Get Healthy No Matter What Your Age

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Contents

- 4 Dr. Mehmet Oz and Dr. Michael Roizen Protection from shingles
- 5 Fitness When's the best time to exercise?
- **6 Heart**Genetic test for heart disease
- 7 Anti-Aging
 Eating to prevent
 erectile dysfunction
- 8 Ask the Doctor
 Identifying and treating
 balance disorders
- 9 Cancer Best foods to destroy cancer cells
- **10 Mental Health**Boost your brain naturally
- 11 Latest FDA Approvals
 Cancer, hep C, seizures
- **13 Breaking News**Do viruses cause autism?
- **14 Dr. Maxfield**Treatments for COPD
- 16 Breakthroughs Mini-robots deliver cancer drugs

Do You Have a Heart Attack Gene?

Unhealthy lifestyle choices aren't the only risk factors influencing coronary artery disease

By Rick Ansorge

Maybe you know someone who did all the right things to prevent coronary artery disease. He didn't smoke, ate a healthy diet, got regular exercise, and maintained an ideal body weight. He also had optimal cholesterol and blood sugar levels, and a healthy blood pressure.

Yet he dropped dead of a heart attack or stroke at a tragically young age. How could that happen?

An increasing number of experts believe the culprit is something that few people ever check: their genes.

"About 40 percent of coronary artery disease risk is actually based in the genes," says Dr. Bradley Bale, a nationally recognized cardiovascular specialist and co-author of the book "Beat the Heart Attack Gene: The Revolutionary Plan to Prevent Heart Disease, Stroke, and Diabetes."

According to Bale, more than half of Americans carry one or more gene defects that increase their risk of heart attack or stroke. Some variants increase the risk as much as smoking.

It's long been known that coronary artery disease runs in families. If one or both of your parents had an

early heart attack or stroke (before age 50 for men and before age 60 for women), it doubles or even triples your risk of suffering the same fate.

Only in recent years, however, have researchers identified the inherited gene variants that increase the risk of coronary artery disease. Thanks to the decoding of the human genome, at least 174 gene variants are strongly associated with heart attacks, strokes, and other cardiovascular conditions.

Of these, the four most powerful predictors of risk are:

- 9p21 (often called the "heart attack gene")
- Variants of the apolipoprotein E (APOE) gene
- Defects of the K1F6 gene
- Mutations of the interleukin-1 (IL-1) genes

Because of rapidly advancing technology, the cost of testing has decreased from thousands of dollars to as little as \$100 per gene. But such tests must be ordered by a doctor, and may or may not be covered by insurance.

Know Your Risks

There are many advantages to knowing your genetic status, Bale

tells Health Radar. The first is being aware of your true risk profile. In his book, Bale recounts the stories of patients who mistakenly believed they were practically bulletproof. In some cases, their Framingham Risk Score — a widely used measure of heart disease risk — predicted that their 10-year risk of a heart attack was as low as 1 percent.

But after undergoing genetic tests and other procedures to measure arterial inflammation, these patients learned that their real 10-year risk was 10, 20, 30, or even 40 times higher. One such patient — a seemingly healthy 25-year-old woman — had the plaque-laden arteries of a typical 55-year-old woman.

According to the American Heart Association (AHA), up to 70 percent of patients who undergo genetic testing may be reclassified as having a higher risk for a heart attack or stroke than standard risk factors suggest.

"As we understand more about the variants that are associated with coronary artery disease or cholesterol levels, we'll be able to build genetic prediction models that distinguish people who should be treated earlier or more aggressively," says Dr. Donna Arnett, past president of the AHA.

"The potential value [of genetic testing] cannot be overstated. But we need more time to develop the evidence base."

Knowledge is power, says Bale. If you learn that you carry one or more risky genetic variants, you can take steps to reduce your risk of heart attack or stroke, beyond lifestyle recommendations to eat a better diet, ramp up your exercise program, and lose weight if necessary.

Genetic testing has advanced to a state where it can help your doctor offer the personalized care that is promising to revolutionize 21st century medicine.

If you have a doctor who is up to date on genetic research, he or she can recommend a diet and medical regimen that's optimized to fit your genetic profile.

"Right now, the guidelines are driven by huge studies which

take the averages of populations. So people are being treated as if they're the average," explains Bale. "But everybody is unique. You can get much better results if you manage their issues based on their biological uniqueness, which is determined by their genes."

Fearsome Foursome Heart Genes

Here's what you need to know about the four most serious genetic threats to your cardiovascular health.

