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# Wellness Letter

In Collaboration With **The UC Berkeley School of Public Health**

LIVE **WELL**

## The Art of Taking a Cognitive Test

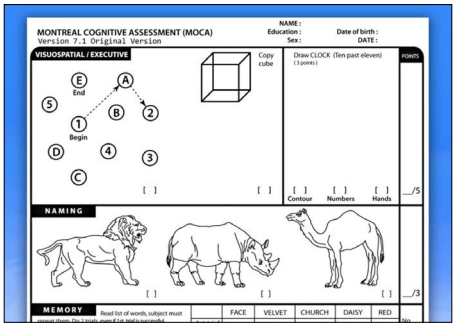
A screening test for dementia has been back in the news. How much does it reveal about one's mental capacities?

The Montreal Cognitive Assessment (MoCA) first made headlines in 2018 when President Donald Trump, during his first term at age 71, was reported to have received a perfect score on the test. You may recall him recounting about how he was able to repeat all five words presented to him—person, woman, man, camera, TV—and remember them a little bit later.

In a redo of the test in his current term this past April, Trump, at nearly 79 years of age, once more reported that he attained a perfect score—calling the test an "IQ test," though in fact, it was not assessing intelligence but rather screening for dementia.

Supporters have claimed the president's performance on the test confirms his mental acuity; critics say the screenings prove nothing about his judgment or fitness to be president. Wherever you stand on the political spectrum, however, you may be interested in knowing more about MoCA.

This routine screening test is widely used by doctors in the U.S. to screen for cognitive impairment in older adults. Although MoCA isn't intended to prove or disprove definitively whether someone is experiencing problems with thinking or memory, it can be a helpful tool when utilized as part of an overall assessment by doctors or other healthcare professionals trained to diagnose cognitive problems.




Courtesy of MoCA Test Inc.

MoCA screens for all levels of cognitive impairment, including mild cognitive impairment (MCI). People with MCI have memory or thinking problems that aren't serious enough to interfere with everyday living. MCI can be a precursor to Alzheimer's disease or other kinds of dementia, but it doesn't always lead to dementia, and in some people, MCI can revert to normal cognition.

It's important to note that, contrary to Trump's claims or what he may have implied, MoCA does not specifically evaluate or reflect one's intelligence. To assess IQ, more comprehensive testing is needed, and the standard test for that is the Wechsler Adult Intelligence Scale (WAIS). The Wechsler Intelligence Scale for Children (WISC) is for children ages six through 17.

### How MoCA works

MoCA is a 10-minute test that assesses a range of cognitive skills, including attention, concentration, executive functions, memory, language and verbal fluency, calculation ability, conceptual thinking, and visuoconstructive skills.

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There are multiple forms of MoCA to avoid a "learning effect" if the test is given multiple times to the same person. The tasks to perform may include:

- Drawing a line that alternates between numbers and letters of the alphabet printed on a page, in ascending order (1-A-2-B-3-C-4-D-5-E)
- Copying a drawing of a three-dimensional cube as accurately as possible
- Drawing a clock showing a certain time (10 past 11), without looking at your watch
- Naming three animals presented in drawings (a lion, a rhinoceros, a camel, for example)
- Repeating and later (at the end of the test) recalling a list of five words (face, velvet, church, daisy, red, for example) in any order
- Repeating a list of five numbers in the same order, presented verbally by the test administrator, and then repeating a second list of three numbers backwards
- Repeating two sentences verbatim
- Counting back from 100 by sevens
- Naming as many words as possible that begin with the letter "F" in one minute (naming 11 or more gets a top score)
- Categorizing pairs of words (that is, explaining what each pair has in common), such as banana and orange or train and bicycle

The test also asks questions about orientation (what is today's date and where are you now?). A perfect score is 30, but a score of 26 or above is considered normal. Lower scores are associated with possible cognitive impairment. Higher scores do not, however, rule out the possibility of subtler (yet still meaningful) cognitive deficits that might be detected through more comprehensive neuropsychological testing.

Certain factors may interfere with screening test results. For example, scores may be affected by a patient's education level, age, language ability, or the effects of medication they may be using at the time of the test. A patient may also score low on this mental status test because of such factors as fatigue, sleepiness, lack of engagement, anxiety or depression, a distracting environment, or ongoing pain or discomfort.

MoCA as well as other mental status scales are just a starting point, offering clues—not verdicts—about memory and thinking.

How accurate is MoCA? According to a 2021 Cochrane Collaboration review, it detected dementia in 94 percent of people with the condition, when a cutoff score of less than 26 was used. But it also had a high rate of false positives, meaning that many people without dementia also scored below normal.

Although many doctors rely on screening tests such as MoCA, *routine* screening of older adults for cognitive impairment is not recommended. In its most recent report, published in *JAMA* in 2020, the U.S. Preventive Services Task Force—a federal advisory panel of medical experts that evaluates and makes recommendations about preventive healthcare—concluded that there is insufficient evidence to recommend in favor of or against routine screening. That is, the risk of harm from the screening may not outweigh the benefits for asymptomatic people. "More research is needed," the Task Force concluded.

## Just one of many screening tools

Mental status screening tests such as MoCA certainly have a place in identifying cognitive impairment and memory loss associated with dementia—in people who are having mental difficulties (as opposed to screening those not showing any signs of loss). However, organizations such as the Alzheimer's Association recommend that doctors do a full medical workup because no single test can accurately diagnose dementia.

A full workup includes questions about medical history and current health conditions; a physical exam; a medication review; a discussion about mood, diet, and alcohol use; and a neurological exam, which evaluates coordination, balance, reflexes, mental status, and sensory and motor skills. Laboratory testing or brain imaging may also be recommended before a diagnosis is made.

Cognitive changes in older people aren't always the result of dementia; other common causes include certain prescription drugs, vitamin deficiencies, or medical conditions such as depression, thyroid disease, anemia, diabetes, infection, and diseases of the kidney, liver, or heart.

A cognitive assessment should also include a discussion with family members, who can provide context

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about a person's memory or behavior. Knowing whether a person's memory or judgment has worsened over time is crucial for a doctor trying to diagnose any kind of cognitive decline.

