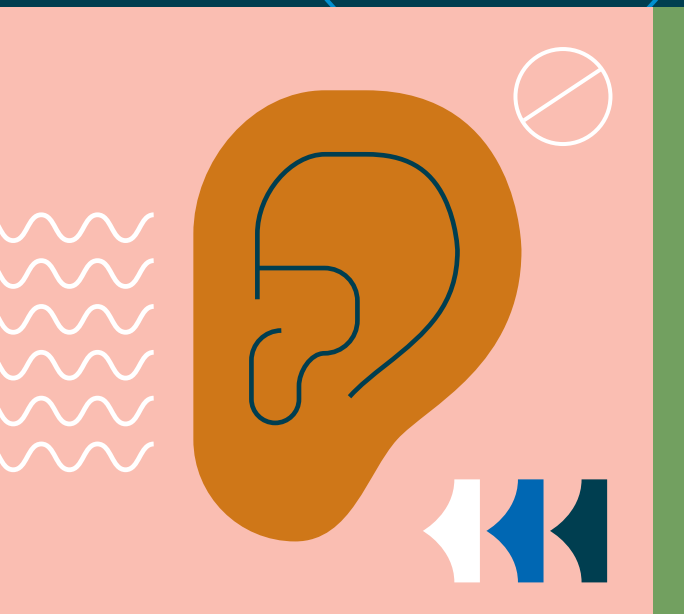
evaluation and buying through a licensed professional hearing aid dispenser or the relatively cheaper, but still costly, direct-to-consumer option.

Those costs and hurdles are what led to the passage of a federal law in 2017 that designates a new FDA-regulated category for over-the-counter (OTC) hearing aids. But OTC hearing aids, which will be approved to treat mild to moderate hearing loss in adults ages 18 and older, aren't here just yet. The FDA has until August 2020 to publish proposed guidelines for OTC hearing aids.

After that, the public—including audiologists, doctors, device makers, people with hearing loss, or anyone else with concerns, will have time to weigh in before guidelines are finalized. Until then—and perhaps long after—the world of hearing devices might be difficult to navigate.



ILLUSTRATION BY BASEMINT



Why the new label?

While an estimated 30 million Americans have hearing loss, only about one to three in 10 adults older than age 50 who might benefit from hearing aids use them. This matters because hearing loss can lead to social isolation, a decline in memory and thinking skills, and a higher risk for dementia. But hearing aids—the primary treatment for hearing loss in older adults—simply aren't an option for many Americans.

A pair of hearing aids runs \$5,600 on average—a cost that health insurance doesn't typically pick up. In order to get the devices, people with hearing loss must have a medical exam to rule out the slim chance of a serious medical problem that is causing the hearing loss, or they must sign a waiver opting out of the exam. You can only buy hearing aids through an audiologist or a licensed hearing aid dispenser, who is authorized to test hearing and sell hearing aids.

The cost of the hearing aids covers these professional services and may include up to four years of follow-up at no extra cost. But hearing professionals usually contract with just a few brands. That means that choosing a hearing professional limits a person's hearing aid choices, and changing audiologists as a result of location or personal preference could require a person to change hearing aids, too.

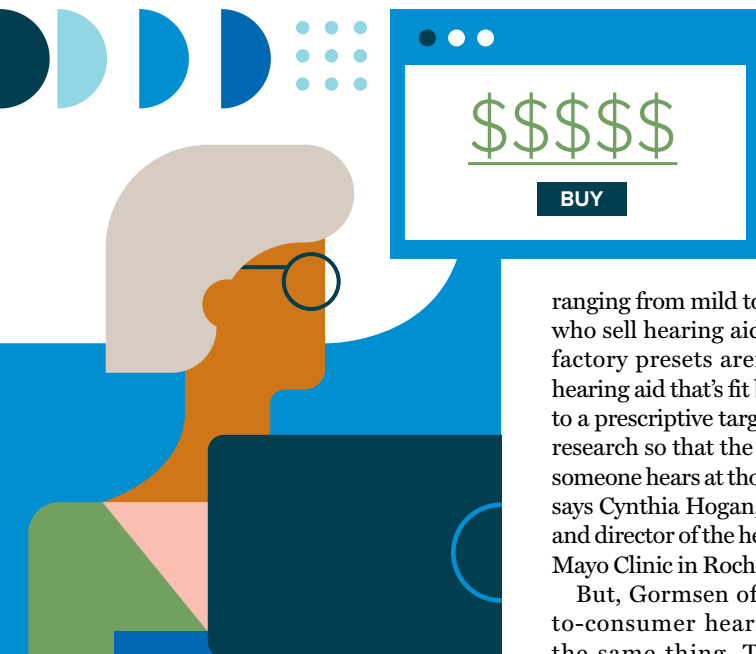
Due in part to these hurdles, once a person starts to lose their hearing, they wait an average of seven years before they seek help.

"They've heard horror stories," says Stavros Basseas, PhD, CEO of Sound World Solutions, a hearing aid maker. "They know the hearing aids are very expensive. They know they have to go through an audiologist, and the aesthetics play a role, too. Hearing aids indicate old age."

McDonnell's first audiologist fit her with a \$5,800 pair of hearing aids, but McDonnell wasn't crazy about them. "They didn't seem to fit that well, and since they are so expensive, I was constantly worried they'd fall off my ears," she says. Plus, she didn't feel the audiologist herself was a good fit either, so she tried someone else. The second audiologist, however, only worked with a type of hearing aid that would cost \$10,000 for a pair. McDonnell decided to hold off.



Search for
the article
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Basics** at
[WebMD.com.](https://www.webmd.com)



Right now, “anything you buy that is labeled as an OTC hearing aid is not.”

Skipping the middleman

Because OTC hearing aids weren't available, McDonell's only other option was something that falls between OTC and traditional hearing aids. They are direct-to-consumer, self-fit hearing aids. The makers of these hearing aids, which meet all the same FDA regulations as their more expensive counterparts sold from an audiologist's office, save customers a trip to a hearing aid clinic by keeping hearing professionals on staff.

That way, the hearing aids are still dispensed through a licensed professional, but not an expensive middleman. This lowers costs for the device maker, and some of those savings are passed on to the end user.

“You can only buy online or over the phone via a specialist,” says Christian Gormsen, CEO of Eargo, which makes hearing aids and sells them direct to consumers. “We have professional audiologists on staff who support clients all over the nation.” Eargo hearing aids, Gormsen adds, will never be sold at a drugstore or big box store, where you might expect to find over-the-counter hearing aids in late 2020. (Sound World Solutions offers a direct-to-consumer hearing aid, too.)

Over the phone or online, buyers give specialists the same medical information that they would in an audiologist's office and say they understand that this is a medical device and not suited for people younger than 18.