9p21. The 9p21 gene predicts cardiovascular events independently of established risk factors such as obesity, diabetes, and high blood pressure. It's also as dangerous to your health as cigarette smoking. About 25 percent of Caucasians and Asians carry two copies of the gene (one from each parent), which means they are homozygous for 9p21. Compared to noncarriers of 9p21, those with two copies have:

 102 percent increased risk for developing early heart disease or having a heart attack

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 74 percent increased risk for developing an abdominal aortic aneurysm, which is fatal in up to 90 percent of cases

Diabetics who have poorly controlled blood sugar and test positive for 9p21 have a far greater risk of coronary artery disease than those who are noncarriers.

APOE. The APOE gene has three variants — E2, E3, and E4 — that affect how you metabolize nutrients. If you're one of the 25 percent of Americans who has an APOE 3/4 or 4/4 genotype, you have a high risk of developing coronary artery disease, and should limit dietary fat to 20 percent or less of your daily calories. You also should avoid alcohol because it increases levels of "bad" LDL cholesterol while decreasing levels of "good" HDL cholesterol.

But if you're one of the 64 percent of Americans with an APOE 2/4 or 3/3 genotype (intermediate risk), or 11 percent with an APOE 2/2 or 2/3 genotype (low risk), you may benefit from a 25 percent fat Mediterranean diet, or even a 35 percent fat diet from healthy sources such as oily fish and olive oil. You also can safely consume a moderate amount of alcohol because it decreases LDL cholesterol while increasing HDL cholesterol.

K1F6. The K1F6 gene makes a protein that transports nutrients within cells. If you're one of the 40 percent of Americans who carries a particular variant of this gene, you have a significantly increased risk of heart attack, stroke, and death compared to the 60 percent who don't carry the variant.

Even more alarmingly, you may still have an increased risk if

Spreading the Word About Genetic Testing

Practically every day brings fresh evidence confirming the connection between genes and cardiovascular disease. Yet the majority of healthcare providers are unaware of the benefits of genetic testing, lending credence to the dictum that the gap between bench science and bedside practice is up to 30 years.

"We think that's ridiculous," says Bale. "If good science is published today, I'm going to use it tomorrow."

To help spread the word about genetic testing, Bale and his colleague Amy Doneen have presented advanced continuing medical education (CME) courses to more than 600 healthcare providers nationwide. They also plan to launch a nationwide study, the results of which could establish genetic testing as a superior alternative to standard assessments such as the Framingham Risk Score.

"Genetic testing will direct the future of healthcare, and it's rapidly evolving," says Bale. "What's exciting is that a lot of it is available now."

For more information about the Bale/Doneen Method, visit www.baledoneen.com.

you take atorvastatin (Lipitor) or pravastatin (Pravastatin). That's because the "bad" variant of K1F6 is associated with a 40 percent chance that these drugs won't provide any real cardiovascular protection even if they reduce your cholesterol to normal levels. If you have this variant, you may need a statin such as lovastatin (Mevacor).

IL-1. The IL-1 genotype regulates the immune system's inflammatory response. If you carry the IL-1A or IL-1B gene, you react to any assault on your body with increased inflammation, which is the most important driver of coronary artery disease.

Of the two, IL-1B is worse because it places you at the same risk of having a heart attack as a lifetime cigarette smoker. IL-1B also increases your risk of periodontal disease, a risk factor for coronary artery disease.

If you test positive for IL-1, it's a good idea to get screened for the several types of oral bacteria

that can promote hardening of the arteries. If these bugs are found in your mouth, you'll probably need to brush and floss twice a day, use an antibacterial mouthwash, and get more frequent dental exams.

Attention Diabetics

If you have Type 2 diabetes, you should consider being tested for variants of the haptoglobin (Hp) gene, which also increase your risk of cardiovascular disease as much as smoking. If you have the Hp 2/2 genotype, you have a fivefold higher risk of heart attack and stroke. But recent research suggests you can mitigate that risk by taking 400 IU per day of vitamin E, which improves the function of HDL cholesterol.

On the other hand, if you're a Type 2 diabetic with the Hp 1/2 genotype, vitamin E will impair HDL function. So this is one of those cases where uninformed self-treatment with supplements can be hazardous, says Bale. □



Making **YOU** Live Healthier

with Mehmet Oz, M.D. & Michael Roizen, M.D.

5 Ways to Protect Against Shingles

A shingles outbreak can be very painful, and as a recent British study reveals, it could also be downright deadly. Shingles doubles the risk for a stroke, with the odds remaining 50 percent higher than normal for three months. It also nearly doubles the risk for a heart attack for a week after those itchy blisters appear.