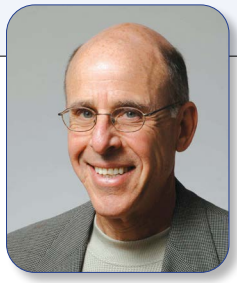
**BOTTOM LINE:** Despite its reemergence into the spotlight, the MoCA as well as other mental status scales are just a starting point, offering clues—not verdicts—about memory and thinking. Compared with comprehensive neuropsychological testing, these mini screenings are not as well standardized or validated. True cognitive assessment requires a full medical workup and context from those who know the person best. And that involves far more than a 10-minute test of repeating words, naming animals, and drawing clocks. If you or a loved one is experiencing cognitive issues beyond those "senior moments," it's a good idea to consult a primary care doctor, who may recommend further evaluation with a neurologist or other cognitive specialist. ■

## Is It More Than a Senior Moment?

Spouses, partners, or other close relatives or friends are often the first to spot signs of cognitive decline in a loved one. It may be an adult child who first notices a parent not acting as usual. The following signs might be a hint that someone needs to be assessed:

- Losing or misplacing things such as keys more often than in the past
- Struggling to think of the right words to express a thought or identify an object
- Forgetting to keep appointments
- Forgetting recent conversations or events
- A decline in thinking skills, such as those involving time management or decision making
- Changes in the ability to move
- Feeling disoriented or getting lost in familiar places

SPEAKING OF **WELLNESS**



**John Swartzberg, MD**
*Chair, Editorial Board*

## Remembering the Scientists We Lost in 2025

Over the past year, we have lost some giant figures in the scientific world—including the revered anthropologist and conservationist Jane Goodall, and the accomplished and controversial geneticist James Watson, who co-discovered the double-helix structure of DNA. They were among a fairly small group of scientists who have ever gained fame outside of their fields. But while scientists usually don't become household names, that doesn't diminish the importance of their work. So as we begin a new year—and as I've done in previous years—I'd like to remember some of the lesser-known researchers we lost over the past year, including a few members of the UC Berkeley community. Their contributions to public health will live on.

**Leonard Syme,** PhD, professor emeritus of epidemiology and community health, UC Berkeley School of Public Health, age 92. During his time at UC Berkeley, Dr. Syme conducted groundbreaking research on the social determinants of health—the many non-medical factors that affect people's health and well-being, including access to affordable housing and healthy food, education level, and social isolation. That concept has since become central to our thinking on public health, and Dr. Syme is widely considered the "father of social epidemiology." We at the *Wellness Letter* knew him as Len, as he served on our editorial board for more than 40 years. Len and I were good friends. Among many things, we enjoyed robust, wide-ranging discussions over long lunches and at Cal football games (even though we were often disappointed by the outcomes of those games). He will be missed, as a scientist and a friend.

**David Baltimore,** PhD, molecular biologist, president emeritus, California Institute of Technology, age 87. Over his long career, Dr. Baltimore made discoveries that would prove critical to our understanding of the immune system, HIV, and cancer. In 1975, he and his colleagues were awarded the Nobel Prize in physiology/medicine for their work demonstrating the molecular mechanisms that drive a group of viruses called

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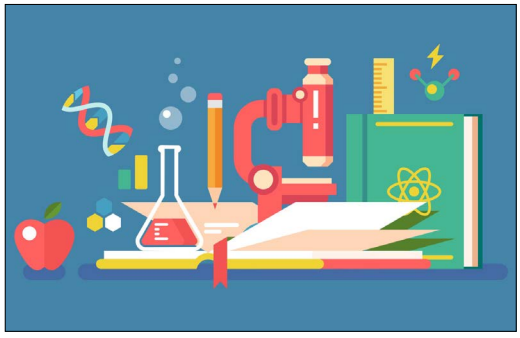
retroviruses. The importance of that finding would soon become apparent, as the AIDS epidemic took off in the 1980s. It helped scientists identify HIV, a retrovirus, as the cause of AIDS, and would eventually be key in developing antiretroviral drugs to treat the disease. Dr. Baltimore later focused his work on immune function and the mechanisms that go awry in the development of cancer and autoimmune diseases.

**Atul Butte,** MD, PhD, professor, director, Institute for Computational Health Sciences, UC San Francisco, age 55. Dr. Butte did his early training in pediatrics before eventually receiving a PhD in health sciences and technology. That set the stage for what would become his major research focus: using technology advances to efficiently analyze huge amounts of data (so-called big data) to better understand a host of major diseases and identify new treatments. Dr. Butte is credited with pioneering methods for mining publicly available databases to pinpoint existing drugs that can potentially be "repositioned" to treat additional health conditions. He is also remembered as a central proponent of data sharing among researchers—launching, in 2010, a data repository called ImmPort, which has enabled more than 1,200 studies to be conducted.



**Phyllis Gardner**, MD, professor of medicine, Stanford University, age 75. Dr. Gardner was a physician and clinical pharmacologist whose research focused on heart arrhythmias and, later, the genetic disorder cystic fibrosis. Her discoveries involving a gene that causes cystic fibrosis, called CFTR, led to a greater understanding of how the disease affects the immune system and helped lay the groundwork for gene therapy programs for cystic fibrosis. At Stanford Medicine, Dr. Gardner used her varied expertise to treat patients with complex heart disease and help manage transplant patients. In the 1990s, she was appointed to a leadership role at the medical school, where she spearheaded reforms that modernized the curriculum. Dr. Gardner is remembered by her colleagues as having a "bigger-than-life" personality and boundless energy. Outside of academia, she founded or was involved in several biotechnology startups, and served as a mentor to other women pursuing careers in science and business.