Direct-to-consumer hearing aids come with factory presets for hearing loss,

ranging from mild to severe. Audiologists who sell hearing aids in their clinics say factory presets aren't good enough. “A hearing aid that's fit by a professional is fit to a prescriptive target based on scientific research so that the volume is set to how someone hears at those exact frequencies,” says Cynthia Hogan, PhD, an audiologist and director of the hearing program at the Mayo Clinic in Rochester, Minnesota.

But, Gormsen of Eargo says, direct-to-consumer hearing aids do almost the same thing. They are pre-tuned to enhance hearing at the frequencies where, according to research, hearing loss most commonly happens at each level of severity. “It's true that we don't go in and individualize each one, but [professional fitting] is an ancient byproduct of a time 30 years ago when [hearing aids] really needed to be tuned,” he says. “The presets are based on data and set by experienced audiologists, so it's how you would fit them in a clinic.”

Some direct-to-consumer hearing aids, such as Sound World's, allow users to download an app and customize their device beyond out-of-the-box settings. “It's a fitting software just like an audiologist uses, but it's the end user that does it,” says Basseas.

McDonell opted to buy Eargo's direct-to-consumer, self-fit hearing aids in lieu of the \$10,000 option offered by her audiologist. At \$1,450 to \$2,550 for the three different models the online company offers, they were less than half the price of her first pair of hearing aids. She didn't feel she was losing out on any support by skirting the typically required

face-to-face visit with an audiologist.

“They are great on the phone. Their videos provide the best instruction. The website is easy to navigate. And if needed, they'll talk to you online through Skype,” McDonell says. “I personally don't feel any need to see anybody.”

Most important, the hearing aids work. “I can hear the heat coming out of the register,” she says. “I don't think people with normal hearing can do that.”

Uncharted waters

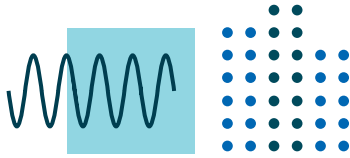
Direct-to-consumer hearing aids ease some of the cost and access problems that led a team of researchers to recommend that the FDA create the new over-the-counter hearing aid category. They called for more affordable devices that would put control in the user's hands—control over both the settings of the device itself and their choices.

With official FDA-approved OTC hearing aids still at least a year away, the FDA warned companies in a letter not to call their devices OTC hearing aids prematurely. Not all companies heeded the warning. So, buyers should beware that any device currently labeled as an OTC hearing aid has not been evaluated by the FDA.

“At the moment, there are no OTC hearing aids. If someone labels them as such, that violates the law. There are no official regulations that define OTC hearing aids yet,” says Paul Kileny, PhD, an audiologist and director of Michigan Hearing at the University of Michigan. “Anything you buy that is labeled as an OTC hearing aid is not.”

Then what are all those devices that look like hearing aids that you can already buy at Walmart, Best Buy, and other box stores and drug stores? No matter what the package calls them—and you will see many different names—any hearing devices that you can buy now over the counter, without a specialist, are personal sound amplification products, or PSAPs. They're not regulated by FDA, and the device makers are not supposed to market them for hearing





loss. They might instead market them for birdwatching or spying—activities in which even a person with normal hearing would want to turn up the volume on the sounds around them.

They range in price—from less than \$10 to nearly \$1,000—as well as in quality, performance, and how well users can program them. Research shows that some perform nearly as well as traditional hearing aids, while others leave the user worse off than without any assistive device at all. Some can't filter out background noise, raising the volume equally on all the sounds around you, not just the ones you want to hear.

Market need?

It's still anybody's guess as to where an OTC hearing aid will fit into this market. Will it be better than a PSAP but not as good as a traditional hearing aid? Will it simply be a PSAP—with all its variability in price, quality, and performance—under a new, more credible name? Or will it be just like a traditional hearing aid without the assessment and support of a hearing professional?

"For people to provide it at a more accessible price point, the easiest thing and the most expensive thing to cut out is the support," says Eargo's Gormsen, whose company will not offer an OTC option.

Sound World, whose PSAP, alongside those of Soundhawk and Etymotic BEAN, performed nearly as well as traditional hearing aids in studies, says its direct-to-consumer hearing aid, PSAP, and forthcoming OTC hearing aid will differ in name only. "Our device is sold as a hearing aid, and the same identical device is sold as a PSAP. We intend to have the same device qualify as an OTC hearing aid," says Basseas. "They're identical devices in any way you look at them. I made them that way to prove a point. There's no difference between the performance of these devices, only the way they are regulated."

The quality of other forthcoming OTC hearing aids remains to be seen.

And hearing care professionals have concerns. First, a medical problem that needs to be addressed could be causing a hearing loss. Both audiologists and

BY THE NUMBERS

15%

Percentage of U.S. adults
ages 18 and older who have
some level of hearing loss.

50%

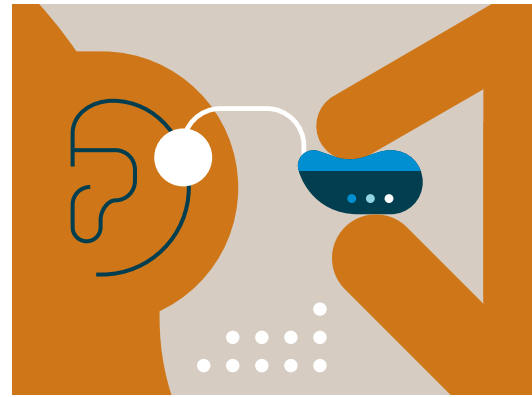
Percentage of U.S. adults
older than age 75 who
have disabling hearing
loss. For adults ages 65
to 74, it's 25%; for 55- to
64-year-olds, it's 8.5%.

2x

Men's chances of
hearing loss between
the ages of 20 and 69
compared to women's.

28.8

MILLION
Estimated number of
Americans who would
benefit from hearing aids.



licensed hearing aid dispensers are trained to recognize these issues and show clients how to get the right care.

"If someone has an ear deformity, drainage from the ear, sudden hearing loss, dizziness, hearing loss in only one ear—which could be caused by a tumor on the hearing nerve—these are things that need to be investigated," says Hogan. She echoes the concerns expressed by four hearing health care associations in a recent consensus paper they wrote in response to the coming OTC hearing aids.

But some hearing aid makers ready to get into the OTC market, including Basseas of Sound World, say audiologists who voice these concerns just want to protect their turf. "Based on this logic, you shouldn't take OTC aspirin for fear it could be a brain tumor causing your headache," he says. "Using this scare tactic, we stop people from using hearing aids as early as they can."

What's more, because so many people waive the recommended medical evaluation, the scientists who recommended the OTC category say there's "no evidence that the evaluation or waiver of that evaluation provides any clinically meaningful benefit."

Another concern among audiologists is that, given full control of their device, users will turn up the volume too high. "We don't know that the volume is both [enough] to really help them the way it should and also at a safe level so that the consumer is protected against further hearing loss," Hogan says.