It turns out that a shingles attack raises of inflammation throughout the body. Inside arteries, this can trigger the development of clots that cut off the flow of blood to the heart or brain.

What's more, the pain and stress of shingles can push blood pressure higher, and the disease may even damage blood vessels in the brain in ways that lead to a bulge or tear.

The bad news is that if you've ever had chickenpox, shingles could be in your future. The culprit, the varicella-zoster virus, hides in nerves at the base of your spine only to emerge decades later as a tell-tale rash that usually shows up on the sides of the abdomen, the shoulders, or the side of the head.

Up to 1 in 3 adults — half over age 60 — will suffer an outbreak. But until recently, the biggest worry has been the excruciating nerve pain that develops for about 40 percent of those who get shingles.

Here are five things you can do to boost your protection against shingles:

1. Know when to get the shingles vaccine. Covered by most health insurance for people age 60 and over, the vaccine reduces the risk of shingles by 48 percent. And if you do go through an outbreak, vaccination cuts the odds for post-rash nerve pain, called post-herpetic neuralgia, by 59 percent. Protection against shingles jumps to 70 percent if you're vaccinated between ages 50 and 59. You should discuss vaccinating with your doctor if you've already had an early shingles outbreak. And know that the vaccine's effectiveness drops after about five years. In the future,

a booster shot may be what's right for you to rev up your immune protection.

- **2. Never had chickenpox?** Get the chickenpox vaccine. If you've never had the childhood disease, and never been vaccinated against it, tell your doctor. At any age, the chickenpox vaccine protects against infection with the varicella-zoster virus.
- **3. Eat for immunity.** Shingles is more likely to flare up when your immune system's not at its strongest. In one study from the U.K.'s London School of Hygiene & Tropical Medicine (the same folks who found the link with stroke and heart attacks), those who ate five servings of vegetables a day were 70 percent less likely to have an outbreak than those who ate just one or two. And three servings of fruit a day cut the risk by 50 percent.
- **4. Don't just pop a multivitamin.** In the study, no single nutrient seemed to stop a shingles outbreak. It takes a wide range of vitamins, minerals, and immune-nourishing phytonutrients to ward off the virus, especially in people over age 60. A healthy diet is important for plenty of reasons, of course, but it can't replace the protection of the shingles vaccine.
- 5. Learn to relax. Tai chi is a gentle exercise that involves a series of flowing movements that strengthen the body while relaxing the mind and nervous system. In one University of California, Los Angeles study of 112 adults ages 59 to 82, this form of exercise dramatically boosted immunity against shingles. It's not a replacement for the vaccine either, but could be a great add-on. Older adults who had received the singles vaccine and did tai chi three times a week for four months had 40 percent higher levels of shingles antibodies than those who only got the vaccine.

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When's the Best Time to Exercise?

By Gary Greenberg

Some fitness buffs like to hit the gym first thing in the morning. Others swear by evening workouts. Still others believe a midday exercise break can ease job-related stress throughout the workweek.

But what does sports science tell us about whether exercising at certain times of the day is better than others?

"The best time of day to exercise is the best time that works for you within the structure of your life," says Russell Pate, a professor of exercise science at the University of South Carolina's Arnold School of Public Health.

Adds exercise physiologist Felicia Stoler, "Exercise is beneficial regardless of the time of day you do it."

That said, there are differences between working out in the morning or later in the day. The best time for you may depend on your sleeping patterns, the type of exercise you do, your goals, your work and family life, and your availability.

For example, if your goal is weight loss, you may be better off exercising first thing in the morning. Studies show that breaking a sweat on an empty stomach induces the body to burn more fat not only during exercise but also throughout the day.

But if you're trying to build muscle mass, evening workouts are superior, according to a 2009 study published in the "Journal of Strength and Conditioning Research." Here are some pros and cons of each workout time frame.

Morning Workouts

Perhaps the best thing about early morning exercise is that you're simply more likely to do it — before other demands of the day get in the way.

"Research suggests that in terms of performing a consistent exercise habit, individuals who exercise in the morning tend to do better," notes Cedric Bryant, chief science officer with the American Council on Exercise in San Diego. "The thinking is that they get their exercise in before other time pressures interfere."

Another advantage is that you're likely to sleep better. A 2013 study at Appalachian State University showed that morning exercisers slept longer and had a whopping 75 percent more reparative deep sleep at night than those who worked out later in the day.