**Ruth A. Lawrence,** MD, pediatrician, founder, Breastfeeding and Human Lactation Study Center, University of Rochester Medical Center, age 101. In the early 1950s, Dr. Lawrence became the first woman offered an internship at the Yale School of Medicine; it was during this time—when formula feeding was all the rage—that Dr. Lawrence became interested in the health benefits of breastfeeding, for both infants and mothers. Today she is recognized as the main force behind the promotion of breastfeeding as a topic of scientific research and a public health priority. In 1979, after years of research and firsthand experience as a mother (she breastfed each of her nine children), Dr. Lawrence authored what is considered by many to be the breastfeeding bible, *Breastfeeding: A Guide for the Medical Profession*. The book gained media attention, which gave her a platform to criticize formula companies for marketing their products as better than breast milk. In 1984, she was chosen by Surgeon General C. Everett Koop to head an expert committee to address low rates of breastfeeding. One of her children, Barbara Asselin, MD, also a pediatrician, remembered her as a devoted mother who "did all the mom things," including serving as PTA president. In Dr. Asselin's words, "She didn't miss a beat."

**Malcolm Potts,** MD, reproductive health scientist, UC Berkeley School of Public Health, age 90. Dr. Potts was considered a trailblazer in women's reproductive health—emerging in the 1960s as one of the first advocates for widespread access to contraception and safe abortion. His views took shape early in his career, when Dr. Potts worked as an obstetrician in a busy London hospital, at a time when abortion was illegal. He later wrote that he routinely cared for women suffering blood loss from self-induced abortions. Dr. Potts would become instrumental in liberalizing England's abortion law before turning his attention to women's healthcare on a broader scale. He served as medical director of the

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International Planned Parenthood Federation, led groundbreaking maternal mortality studies, and helped establish the first HIV prevention programs in Africa. In 1992, Dr. Potts joined the UC Berkeley faculty, where his achievements included co-founding OASIS—an organization dedicated to educating girls, expanding access to family planning, and reducing maternal mortality in the Sahel region of Africa.

**Zakaria Sabry**, PhD, professor emeritus, UC Berkeley School of Public Health, age 92. Dr. Sabry was a leading nutrition scientist whose work shed light on the connections between diet and chronic disease. Originally from Egypt, Dr. Sabry held positions at the American University of Beirut, and the University of Guelph and University of Toronto. In the early 1970s, he led the development of the first comprehensive national study of health and nutrition in Canada. Dr. Sabry joined the faculty at UC Berkeley in 1984 and remained there until his retirement 20 years later. Beyond his work in research, Dr. Sabry was a beloved teacher and mentor—particularly to international students, having experienced that path himself. His son James Sabry said that when his father moved from Cairo to the University of Massachusetts, Amherst, to pursue a master's degree, the football coach there gave him a place to live and took him under his wing: "He always had gratitude for that and tried to pay that forward."

**Parting note:** As we honor the legacies of these researchers, we also confront a sobering reality: Science in America is under siege. The Trump administration has slashed billions of dollars from government grants, terminated hundreds of active studies, fired thousands of personnel, reduced funding for the backbone of university research, and disrupted the very infrastructure that supports discovery and nurtures future scientists. If not checked, these cuts will undermine decades of progress and stifle the next generation of scientists, which will only further erode the foundation of medical and public-health advances that save lives. I can only hope that the scientific community can take back the reins from this wayward administration to safeguard the future of the nation's health.

MOVE **WELL**

# Skipping: Not Just for Kids

Did you skip as a child? Probably.
But we bet you don't anymore—and that's too bad.

Many of us remember active playtime when we were kids that involved hopping, jumping, running, and skipping. Back then, physical activity like that was pure fun. Then we became adults, and exercise—at least for some of us—became a chore or something we had to schedule into our hectic lives.

Of the activities mentioned above, skipping in particular is something adults rarely (or never) do. Sure, you may run or do brisk walking—or even engage in high-intensity workouts involving hopping and jumping. But skipping? Who skips besides children? Understandably, it might make you feel self-conscious, even a bit silly perhaps.

Actually, many athletes—notably those whose sports require sprinting, such as competitive runners, track athletes, and tennis players—practice skipping to improve their speed, power, agility, and coordination. Skipping can also be used as a warmup for any activity, from walking and running to tennis, pickleball, and basketball.

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## Like riding a bike?

Skipping seems to come naturally to kids. If you skipped when you were young, it may come back to you right away (or with a few tries)—like riding a bike. If you never skipped, though, you might think skipping is difficult or requires a lot of coordination. It's not, and it doesn't—but it may take some practice to hone it.

Basically, all you're doing is hopping

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forward on one foot and taking a step forward with the other leg, and then switching sides so you do the same sequence with the other leg, over and over again—as slowly broken down in this video (made for teaching children to skip). To do it with proper form, you should land on the ball of your foot, keeping your head looking forward (not down at your feet) and bringing your knee up to waist level, as this video explains.

After you get the feel of it, you can add your arms: You raise one arm (bent at the elbow) on the opposite side of the leg you're hopping on. Alternating your arms like this helps power the forward movement. As a safety precaution, be aware of your surroundings so you don't trip on something, and avoid areas with uneven pavement.

Skipping can add variety to your workouts. For example, you could spend 5 to 10 minutes brisk walking or running and then skip for 30 seconds. Then repeat this sequence of alternating walking/running with skipping. To mix up your skipping, you can change the speed, rhythm, height of your hop, and height of your knees.

## Skip for the benefits

One of the best things about skipping is that it's fun. And if you find an exercise that's fun, you're more likely to keep doing it. But there are other benefits as well.

For one, skipping is a high-impact activity that's good for bone density. As a plyometric exercise (one that involves short bursts of explosive activity), it can improve speed, agility, and power. And as you hop on one leg at a time, skipping could also improve your balance. In addition, skipping works out many muscles at once, including the abdominals, quads, glutes, and calves.

Other advantages: Compared with running, skipping may put less stress on the knees and burn more calories, some preliminary research has found—but it can be more exhausting than running for the same given distance.

A small study, published in *Gait & Posture* in 2019, compared the forces on the knee when healthy young adults engaged in running versus skipping. This is important because runners often end up with overuse injuries, including to the knee because of the stress on that joint when the legs hit the ground. The researchers found that running involved much greater force on the front of the knee compared with skipping, as well as more force on the joint between the tibia (one of the two lower leg bones) and the femur (the thigh bone). In this study, skipping burned 30 percent more calories than running.

Another small study, published in the *Journal of Applied Biomechanics* in 2022, also found reduced forces on the knee with skipping compared with running. In contrast, the forces on the ankle joint were greater with skipping. Thus, if you have a history of ankle injuries, skipping may not be the best activity for you.