This, too, is seen by some as turf defense and not a legitimate concern. "There is no documented evidence anywhere of this [type of hearing loss] ever happening," Basseas says. "They are pushing restrictions on maximum volume on OTC hearing aids to protect their market."



GOOD EATS

Summer Crunch

GREEN, RED, YELLOW, AND EVEN PURPLE. SWEET PEPPERS (ALSO KNOWN AS BELL PEPPERS) COME IN AN ARRAY OF COLORS AND OFFER IMPRESSIVE NUTRITION WITH EVERY CRUNCH.

IN A SEASON WHEN VINE-RIPE TOMATOES GET ALL THE GLORY, BRIGHT BELL PEPPERS DESERVE A MOMENT TO SHINE. Named for their bell-like shape, these sweet peppers lack the capsaicin that makes other peppers spicy. And they are true superfoods. Loaded with beneficial plant pigments and other nutrients, just one cup of chopped red bell pepper provides 317% of an adult's daily value of vitamin C and 93% of vitamin A—two vitamins that play a role in healthy skin and the immune system—and 12% of vitamin E, a potential cell protector. Bell peppers are at their peak now until the end of summer, so find them at farmers markets—and in backyard gardens. Enjoy them as a chip alternative to scoop up savory hummus and other dips, sauté them in stir fries, or try them roasted on the grill until they're extra sweet and slightly blistered. —ERIN O'DONNELL

 Search for the slideshow
10 Ways to Serve a Tomato
at WebMD.com.

3 WAYS

Gazpacho

THIS CHILLED SOUP IS PURE GENIUS, OFFERING A SIMPLE, DELICIOUS WAY TO EAT TONS OF VEGGIES—AND BEAT THE HEAT

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

THE SUMMER COOLER

Spanish Gazpacho

This delectable soup, inspired by the Andalusia region of Spain, includes flavorful Roma tomatoes, fresh basil, and a surprise ingredient: French bread, which is blended into the soup for thickening. Day-old bread is best. Serve this soup as a cooling first course.

THE MIX

ROMA TOMATOES, CUCUMBER, RED ONION, ANAHEIM PEPPER, BASIL, GARLIC, OLIVE OIL, SHERRY VINEGAR, FRENCH BREAD, HARD-BOILED EGG

MAKE IT

Roughly chop 2 lb Roma tomatoes, 1 cucumber, 1 small red onion, 1 Anaheim pepper, ¼ cup basil, and 1 garlic clove. In a large bowl, combine vegetables with ¼ cup olive oil, 2 tbsp sherry vinegar, ½ tsp sea salt, and ¼ tsp cayenne pepper. Add 1 lb French bread, torn into chunks. Allow to stand for a few minutes so bread absorbs liquid. Transfer ingredients to a food processor and blend until smooth, adding 1 to 2 tbsp water as needed to reach desired consistency. Refrigerate 2 to 4 hours. Garnish with chopped hard-boiled egg. **SERVES 4**

PER SERVING (ABOUT 1½ CUPS) 250 calories, 6 g protein, 22 g carbohydrate, 17 g fat (3 g saturated fat), 47 mg cholesterol, 4 g fiber, 8 g sugar, 404 mg sodium. Calories from fat: 58%



THE MEXICAN TWIST

Green Gazpacho

This gazpacho features tomatillos, a green tomato-like fruit of the nightshade family that's popular in Mexican cooking. Feel free to use tender baby kale in place of the spinach or a green pepper in place of the orange. Serve with bean salad for protein.

MAKE IT

Husk 4 medium tomatillos, and roughly chop them along with 1 peeled cucumber, 1 orange sweet pepper, 1 cup baby spinach, 1 avocado, 1 small serrano pepper, and 2 garlic cloves. Transfer vegetables to a food processor. Add 8 oz nonfat Greek yogurt; a handful of fresh mint; and 1 tbsp each olive oil, cider vinegar, and fresh lime juice. Blend until smooth, adding 1 to 2 tbsp water as needed to reach desired consistency. Refrigerate 2 to 4 hours. Garnish with additional sliced tomatillos, chopped mint, and walnuts. **SERVES 4**

THE MIX
TOMATILLOS,
CUCUMBER, ORANGE
SWEET PEPPER, BABY
SPINACH, AVOCADO,
SERRANO PEPPER,
GARLIC, GREEK
YOGURT, OLIVE OIL,
CIDER VINEGAR

PER SERVING (ABOUT 1½ CUPS) 208 calories, 9 g protein, 15 g carbohydrate, 14 g fat (2 g saturated fat), 0 mg cholesterol, 5 g fiber, 5 g sugar, 331 mg sodium. Calories from fat: 57%

THE TRADITIONAL

Basic Gazpacho

This version takes advantage of summer's bounty and works best with tomatoes at the peak of ripeness. (If the tomatoes are underripe, the results will disappoint.) Adding jicama, a crisp tuber found in large supermarkets, gives this recipe an extra-juicy crunch.

THE MIX
TOMATOES, YELLOW SWEET
PEPPERS, CUCUMBER,
JICAMA, JALAPEÑO PEPPER,
LOW-SODIUM TOMATO
JUICE, LOW-SODIUM
CHICKEN STOCK, FRESH LIME
JUICE, OLIVE OIL, BALSAMIC
VINEGAR, WORCESTERSHIRE
SAUCE, HONEY, CUMIN

MAKE IT

Peel, seed, and chop 2 tomatoes, 2 sweet peppers, 1 cucumber, 1 small jicama, and 1 jalapeño pepper. Add 2 sliced green onions and chopped cilantro. Reserve 2 to 3 tbsp chopped vegetables for garnish. In a large bowl, combine vegetables with 3 cups low-sodium tomato juice; 1 cup low-sodium chicken stock; the juice of 1 lime; 2 tbsp olive oil; 1 tbsp each balsamic vinegar, Worcestershire sauce, and honey; and ½ tsp each cumin and sea salt. Refrigerate 2 to 4 hours. Garnish with reserve vegetables and nonfat plain Greek yogurt. **SERVES 4**

PER SERVING (ABOUT 2 CUPS) 169 calories, 4 g protein, 23 g carbohydrate, 8 g fat (1 g saturated fat), 0 mg cholesterol, 5 g fiber, 15 g sugar, 377 mg sodium. Calories from fat: 47%



Dried & True

DRIED FRUIT PACKS A LOT OF CONCENTRATED FLAVOR INTO A SWEET, NUTRITIOUS, FIBER-RICH PACKAGE THAT CAN PLAY MANY PARTS IN YOUR KITCHEN

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

"GOOD QUALITY DRIED FRUIT PROVIDES A TEXTURED, flavorful addition to cakes and breads and can serve as the base of a sauce for roasted meats," says Ian Rynecki, the executive chef at Pippin Hill Farm & Vineyards outside Charlottesville, Virginia. But that's just the beginning of how Rynecki likes to incorporate dried fruit into his cuisine. Some of his favorites include:

CRANBERRIES


"Fruit-forward with a long finish, they add a delicious tart element to a dish. Look for those without a lot of added sugar and toss them with sweet and spicy peanuts."