Given that the above studies enrolled a total of only 25 people, definitive conclusions cannot be made, however.

**BOTTOM LINE:** If you enjoy walking or jogging but are perhaps a bit tired of the same old routine, consider adding some skipping to make your workout more fun. And if you don't already exercise, skipping may be just the activity that will get you moving. But if you've been sedentary or have biomechanical problems, previous injuries (such as to your ankle, hip, or knees), or balance problems, talk with your healthcare provider or a physical therapist before starting. ■

GET **WELL**

# How to Give Sagging Breasts a Lift

What you can do to prevent the downward droop known as ptosis as you age

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Breasts come in many shapes and sizes. They can be round and full, teardrop- or bell-shaped, or asymmetrical, and they tend to change with age. While breasts may start out shapely or perky early in life, as you get older, the connective tissue and ligaments that support them gradually lose strength and elasticity, leading to sagging. The medical term for this age-related drooping is *ptosis* (pronounced "toe-sis").

Other factors play a role in breast sagging over a lifetime, including weight fluctuations, changes in

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breast tissue composition, pregnancy, and genetics. Carcinogens in cigarette smoke and ultraviolet (UV) rays from the sun also contribute to the loss of elasticity by damaging the collagen and elastin fibers that keep skin firm.

About 80 percent of women ages 45 to 65 report a significant difference in their breasts with aging, and sagging is the number-one change they notice, according to a study in the *European Journal of Ageing*.

While ptosis doesn't have harmful health consequences, it can affect your emotional well-being if you are unhappy with how your breasts look. Lifestyle changes like improving your posture and wearing a supportive bra may reduce the appearance of ptosis. For more severe cases, a breast lift may be an option.

## How low do you go?

The amount of breast sagging varies from mild to severe. Doctors assign ptosis a grade from one to three, based on the relationship between the position of the nipple and the inframammary fold (IMF)—where the breast meets the chest wall.

- **Grade 1: Mild ptosis.** The breasts are only slightly droopy, with the nipples positioned at the same level as the IMF.
- **Grade 2: Moderate ptosis.** The breasts are moderately sagging, with the nipples slightly below the IMF.
- **Grade 3: Severe ptosis.** There is significant sagging, with the nipples well below the IMF.

Sometimes the breasts sag, but the nipples remain higher than the IMF. Doctors call this "pseudoptosis," or "false ptosis." The extent of sagging will determine the most effective method of correcting it.

## For a "natural" lift

For mild to moderate ptosis, you can try these lifestyle approaches to improve the shape and position of your breasts:

- **Exercise.** Because breasts contain fat and breast tissue but not muscle, exercise won't strengthen them. However, aerobic and strengthening workouts do contribute to weight loss, which can reduce sagging that's related to excess weight.
- **A healthy diet.** Proper nutrition isn't a cure for breast sagging, but eating lots of healthy protein from foods like lentils, eggs, fatty fish, vegetables, and nuts/seeds will help keep your breast skin healthy and prevent weight gain. Staying hydrated by drinking plenty of water keeps the skin of your breasts supple and prevents the wrinkling and dryness that contribute to sagging.
- **Good posture.** Aging weakens bones, reduces muscle strength, and causes the discs between vertebrae to lose height, all of which can increase spinal curvature and contribute to stooped posture. When the spine is curved, the breasts hang forward, increasing the effect of gravity on them. Strengthening and stretching your muscles and maintaining proper alignment while sitting, standing, and lying down are important for improving posture and helping prevent your breasts from sagging forward. For instance, while sitting, keep your feet flat on the floor, tuck your chin, and draw your shoulder blades slightly back and together. When standing, have your feet hip-width apart, keep your pelvis in neutral alignment, and gently move your head and shoulders back.
- **Sunscreen use.** Applying an SPF 30 or higher sunscreen to sun-exposed areas of your chest not only reduces the risk of skin cancer, but also protects against sun damage that can contribute to stretching and sagging. By blocking harmful UV rays, sunscreen helps preserve the skin's collagen and elastin, keeping the breasts firmer and slowing sagging over time.

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## Getting the Support You Need

Whether regularly wearing a bra will reduce the development of sagging over time is a matter of some debate; however, especially for women with larger breasts, a supportive bra can at least provide a lift and improve comfort (you can find supportive bras today that don't have an underwire). Wearing a good sports bra prevents the breasts from bouncing and causing discomfort during high-impact activities like running, tennis playing, and aerobic dancing, but if you're large-breasted, they are a good choice even for walking and other lower-impact activities.

Because many women wear bras that fit them poorly, it's important to buy a size and style appropriate to your shape and needs. You can find a good match on a website like Thirdlove.com, herroom.com, and Evelyn & Bobbie, or go to a department store or specialty shop for a fitting.

The bra you choose should fit properly but not be so tight that it pinches you. You should be able to run a finger under the bottom of the bra, as well as between the strap and your shoulder. Shortening the straps will give you a slight lift and keep the skin from stretching. Your breasts should fill the entire cups but not overflow them.

## A surgical pick-me-up

If lifestyle changes don't give you enough of a pleasing result, a breast lift could be considered to improve the shape and position of the breasts. To make sure you're a good candidate, a board-certified plastic surgeon will examine you, discuss your health history, and determine your goals before performing the procedure. Be warned that Medicare won't cover the cost when it's considered cosmetic surgery (as opposed to breast reconstruction after mastectomy, for example).

Mastopexy is the medical term for breast lift surgery. It can give the breasts a more youthful appearance by removing excess skin, tightening the tissue, and raising the nipple. This procedure is sometimes combined with a breast implant or reduction to give the breasts more (or less) volume as they are lifted.

There are several versions of the breast lift that use incisions of various sizes and shapes. Which version is best for you largely depends on the extent of sagging. Recovery after a breast lift can take several months, with time needed to regain sensation in the breasts as nerves heal.

But a breast lift isn't appropriate for everyone. It can't be done in women with breast cancer, and it may pose risks for anyone who has uncontrolled diabetes or cardiovascular disease, an active infection, an immune system disorder, blood clotting issues, or a history of poor wound healing, or who smokes. It's important to discuss these and other possible risks with a surgeon before deciding to have this procedure.

**BOTTOM LINE:** Breast sagging is a normal part of aging. It's nothing to worry about from a health perspective, but if the appearance bothers you, try lifestyle changes like exercise and wearing a more supportive bra. You might also consult with a plastic surgeon about a breast lift procedure. ■

EXPERT **Q&A**

# Alcohol: A Cancer Connection?

A nutrition and public health expert weighs in on a major report on the risks of drinking

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**Editor's Note.** Alcohol is a known carcinogen. At the same time, individual risk varies by dose, pattern of drinking, smoking status, and personal/family history. In this interview, Dr. Edward Giovannucci shares his perspective on how he interprets the evolving evidence. Public-health guidance focuses on reducing population-level harm; individual decisions should take personal risk factors and preferences into consideration.

Early last year, the previous U.S. Surgeon General, Vivek Murthy, issued an advisory report about the links between alcohol and cancer that received widespread media attention. Alcohol consumption, the report noted, increased the risk of seven types of cancer. That message aligned with an emerging conclusion among U.S. and international public health authorities that no amount of alcohol is safe, as the World Health Organization declared in 2023. (According to recent reports, the current administration has decided not to release another major study examining the adverse effects of alcohol.)

Edward Giovannucci, DSc, MD, a professor of nutrition and epidemiology at the Harvard T.H. Chan School of Public Health, discussed the Surgeon General's report in a commentary published in the journal *Cancer Causes & Control*, which gently challenged some of the most pessimistic conclusions. The *Wellness Letter* spoke with Dr. Giovannucci about the report, the debate over moderate drinking, and the specific factors that impact the role of alcohol on health.

**Wellness Letter: The Surgeon General's report focused on the links between alcohol and cancer. Haven't we known for a while that alcohol can cause cancer?**

**Edward Giovannucci:** If you had asked me two decades ago whether alcohol was carcinogenic, I would have said yes, and so that hasn't changed. But there have been incremental increases in our knowledge, and the details about some cancers have become more clearly established. So the evidence has gotten stronger.

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**WL: What specific cancers are we talking about?**

**EG:** Alcohol has an impact on cancers of the mouth, larynx, throat, and esophagus. Those organs all have direct contact with the alcohol. Alcohol is metabolized in the liver, and some of these metabolites are toxic and can lead to liver disease, including liver cancer.

In the case of colorectal cancer, alcohol does reach the lining of the gastrointestinal tract, although through the blood rather than directly from contact during ingestion. In addition, bacteria in the colon rapidly convert the alcohol to acetaldehyde, which is a carcinogen.

The impact on breast cancer is a question of particularly high interest, and it's a bit complicated. Estrogen is a risk cancer for breast cancer, and alcohol may increase estrogen levels. Alcohol does lead to increased breast cancer risk, but the magnitude of the risk is relatively small at moderate drinking levels.

It's also important to remember that there is a dose-response relationship. Much of the research on increased cancer risk does not separate out moderate drinking, which has potential benefits as well as potential risks. For men, that's up to 14 drinks a week—an average of two a day. For women, it's up to seven drinks a week.

## What Counts as One "Drink"?

An alcoholic beverage is defined as:

- 12 ounces of beer
- 5 ounces of wine
- 1½ ounces of 80-proof spirits

Each contains about 14 grams of ethanol. Keep in mind that what's poured in bars and restaurants (and sometimes at home, too) is often more than a standard drink.

**WL: What do we know about the possible *benefits* of moderate drinking?**

**EG:** There's controversy on this, but I think there's enough evidence to say that moderate drinking may offer some protection against heart disease and diabetes. Moderate drinking also appears to protect against kidney cancer.

With regards to the other cancers, the Surgeon General's report is correct that overall there is an increase even at moderate levels. But the report does not consider four modifying factors. The impact of moderate drinking is relatively neutral when these factors are taken into account. The exception is the small increased risk for breast cancer among women.

**WL: What are those four modifying factors? Can you elaborate?**

**EG:** The most significant is tobacco use. It turns out that the effect of alcohol is much worse in smokers than it is in nonsmokers, and that's not surprising. Among nonsmokers, in fact, moderate drinking does not seem to lead to a statistical increase in cancer—with the major exception of breast cancer in women.

Smokers have a higher baseline rate of cancer, so any multiplying effect of alcohol on those rates is going to lead to a much higher number of cancer cases among smokers than among nonsmokers. Also, the carcinogenic effects of alcohol are amplified in smokers. For example, in smokers compared to nonsmokers, the same amount of alcohol will produce much higher levels of acetaldehyde, a carcinogen.

A second factor is the pattern of drinking. Most studies report how much participants drink on average—say, seven drinks a week if they're in the moderate category. But one person might drink one drink a day for seven days, and another might binge and have seven drinks in one day. Drinking seven drinks in a day will have more harmful effects and reduce the possibility of any beneficial effects.

Next is whether you're drinking while having food, perhaps as part of a meal, or whether you're drinking on an empty stomach. Drinking with food reduces the rate of increase of alcohol blood levels. It also dilutes any effects on the parts of the body—the mouth, larynx, throat, and esophagus—that come into direct contact with the alcohol.

**WL: And the fourth factor is the type of beverage?**

**EG:** Yes, that's the final factor. Ethanol is the specific alcohol in alcoholic beverages and is responsible for the psychoactive effects as well as the harmful health effects. That's the case whether it is consumed in beer, hard liquors, or wine.

But wine also has compounds called polyphenols that are found in fruits and vegetables and have anti-inflammatory and antioxidant properties. Red wine specifically is very high in some polyphenols, and there's evidence from animal studies, in vitro studies, and some human studies that they have a positive effect. That means wine might have some extra benefits. But when recommendations are made, they generally talk about total alcohol consumption rather than breaking it down into types of alcohol.

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There's some overlap in these factors. In general, people who drink wine are more likely to be doing so with meals. People who drink beer and hard liquors are more likely to be drinking on an empty stomach.