APRICOTS

"Chewy with a noticeable bite, these golden-brownish, deeply flavored apricots strike the proper balance between sweet and tart. They make a perfect addition to a crisp apple tart."

PHOTOGRAPHY:
RICK LOZIER

FOOD STYLING:
CHARLIE WORTHINGTON



FLAME SEEDLESS RAISINS

"Plump, chewy, and moist, these raisins taste of sweet grapes. Use them for oatmeal raisin cookies—their large size will contribute more flavor and texture than regular raisins."



SOUR CHERRIES

"More acidic and less sweet than regular cherries and plumper than raisins, these dried fruits offer a perfect contrast to fattier dishes like roasted duck and are ideal for homemade jam."



BLACK MISSION FIGS

"Soft, plump, and mildly sweet, tasting of honey and berries, these figs belong alongside a semi-firm goat cheese or layered in a breakfast parfait with Greek yogurt, fresh berries, and granola."



Search for the video
**How to Make Your
Own Dried Fruit** at
WebMD.com.



BUILD A BETTER

Salad

A GOOD SALAD WILL NOURISH YOU, SATISFY YOUR FLAVOR CRAVINGS, AND UNLEASH YOUR KITCHEN CREATIVITY

BY Matt McMillen

REVIEWED BY Neha Pathak, MD, WebMD Medical Editor

"SALADS CAN ROUND OUT A MEAL, or they can be a meal on their own," says Ilene Rosen, author of *Saladish: A Crunchier, Grainier, Herrier, Heartier, Tastier Way with Vegetables*. Ranging from simply dressed bowls of leafy greens to multi-layered mixes of fresh veggies and flavorful fruits, cheese, and other staples, salads bring versatility, variety, and verve to your culinary repertoire. Here are Rosen's tips to build a better one.

MAKE IT

- No special equipment required. You only need a sharp knife and a cutting board.
- Be open-minded. Don't pick a recipe before you shop. Buy the produce that looks best to you, and then plan your salad around it.
- Add flavorful crunch. Thinly-sliced fennel, celery, jicama, and radishes all bring texture to your salad, as do nuts, crisp apples, and Asian pears.
- Enlist leftovers. Didn't finish yesterday's cooked vegetables or rotisserie chicken? Add them to this evening's salad.
- Embrace variety. Kale may be quite popular, but consider alternatives like watercress, endive, and young, no-cook versions of greens like bok choy, collards, and spinach.
- Raid your pantry. Canned chickpeas and hearts of palms, quinoa, sesame seeds, pumpkin seeds, and other items you've likely long had on hand will add interest to your salad.
- Toss before you dress. Mix your dry ingredients thoroughly—but gently—then add your dressing with a single toss or two so you don't have to manhandle what you've assembled.
- Mix and match. Combine flavors that contrast and complement each other. If you have something sweet, like pickled red onions, add something salty like bacon or cheese.
- Make a foundation. Mix a week's worth of a simple dressing—a good oil, fresh lemon juice, a nice vinegar, mustard, and salt—and then add different flavors and textures to it for each night's salad. Try hot sauce, yogurt, kimchi, and tahini.

PASTA SAUCE

DON'T HAVE HOURS TO SPEND ON PASTA SAUCE? OPEN ONE OF THESE FIVE JARRED FAVORITES SELECTED BY REGISTERED DIETITIAN **CAROLYN O'NEIL, MS, RDN**, OF THEHAPPYHEALTHYKITCHEN.COM AND AUTHOR OF *SLIM DOWN SOUTH*.

THE OPINIONS EXPRESSED IN THIS SECTION ARE OF THE EXPERTS AND ARE NOT THE OPINIONS OF WEBMD. WEBMD DOES NOT ENDORSE ANY SPECIFIC PRODUCT, SERVICE, OR TREATMENT.



CLASSICO TRADITIONAL SWEET BASIL

"This smooth, lower-calorie-than-most sauce made with pureed and whole tomatoes should be a pantry staple. Add a handful of chopped fresh basil to really perk up the flavors."



NEWMAN'S OWN ORGANIC FARMER'S GARDEN

"Made with certified organic ingredients, including tomatoes, mushrooms, carrots, and bell peppers, this delicious, slightly earthy sauce provides an impressive 570 mg of potassium in each half-cup serving."



LITTLE ITALY IN THE BRONX TOMATO BASIL

"Chunks of crushed whole tomatoes, not paste or puree, cling to pasta for terrific flavor and texture. Bonus: It's got less sodium than most brands at 370 mg per serving."



MUIR GLEN TOMATO BASIL

"A pasta sauce bursting with good-for-you, organically grown ingredients, like tomatoes, olive oil, onion, and garlic. It's perfect for pasta, or spread it on slices of whole-grain baguette to make bruschetta."