**WL: But now the message being conveyed is that no amount of alcohol is beneficial. Why the change?**

**EG:** A few decades ago, I think some of the possible benefits of drinking were being exaggerated, especially claims about red wine—that it could help you live to 100 years, and so on. As a corrective to that, more and more research in the last decade has been interpreted to mean that there are no benefits at all, that no amount of drinking is good, that even a scintilla of alcohol is going to harm you. I think that's an extreme corrective. It's gone too far.

**WL: So what is the take-home message?**

**EG:** It's really a matter of weighing the possible benefits of moderate drinking against the risks of cancer. If you're above the recommended levels of alcohol intake or have a pattern of binge-drinking, you should think about reducing or eliminating alcohol. But if you don't smoke and you're in the moderate drinking range, have a healthy drinking pattern, mainly drink with meals (especially wine)—and don't have a personal history of or elevated risk for breast cancer—I would not be too concerned: The *absolute* added risk from an occasional drink appears small. In such cases, it's reasonable to enjoy an occasional alcoholic beverage as part of an overall healthy lifestyle. ■

## Drink Smart: Some Words of Caution From the *Wellness Letter* Editorial Board

The focus of our interview is on the relationship between alcohol and cancer, not the other possible risks of alcohol. To be clear, no one should consume alcohol in excess.

And some people should not drink at all, including pregnant or breastfeeding women; people who cannot keep their drinking moderate and are at high risk for alcoholism; those taking medications that interact with alcohol, including antidepressants, sedatives like alprazolam (Xanax and generics) and zolpidem (Ambien and generics), opioids, blood thinners like warfarin, and acetaminophen; and anyone who has to drive or operate machinery within the next several hours.

Drinking is also not a good idea if you have hypertension, prior stroke, liver disease, high triglycerides, abnormal heart rhythms (arrhythmias), sleep apnea, peptic ulcers, or certain other conditions—we advise speaking with your doctor first.

If you drink alcohol regularly and have had one of the seven cancers associated with alcohol (listed in the main article) or are at high risk—particularly for breast cancer—we also recommend talking with your doctor.

Lastly, if you don't already drink, don't start for health reasons; if you do drink, less is safer.

## ASK **THE EXPERTS**

**Q** ***I've seen flowers in salads at fancy restaurants and sold at some upscale markets. Are they really edible, and how nutritious are they?***

**A** Yes, many flowers—from pansies and nasturtiums to lavender, roses, and squash blossoms—are indeed edible, but given the small amounts they are consumed in, you should consider them more decorative than nutritious (more on that below). Besides salads, they can dress up main course dishes like fish, desserts like cake and ice cream, and much more.

Interest in edible flowers is hardly new. The petals or whole flowers have been used for thousands of years in different parts of the world. In ancient Rome and Greece, they were used to flavor honey and wine. In medieval France, they were added to salads, soups, and stews. In the Victorian era, fresh and candied edible flowers adorned cakes, pastries, petit fours, and tea sandwiches.

Besides upscale supermarkets and restaurants, you can find edible flowers these days at some farmers' markets, specialty markets, and online. Prices vary. One website sells 50 begonias or pansies for $13.50 and 25

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squash blossoms for $15.65. Another company sells an 8-gram mix of edible flower petals for $19.50.

Edible flowers are not just pretty. They have other properties—including their texture and taste—that stimulate your senses. Marigold and nasturtium are a bit peppery, while chrysanthemum and banana flowers are slightly sweet, hibiscus is tangy, and orange blossoms can be bitter. Lavender is sweet and floral, violas have notes of vanilla, and elderflower is described as sweet with hints of honey and citrus.

But just because a flower is pretty and flavorful doesn't mean it's safe to eat. You must be 100 percent certain that it is edible. Commercially grown ornamental flowers—as sold at florists, garden centers, nurseries, bodegas, and supermarkets—are often sprayed heavily with pesticides and other chemicals and treated with preservatives, and should not be ingested. It probably goes without saying that you shouldn't pick flowers from the side of the road to eat—they can be contaminated with all kinds of things including animal waste, heavy metals, de-icing salts, and plain old garbage. And some flowers are naturally toxic or downright poisonous. Unless you have critical knowledge of which flowers are safe to eat, leave foraging for them to the experts.

When buying, make sure the flowers are labeled edible or for culinary use and come from a reputable source. No single agency certifies edible flowers as safe to eat, but you can look for the USDA Organic seal, which means they have been grown according to strict organic standards and not with any prohibited chemicals.

Another caution: Some people have allergies (like hay fever) or asthma that could be triggered by certain edible flowers, so never surprise anyone with flowers in a dish. It's recommended that you remove the pollen-containing parts of the flower (the stamen where the pollen is made, and the pistil that receives the pollen) not only to reduce the risk of reactions but also because these parts tend to be bitter.

As for the nutritional value of flowers, the U.S. Department of Agriculture provides limited information in its nutrient database. A half cup of pumpkin flowers has about 28 milligrams (mg) of potassium, 4 mg of magnesium, 6 mg of calcium, and 5 mg of vitamin C. A half cup of squash blossoms has about 55 mg of potassium, 13 mg of magnesium, 16 mg of calcium, and 3 mg of vitamin C. Considering that the recommended Daily Value for potassium is 4,700 mg, that of magnesium is 420 mg, that of calcium is 1,300 mg, and that of vitamin C is 90 mg, those amounts essentially boil down to nothing. Somewhat of an exception is vitamin A, whereby certain edible flowers provide about 10 percent of the daily recommendation per half cup—if you eat even that much of them.

What about phytochemicals—those plant compounds that may have antioxidant and other potentially beneficial properties? Some research has found marigolds, for instance, to be a good source of carotenoids and polyphenols. (Carotenoids include beta carotene, which is the precursor to vitamin A.) Other research cites the presence of anthocyanins, betalains, and lycopene in edible flowers. Bear in mind, however, that because edible flowers are consumed in such modest amounts—often as garnishes—they provide pretty negligible levels of these compounds overall. As with the nutrients cited above, you'll get far more from typical serving sizes of vegetables and fruits.