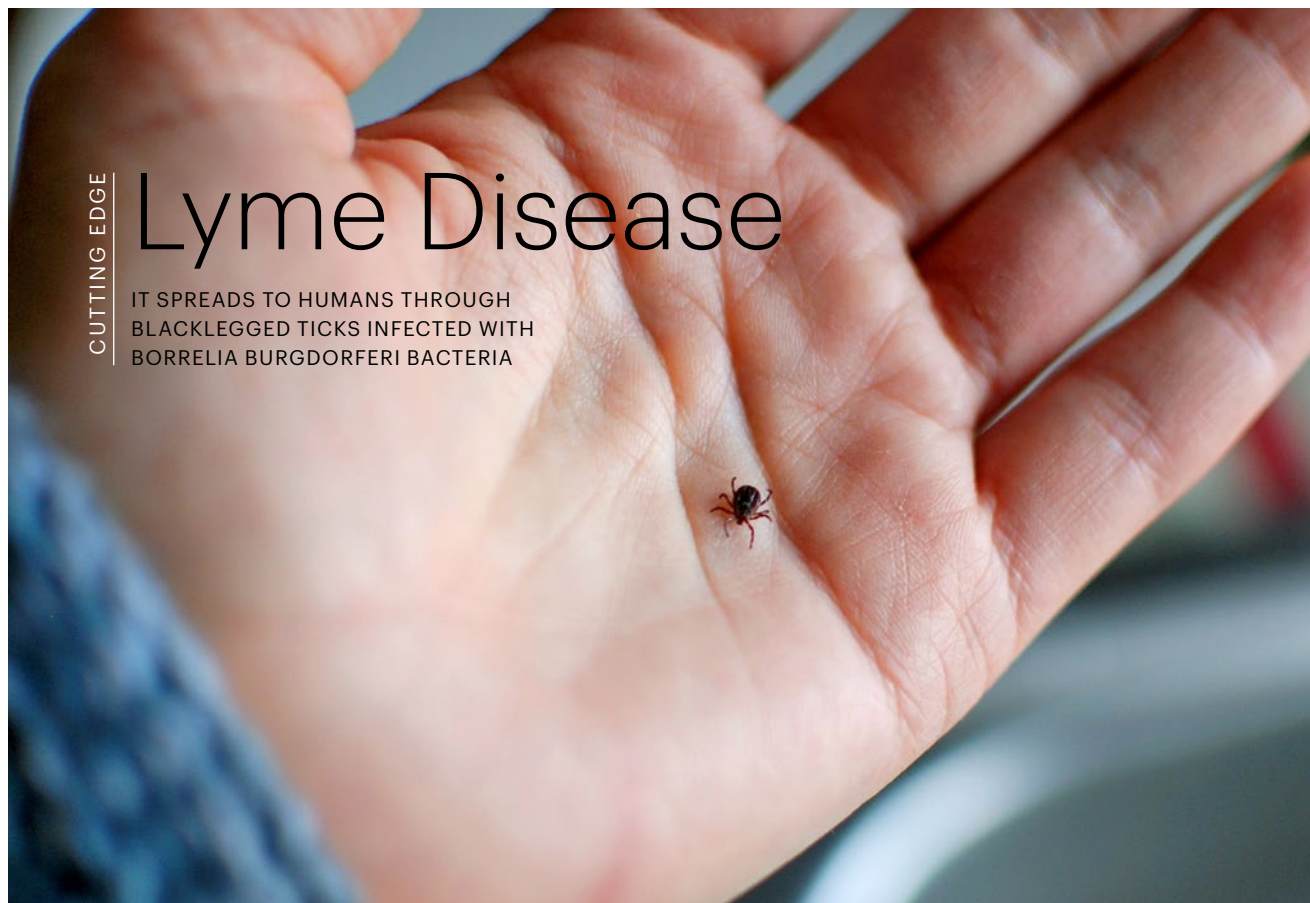
LA FAMIGLIA DEL GROSSO UNCLE JIM'S LATE NIGHT PUTTANESCA

"This sauce ups the flavor ante with capers, olives, artichoke hearts, and a bit of heat from crushed red peppers. Serve over steamed zucchini for a delicious and nutritious veggie side dish."

CUTTING EDGE

Lyme Disease

IT SPREADS TO HUMANS THROUGH BLACKLEGGED TICKS INFECTED WITH BORRELIA BURGDORFERI BACTERIA



THE ILLNESS STARTS WITH FEVER, HEADACHE, FATIGUE, AND A RASH. Antibiotics can clear the infection. However, if left untreated—and in some cases after seemingly successful treatment—serious long-term complications can arise from Lyme.

When it's not treated, Lyme can spread to the joints—where it may cause arthritis—the heart, and the nervous system. Doctors don't have a thorough understanding of how this spread to the joints occurs, which limits their ability to treat the problem. Even in patients who have both Lyme disease and joint damage, doctors don't know whether the joint damage is related to Lyme or other causes, such as aging. New research aims to improve that understanding. In a first-of-its-kind program, the Lyme Disease Biobank, which previously collected only blood samples of people with Lyme, will now collect tissue samples for researchers around the world to study. Doctors will take the samples during joint-replacement surgery in people who have Lyme disease. They also will collect samples and donated organs from people who

died with the disease. The program could swiftly advance the field of Lyme-related joint disease and other complications.

In about one in 10 cases of Lyme, after antibiotics clear the infection, people go on to develop ongoing, and sometimes disabling, fatigue and difficulty thinking clearly. Doctors understand very little about this complication, called post-treatment Lyme disease syndrome, and how to treat it. They believe that brain inflammation might cause post-treatment Lyme disease syndrome, but they haven't had a safe way to confirm the hunch until now. Researchers at Johns Hopkins Medicine used an advanced type of PET scan to look at the brains of 19 people with post-treatment Lyme syndrome and compare them to healthy brains. The people with Lyme had high levels of an inflammatory protein in eight different regions of the brain. Researchers now want to confirm the finding in more people with the syndrome. The discovery could one day lead to treatment for Lyme-related fatigue and brain fog. —SONYA COLLINS

Probiotics for Gut Health

WHAT ROLE DO THESE MICROORGANISMS PLAY?



PROBIOTIC PARTNERS

Yeast and bacteria like these therapeutic bacteria organisms feed the healthy bacteria in your gut.



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

WHAT EXACTLY ARE PROBIOTICS? You may have seen them in some yogurt and dairy products, fermented vegetables, or even in refrigerated jars as stand-alone products. Probiotics are live microorganisms (bacteria and yeast) that feed the healthy bacteria in your gut, which is filled with billions of both healthy and unhealthy bacteria. Some research suggests that if we promote more healthy bacteria in the gut, that creates a healthy microbiome and leads to better overall health. Some data also suggests probiotics cause reactions in the immune system that can boost immunity—perhaps even helping to fight the common cold and help treat eczema or rheumatoid arthritis. However, much more research needs to be done to evaluate the benefits.

Probiotics are not considered drugs by the FDA and are therefore not evaluated for safety and efficacy. Rather, they are treated as supplements. Sometimes people compare probiotics to vitamins, but vitamins work differently than probiotics. Probiotics are also different than prebiotics, which are most often a high-fiber food source for colonic bacteria.

So, do you need probiotics? Like many things in medicine, the answer is “it depends.” If you have problems with your colon, such as irritable bowel syndrome or inflammatory

bowel disease (Crohn’s and ulcerative colitis), they might be beneficial. They also might help with chronic constipation.


If you are prescribed antibiotics for an infection such as sinusitis or pneumonia, you might want to ask your doctor about a probiotic. When you take antibiotics, they change the gut bacteria because they kill both good and bad bacteria. Diarrhea can also be a complication of antibiotics; probiotics can minimize the length and duration.

Broadly, if you are generally healthy, it’s not clear if probiotics further improves health. You already have a healthy dose of good bacteria in your body, so adding more may not be necessary to supplement an existing good balance.

Also, you could develop an allergic reaction from probiotics, so I always tell people to just do a small test dose first. And because they are bacteria, you can develop stomach problems such as gas and bloating, which can be painful. These symptoms usually disappear in a few days.

Finally, probiotics generally should not be given to children (though they are sometimes used for eczema) or to people who have cancer or immune deficiencies or dysfunction.

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

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

Cholesterol

NEARLY 100 MILLION AMERICAN ADULTS HAVE HIGH CHOLESTEROL. TEST YOUR ABILITY TO SEPARATE FACT FROM FICTION ABOUT THIS SILENT DISEASE.

BY Matt McMillen

REVIEWED BY Neha Pathak, MD, WebMD Medical Editor

1

I'LL KNOW IF I HAVE HIGH CHOLESTEROL.

- ☐ TRUE
☐ FALSE

2

ALL CHOLESTEROL IS BAD.

- ☐ TRUE
☐ FALSE

3

I HAVE TO DO MORE THAN IMPROVE MY DIET TO LOWER MY CHOLESTEROL.

- ☐ TRUE
☐ FALSE

4

I SHOULD AVOID FAT IN MY DIET AS MUCH AS POSSIBLE.

- ☐ TRUE
☐ FALSE

5

I'M TOO YOUNG TO HAVE MY CHOLESTEROL CHECKED.

- ☐ TRUE
☐ FALSE

6

I HAVE TYPE 2 DIABETES AND SHOULD PAY CLOSE ATTENTION TO MY CHOLESTEROL.

- ☐ TRUE
☐ FALSE



Search for the quiz **Cholesterol Quiz: What Do Your Numbers Mean?** at WebMD.com.

ANSWERS

1. FALSE

High cholesterol has no symptoms. Over time, high cholesterol can lead to artery-blocking plaques. Those plaques can break and form blood clots. Both circumstances restrict the flow of blood to your heart and can lead to a heart attack, or if it restricts the blood flow to your brain it can cause a stroke. Either could be the first sign that you have high cholesterol.

2. FALSE

There are two main types of cholesterol: Bad cholesterol (LDL) contributes to harmful plaque buildups, but good cholesterol (HDL) helps rid the body of up to a third of your LDL. Maintain an ideal HDL level to protect yourself against heart attack and stroke.

3. TRUE

Exercise regularly, achieve and maintain a healthy weight, cut back on alcohol, and quit smoking: All will help bring down your cholesterol.

4. FALSE

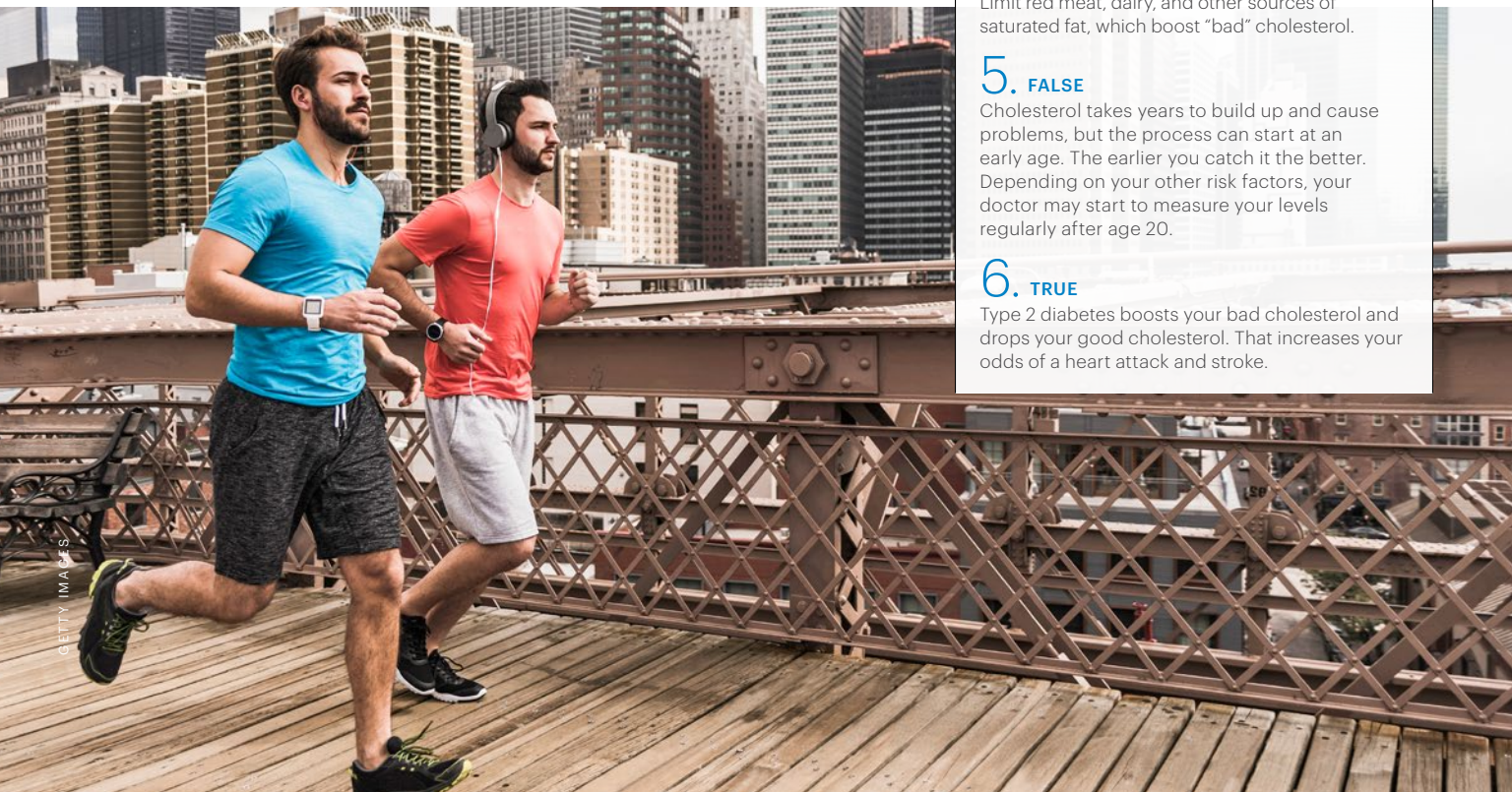
Some fats are better than others. Choose foods with unsaturated fats, such as avocados, olive oil, nuts, seeds, and some types of fish. In moderation, they can help lower "bad" cholesterol. Limit red meat, dairy, and other sources of saturated fat, which boost "bad" cholesterol.

5. FALSE

Cholesterol takes years to build up and cause problems, but the process can start at an early age. The earlier you catch it the better. Depending on your other risk factors, your doctor may start to measure your levels regularly after age 20.

6. TRUE

Type 2 diabetes boosts your bad cholesterol and drops your good cholesterol. That increases your odds of a heart attack and stroke.





THE LATEST

Birth Control Update

MORE CONVENIENT, SAFER OPTIONS MAKE PREVENTING UNWANTED PREGNANCIES EASIER THAN EVER

BY Lisa Marshall REVIEWED BY Brunilda Nazario, MD, WebMD Senior Medical Editor

A GENERATION AGO, IMPLANTS AND INJECTIONS WERE IN THEIR INFANCY, INTER-UTERINE DEVICES (IUDs) WERE OFTEN RECOMMENDED ONLY FOR WOMEN WHO'D ALREADY HAD CHILDREN, and women on oral contraception often complained of mood swings and weight gain.