Nutrition aside, there are plenty of ways to incorporate flowers into dishes. Some ideas are to use sage blossoms as a topping on fish, or hibiscus to make a refreshing iced tea. You can sprinkle petals or whole flowers, like pansies, violas, and calendula, into salads and soups, add chopped rose petals to softened butter, or spruce up a cocktail by floating some petals on top. The books *Floral Provisions* and *Eat Your Flowers: A Cookbook* have dozens of recipes that use edible flowers, including in layer cakes, scones, granola, and

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French toast. You can, of course, also find plentiful recipes online.

If you have a green thumb and the desire, you can grow your own flowers, including chamomile, lavender, rose geranium, and nasturtium, as well as the blossoms from cooking herbs such as chives and sage. If you don't have outdoor space, some can be grown indoors. Make sure that the soil where you plant the seeds is free of pesticides and other chemicals. If you're planting the seedlings, these must be free of chemicals as well.

Whether you pick edible flowers from your garden or buy them, look for any insects that may be inside the blossoms and clean them by gently swooshing them in a bowl or pot of cool water (avoid rinsing under running water as that may damage the delicate petals). Then let them air dry.

For more on edible flowers, this publication from NC State Extension is a useful reference.

**Q** ***Is the National Hearing Test that's done over the phone—or now online—a good way to get your hearing checked?***

**A** Yes, actually. The National Hearing Test (NHT) is considered a reliable screening test for hearing loss.

Standard hearing tests, administered by audiologists, involve wearing headphones that play a variety of sounds, including hums, buzzing, and beeps. In contrast, the NHT, done over the telephone or online, involves listening to a series of three numbers spoken against a staticky background, simulating the attempt to discern speech in a noisy room.

The NHT detects hearing loss but cannot differentiate the cause of it. For older people, the most common reason for hearing loss is called presbycusis—age-related hearing loss that results from changes to the inner and middle ear and along the nerve pathways to the brain.

The NHT costs $8 (free for AARP members to do once a year) and takes less than 10 minutes. When you're ready, you'll be asked to fill out an optional pretest questionnaire (for research purposes) and then you will pay online. (If you are an AARP member, you'll be directed to log in to AARP to receive a free test.) There are two options: You can take the test online (if you have headphones or earbuds to connect to your computer or mobile device) or over the phone (where you hold your cellphone or telephone handset to each ear).

For the online version, you will click on a link and do the test using a mouse or touchscreen to respond; results will be presented on the screen. For the telephone version, you will be given a toll-free number and an access code, and you will enter your responses using your phone's keypad; results are provided by voice.

Two important considerations: You should be in a quiet room, and, if you use the online version, be sure you have a good internet connection.

Test results are confidential and not shared anywhere. For online results, each ear is accorded a "Hearing Number" and rated as good (0 to 20), mild hearing loss (21 to 35), moderate loss (36 to 50), moderately severe loss (51 to 65), or severe loss (66+). If your numbers are below 20, you probably have no difficulty hearing conversations set against low background noise; if you are at 51 or above, you likely have trouble understanding speech even in quiet places and find conversations very hard to maintain when there is background noise. For the telephone version, a recorded voice gives results for each ear as within normal limits, slightly below normal limits, or substantially below normal limits.

The test was validated by a study done at Veterans Affairs centers and published in the *Journal of the American Academy of Audiology*. It found that the results correlated well with gold-standard hearing tests. Still, there is a disclaimer that the results are just an estimate: You should consult a certified hearing

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professional for a more detailed and accurate assessment if hearing loss is detected—or if you experience problems following conversations or often ask people to repeat what they said, even if you do well on the test. A search tool is provided where you can find an audiologist or otolaryngologist in your area—or ask your primary care physician for a referral.

For more information about accessing the test, interpreting the results, and other hearing loss resources, click here.

**If you have a question you would like to see answered in the Wellness Letter,** email us at editors@wellnessletteronline.com. We regret that we are unable to publish answers to all questions or respond to letters personally.



# 5 Healthy Habits for Curbing Constipation

Chronic constipation can be an uncomfortable, and even debilitating, problem. Now a large study confirms that a few healthy lifestyle measures may help keep things moving smoothly as you age.

The study, published in the *American Journal of Gastroenterology* in September, tackled the topic of functional constipation—constipation that's chronic but not caused by any known underlying health condition. It's estimated that about 8 percent of adults have functional constipation, with women being affected about twice as often as men.

In general, constipation is defined as having fewer than three bowel movements per week, passing hard stools, needing to strain, or feeling like you're not "empty" after bowel movements. Experts have long offered advice on preventing constipation (eat enough fiber, drink enough water, be physically active), but it has not been clear how effective those habits are in combination—until now.

In the study, middle-aged and older adults who maintained at least three of five specific lifestyle habits were 40 percent less likely to develop constipation over the next dozen years, versus their peers who eschewed those habits entirely.

The five secrets to staying regular? Vigorous exercise, a healthy diet, adequate sleep, never smoking, and limiting alcohol.

## The more, the better

The findings are based on over 100,000 adults ages 40 to 70 who are part of the UK Biobank study, an ongoing research project collecting health and lifestyle information on about half a million volunteers. At the outset, none of the participants had functional constipation, but over the next 12 years, just over 3 percent were newly diagnosed with it, based on medical records (not self-report).

Researchers looked at whether the five lifestyle habits, alone or in combination, were linked to the odds of developing functional constipation. Overall, they found, maintaining one healthy habit was good, but the more, the better: Compared with participants who followed none of the five at the study's start, those who maintained one were 19 percent less likely to develop constipation, while those who followed two had a 28 percent lower risk, and those who maintained three to five had a 40 percent lower risk.

Certain habits seemed more powerful than others. Three of them—exercise, optimal sleep, and never smoking—were tied to a lower risk of developing functional constipation even on their own. But healthy eating and limiting alcohol intake only seemed to modify the risk when they were combined with other lifestyle measures.

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## More on the big five

**1. Exercise**. The study specifically looked at the relationship between high levels of vigorous exercise and constipation risk. Vigorous means activities that get you breathing hard, like jogging, swimming laps, or fast-paced bicycling. "High level" was not clearly defined, however; it included study participants who fell into the top 50 percent for vigorous exercise frequency. It was relative, in other words. (To support overall health, experts generally advise adults to aim for at least 150 minutes of moderate exercise like brisk walking, or 75 minutes of vigorous exercise, each week.)