Today, thanks to design changes and recent declarations by physician's groups that they are safe for all ages, IUDs are swiftly gaining popularity, with 14% of college women now using them. Other forms of long-acting reversible contraception (LARC) are also slowly gaining traction, with 9% using implants and 3% using shots. "With these, you just set it and forget it," says Joanne Brown, a nurse practitioner with University of Kentucky Health Service.

Oral contraception, still the most popular choice besides condoms, has also undergone improvements, with lower hormone levels leading to reduced side effects.

The ideal method for you depends on your personal and family medical history, how soon you want to get pregnant, your budget, and more. Here's a snapshot of available options:

IUDs

THE GIST: During a brief office visit, a health practitioner inserts a device into the uterus, where it remains. Some prevent pregnancy by emitting the hormone progestin, which thickens mucous in the cervix, making it hard for sperm to enter, and thins the uterine lining, so an egg won't implant. Others are hormone-free and

made of copper, which impairs sperm movement.

THE UPSIDE: They're up to 99% effective, last from three to 10 years, there's no need to remember a daily pill, and for those concerned about taking hormones the copper option is a good one, says Brown. Those with progestin can also decrease menstrual cramp pain.

THINGS TO CONSIDER: Contrary to popular belief, IUDs do not in and of themselves cause pelvic inflammatory disorder. But they can worsen the impact of a sexually transmitted infection if a woman already has one when it's inserted, so get tested beforehand, says Brown.

Copper IUDs may cause heavier bleeding and cramping, so those who already have tough periods may want to consider another option.

Progestin-containing IUDs can come with side effects,



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including missed periods or spotting between periods. Insertion can hurt, and in rare cases complications occur. At about \$1,000 out of pocket, it can be expensive for those without insurance coverage or those who (for privacy reasons) don't want to use their parent's plan.

Implants

THE GIST: A health care provider inserts a matchstick-size rod under the skin of the upper arm, which emits progestin and stops ovulation.

THE UPSIDE: It's up to 98% effective, lasts up to three years, and may ease period cramps and stop periods altogether. The insertion isn't as uncomfortable as that for an IUD, and design improvements have made it easier to remove than it used to be.

THINGS TO CONSIDER: Irregular bleeding or unpredictable spotting is common. Other reported side effects include digestive problems, headaches, breast pain, weight gain, and acne.

Injections

THE GIST: A health care provider gives a progesterone-like shot every three months in the arm or buttocks to prevent pregnancy. (You can also self-administer.)

THE UPSIDE: No need to remember to do anything daily and no risk of using it the wrong way.

THINGS TO CONSIDER: Injectable contraception has been linked to bone-density loss, so women need to be sure they are getting enough calcium. Studies also show it may lead to weight gain, with one in four users gaining 5% or more of their starting weight within the first six months of use. (For a 140-pound woman, that's 7 pounds.)

Headaches may occur with injectable contraception, so this option is not recommended for women susceptible to migraine.

Oral contraception

THE GIST: The pill uses progestin and estrogen or progestin alone to prevent pregnancy, mostly by preventing ovulation. Literally dozens of varieties exist, with newer options formulated to enable lighter periods, quarterly periods, or no period. With far less estrogen than earlier versions, or none at all, pills today come with fewer side effects like mood swings and weight gain.

THE UPSIDE: It's often free for those with insurance. For those without, it can be obtained for less than \$10 at some community health centers and under some pharmacy discounts. At 97% effective when used perfectly, it's reliable, and it can regulate periods, ease cramps, and quell acne.

THINGS TO CONSIDER: "The biggest risk with any combined hormonal type of birth control pill, and it probably has to do with estrogen, is the risk of developing a blood clot or deep vein thrombosis," says Brown. Those who have high blood pressure or migraines with vision changes are not advised to take it. And you have to take it at the same time every day for it to be totally effective.

What about weight gain? "That is mostly an urban legend," says Brown, although early versions of the pill did increase appetite and lead to mild increases in weight.

Other forms: The hormonal patch and vaginal ring work in a similar fashion as the pill, and with similar effectiveness. The upside: You only have to remember to replace the patch

weekly and the ring monthly. The downside: The patch has higher levels of hormones so there is some concern side effects may be greater, says Brown.

Condoms

THE GIST: You know the gist.

THE UPSIDE: It's hormone-free, you don't need a prescription, it's cheap, and it protects against STDs, including HIV, says Brown. For that last reason, it's ideal to use with other forms of birth control. Female varieties, which are pretty uncommon, line the inside of the vagina.

THINGS TO CONSIDER: When used perfectly, condoms are highly effective, but they are often used incorrectly. Men often wait too long to put it on, fail to leave a reservoir at the tip, don't use a lubricant (so it breaks), or wait too long to take it off so it comes off inside, says Brown. Out of 100 women per year, 18 to 28 women will become pregnant when using a condom.



Other options

These include sperm-killing cream (spermicides), which can be inserted inside the vagina prior to intercourse via a sponge or film (about 71% effective); a diaphragm, inserted inside the vagina to keep sperm from getting in (92% to 96% effective when used perfectly); or emergency contraception (EC) pills, which can be taken within five days after unprotected sex to prevent a pregnancy. EC is ideal for occasions when a pill is missed or a condom breaks. Insertion of a copper IUD can also be used as a form of emergency contraception if it is done within five days of unprotected sex.

FACTS & STATS

61 MILLION
Number of women
of childbearing age in
the U.S.

60%
Percentage of women
of reproductive age
who use some form of
birth control.

85%
Percentage of sexually
active women not using
contraception who become
pregnant each year.

1 IN 9
Number of women who have used
emergency contraception.



Psoriasis Support

FIGHTING FLARE-UPS? TRY THESE EXPERT TIPS TO MANAGE YOUR PSORIASIS.

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

EXPERT TIPS

"Keep your skin healthy. That's essential and can be simple to do. Avoid products with fragrance that contact skin, like perfumes, lotions, and laundry detergents; moisturize regularly; and use a humidifier at home during cold, dry weather. These simple steps can maintain your skin's barrier and make flare-ups less likely."

SHILPI KHETARPAL, MD
dermatologist, Cleveland Clinic

"Making changes to your diet and lifestyle can help you manage your psoriasis. Try eliminating alcohol, dairy, and gluten from your diet one at a time. See whether doing so relieves your symptoms. Also, exercise regularly and keep a healthy weight. Both have multiple benefits, including improvement in psoriasis."

KYLE CHENG, MD, MS
dermatologist, UCLA Health

"Don't give up on your psoriasis. Clear skin is possible. Recent advances have led to numerous highly effective treatments, and one of them might be right for you. Find a health care provider who is familiar with all these new therapies. Call the National Psoriasis Foundation and ask for a psoriasis specialist in your area."

APRIL ARMSTRONG, MD, MPH
professor of dermatology, Keck School of Medicine of the University of Southern California

10 TIPS

TO COPE

1. REDUCE STRESS

Exercise, meditate, or practice yoga to manage psoriasis-worsening stress.

2. KNOW THE SIGNS

Psoriasis can harm your joints, heart, and mental health. Learn to recognize the symptoms.

3. WAX ON

Try paraffin wax to moisturize your hands and feet.

4. SEEK SUPPORT

Talk with family and friends about your psoriasis. Most people like to help.

5. GET A LITTLE SUN

Spend a few minutes outdoors each day but avoid sunburns.

6. LEARN YOUR TRIGGERS

Reduce your risk of flares by knowing and avoiding their causes.

7. SLEEP WELL

Talk with your doctor about improving your sleep, which may help your psoriasis.

8. TAKE A BATH

Soak in lukewarm water for about ten minutes each day to soothe your skin.

9. MOISTURIZE REGULARLY

Combat dry skin with ointments, non-irritating creams, or petroleum jelly.

10. KICK THE HABIT

Smoking makes psoriasis worse, so ask your doctor about effective ways to quit.

1. YOUR NEW MEMOIR, *LET LOVE HAVE THE LAST WORD*, TALKS ABOUT USING LOVE AND MINDFULNESS TO TAKE CONTROL OF YOUR LIFE. WHAT DREW YOU TO THE IDEA OF LOVE?

For the past two years, it feels like there's been clouds hanging over us. I started thinking about what I was relying on to keep me in an optimistic space and keep my thoughts positive. It was love. I wanted to share my stories and talk about the ways I've learned to apply love to my life. There are places I haven't really succeeded, but I'm practicing. Love is a practice.

2. WHICH PLACES ARE YOU STILL WORKING ON?

One is relationships. I like being in love, and I love partnership. But what I discovered about myself—and this came through therapy and reading and mindfulness—is I sometimes bring a lot of my childhood trauma into my present relationships.

3. YOU HAVE A DAUGHTER, OMOYE ASSATA LYNN, WHO'S 21. WHAT HAVE YOU LEARNED FROM BEING A FATHER?

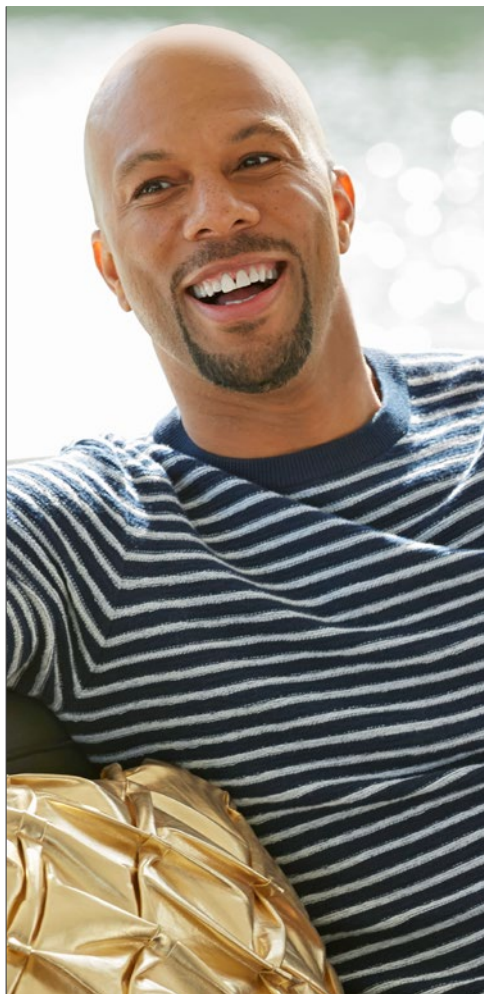
Recently I had a real good talk with my daughter. She broke down some things that were eye-opening. As much as I thought I was being a great father, in some aspects she didn't feel that way. I had to respect that. I had to be humble and listen and recognize love is a two-way experience.

4. WHAT'S YOUR APPROACH TO STAYING HEALTHY?

I eat a pretty disciplined diet. I eat fish and vegetables, mostly. I don't eat any meat. Don't get me wrong: There are times when I'm with my friends and I drink wine. And I'll eat my French fries. I make sure I balance things out.

5. WHAT'S ONE OF YOUR BEST HEALTH HABITS?

I go to juice bars daily, whatever city I'm in. My juice bar in LA is Moon Juice—I go there like every day! I get something called Blue Moon Protein. It has blue spirulina and coconut water. And I get turmeric with black pepper and cayenne.



Common

Grammy, Academy, and Golden Globe award-winning actor and musician; activist; 47; Los Angeles and Brooklyn

"THERE ARE PLACES I HAVEN'T REALLY SUCCEEDED, BUT I'M PRACTICING. LOVE IS A PRACTICE."

6. DO YOU LIKE WORKING OUT?

I look forward to my workouts. I exercise four to five days a week. I love working out with my trainer. I love plyometrics. I don't lift heavy weights. My goal is not to be a bigger, bulky guy. It's to be fit.

7. DO YOU LISTEN TO YOUR OWN MUSIC DURING WORKOUTS?

No, but I love it when somebody walks up to me and says, "I was just listening to your song." I'm like, "Wow, that's incredible." It means my music motivates them in some way. The stuff that gets me motivated is Tribe Called Quest, which is hip hop I grew up with, or Kanye's music.

8. WHAT ARE YOUR FAVORITE MIND-BODY PRACTICES?

Yoga and meditation. The first time I did yoga was in 2003. I was going through a breakup and a friend said, "Hey, come to this yoga class. It's going to help." I remember going, and it was like, "Man!" It released a lot of stuff—sweat, stress, all types of things.

9. YOU CREATED THE COMMON GROUND FOUNDATION TO HELP UNDERSERVED CHILDREN IN CHICAGO. WHAT TYPE OF SUPPORT DOES IT OFFER?

We provide academic support, leadership support, and nutritional health education. Our kids work in the community, too—social activism is an arm of the foundation. We've had our kids doing yoga, learning a healthier diet, and going to farms and camps outside the city.

10. YOUR NEW MOVIE, *THE INFORMER*, IS IN THEATERS AUGUST 16. WHAT DO YOU LIKE MOST ABOUT ACTING?

I get to really research, seek, and learn about humanity. If I'm playing an FBI agent, I'll talk to an FBI agent. If I'm playing a chef, I'll talk to a chef. ... You start learning what a chef goes through. Even if you're playing a killer, you've got to find the human being in there. You get a different understanding and compassion when you walk in their shoes. That's what it all boils down to.

—KARA MAYER ROBINSON