Exercise may help keep you "regular" by getting the muscles of your digestive tract moving or by promoting a healthier balance of gut bacteria. And based on some past research, vigorous exercise may not be necessary to achieve that: Greater *amounts* of exercise (more than 150 minutes per week) have also been tied to a lower risk of developing constipation. So if running, fast biking, or swimming laps aren't the right activities for you, choose less-intense forms of exercise that you can perform more often or for longer duration.

**2. Optimal sleep**. This was defined as getting seven to nine hours of shuteye each night, finding it easy to get up in the morning, and rarely suffering from insomnia. Past studies have linked chronically poor sleep to a heightened risk of constipation, for reasons that aren't completely clear. Researchers speculate that because insufficient sleep can affect nervous system activity, that might ultimately affect bowel function, too.

**3. Healthy diet.** This study used the DASH diet as its model: Participants who scored in the top 25 percent for adherence to DASH were considered to have healthful eating habits. The diet, which was developed to help people manage high blood pressure, is also loaded with the types of fiber- and nutrient-rich foods that can help with constipation: vegetables and fruits, beans and other legumes, and whole grains, for example. (Another new study, published in *Gastroenterology* in December, found that the Mediterranean diet lowered the risk of functional constipation, while a Western diet increased the risk; the authors noted that the improvement from the Mediterranean diet was more likely due to changes in the gut microbiome than to an increase in fiber.)

**4. Never smoking.** It's clear that smoking is bad for you. But why tobacco would affect constipation risk is more complicated. Some research suggests that smoking tends to slow the digestive process, which could mean going to the bathroom less often. Interestingly, though, one large study found that even former smokers were at heightened risk of functional constipation, versus lifelong nonsmokers. (Still, stopping smoking at any stage in life is a good move for your health—and if you currently smoke, there are many other good reasons to quit.)

**5. Alcohol only in moderation.** In this study, moderate drinking was defined as averaging no more than one alcoholic drink per day. Research suggests that heavier drinking can contribute to constipation, possibly by affecting gut motility (the muscle contractions that move food along), interfering with the absorption of water in the digestive tract, or disrupting the normal balance of gut bacteria.

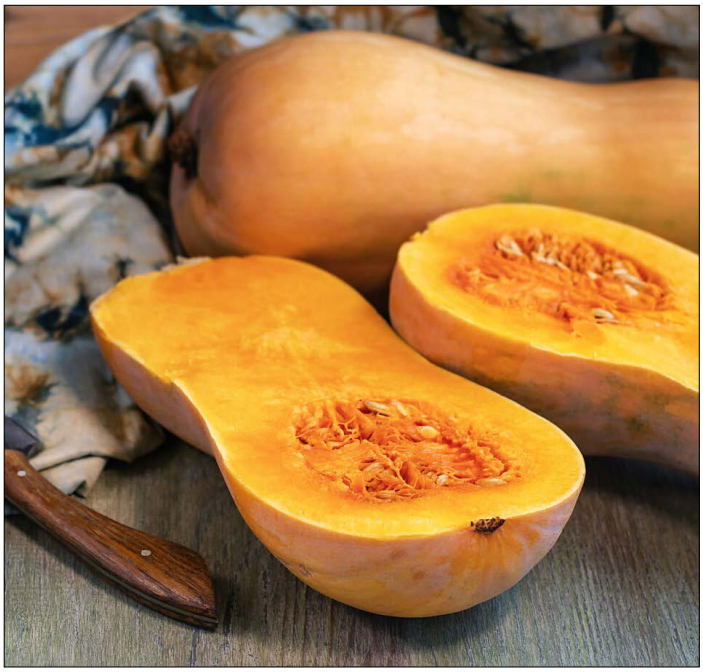
**The takeaway:** The study had a number of limitations, including relying on participants' self-reported lifestyle habits. It also defined "healthy" exercise and diet in fairly narrow ways. Most importantly, the study cannot prove that any of the five lifestyle habits prevent constipation. It can only show a correlation between those habits (especially in combination) and lower constipation risk.

At the same time, the findings align with long-standing advice on supporting overall health, which includes good digestion. Keep moving, eat your fruits and vegetables, get enough sleep, don't smoke, and if you drink, do so only in moderation.

**A final word:** True functional constipation can usually be managed with lifestyle measures like diet changes and exercise, and possibly over-the-counter laxatives or stool softeners. But constipation can sometimes be a symptom of a serious underlying condition, such as colorectal cancer. See your doctor if your symptoms last longer than three weeks despite DIY measures; if you see blood in the toilet or on toilet paper, or your stool looks black (often a sign of bleeding); if you have significant abdominal pain during bowel movements; or if you have additional symptoms, such as weight loss.

## Sautéed Winter Squash

Butternut and hubbard have the greatest amount of beta carotene of the commonly available varieties of winter squash. They also provide magnesium, potassium, vitamin C, vitamin B6, and fiber. With a touch of sweetness, this simple side dish, served warm, satisfies on a cold winter day.



- ⅓ cup golden raisins
- ½ cup hot water
- 2 teaspoons olive oil
- 1 medium red onion, cut into ½-inch chunks
- 3 cloves garlic, slivered
- 1 ½ pounds butternut or hubbard squash, peeled and cut into 1-inch chunks
- ¼ cup dry white wine
- 2 tablespoons red wine vinegar
- 1 tablespoon sugar

**1.** In a small bowl, combine the raisins and hot water, and set aside to soften.

**2.** In a large nonstick skillet, heat the oil over medium heat. Add the onion and garlic, and cook, stirring frequently, until the onion has colored, about 7 minutes.

**3.** Add the squash and cook, stirring often, until the squash begins to color, about 5 minutes.

**4.** Add the raisins and their soaking liquid, the wine, vinegar, and sugar. Bring to a simmer, cover, and cook until the vegetables are tender, about 10 minutes.

**Makes 4 servings; per serving:** 138 calories, 2.5g total fat (<0.5g saturated), 0mg cholesterol, 4g dietary fiber, 28g carbohydrate, 3g added sugar; 2g protein, 8mg sodium.

From *The Wellness Kitchen*

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**Executive Editor**
Andrea Klausner, MS, RDN

**Contributing Writers**
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