And if you go to a gym, early morning hours tend to be less crowded, so you won't have to wait while others use the cardio machines or weights.

One disadvantage is that early risers may be more prone to injury without a proper warmup. Later in the day, muscles and joints are more limber from the increased blood flow of daily movement.

And let's face it, some of us are simply just not morning people.

"While there may be some physiological reasons to exercise in the morning or the afternoon or the evening, the really important thing is to get moving, whenever you can," Pate tells Health Radar.

Afternoon and Evening Exercise

Waiting until later in the day to work out runs the risk of something coming up — a project at work, a family emergency, a traffic jam — to disrupt your schedule. But if you can find the time regularly, there are advantages to workouts later in the day.

During a typical workday, energy levels tend to sag in midafternoon, which makes it a great time for a bracing workout.

In addition, natural energy levels peak right around the time most people get off of work. And unlike early morning exercising, your body has a store of glycogen from eating to burn as fuel.

Experts say those factors add up to workouts that better build muscle strength and size as well as increasing endurance. Afternoon and evening workouts also help you release built-up stress.

Another advantage to evening exercise: It's easier to find a partner after work than during the day or in the morning. And if you like spinning, Pilates, Zumba, or other classes, there are usually a wider variety later in the day.

So, take your choice. Or split up your workouts. The American Heart Association and Centers for Disease Control and Prevention (CDC) both recommend a minimum of 150 minutes of moderate-intensity exercise every week. You could take three brisk 10-minute walks a day to reach that standard.

New Blood Test for Heart Disease-Related Genes

By Nick Tate

Researchers this year developed what many cardiovascular experts are hailing as a breakthrough in the diagnosis of inherited heart conditions — a simple blood test that detects all known genes associated with cardiovascular disorders.

The so-called TruSight Cardio Sequencing Kit, devised by researchers from the U.K. and Singapore, can identify all 174 genes linked to 17 inherited heart conditions.

The advance, reported in the "Journal of Cardiovascular Translational Research," will allow doctors to quickly and accurately diagnose such inherited conditions as structural heart disease, aortic valve disease, long and short QT syndrome, Noonan syndrome, familial atrial fibrillation, and most cardiomyopathies.

Peter Weissberg — medical director of the U.K.'s British Heart Foundation, which helped fund the group's research — called the test a milestone in heart care.

"As research advances and technology develops, we are identifying more genetic mutations that cause these conditions. In this rapidly evolving field the aim is to achieve ever greater diagnostic accuracy while reducing cost," he says.

"This research means that a single test may be able to identify the causative gene mutation in someone with an inherited heart condition, allowing relatives to be tested for the same gene."

Inherited heart conditions caused by gene mutations are common causes of cardiovascular disease. In the U.S., about 100,000 people die from sudden cardiac arrest each year as a result of inherited heart conditions.

Genetic testing has enabled early diagnosis of inherited heart conditions, and allowed patients to take steps to lower their risk of sudden death from such disorders. But existing genetic tests can only flag a few genes, which means they often overlook mutations that could help diagnose an inherited heart condition.

By contrast, the new TruSight test — developed by Dr. James Ware, of the National Heart and Lung Institute at the MRC Clinical Sciences Centre at Imperial College London, and colleagues — analyzes the DNA in patients' blood samples to identify with 100 percent accuracy all genes tied to inherited heart conditions.

"Without a genetic test, we often have to keep whole families under surveillance for many years, because some of these conditions may not develop until later in life. This is costly for both the families and the health system," notes Ware. "By contrast, when a genetic test reveals the precise abnormality causing the condition in one member of the family, it's simple to test other family members.

"Those who do not carry the faulty gene copy can be reassured and spared countless hospital visits. This new comprehensive test is increasing the number of families who benefit from genetic testing."

"FIT AFTER 50" FACT

In new research that gives a whole new meaning to the term "50s sock hop," British sports scientists have found a daily routine of hopping for two minutes can help reinforce hip bones in the over-50 set, and help avoid risks of fractures in case of falls. Osteoporosis leads to a reduction in bone mass that predisposes older people to fractures, particularly in the hips. But researchers at the National Centre for Sport and Exercise Medicine of Loughborough University found men who were asked to hop for two minutes every day increased their hip bone density by 7 percent in a year's time. "We know exercise can improve bone strength and so we wanted to test a form of exercise that is both easy and quick for people to achieve in their homes," said lead researcher Dr. Sarah Allison.

Eating to Prevent Erectile Dysfunction

By Vera Tweed

At least 1 in 3 middle-age men experience erectile dysfunction at some time. But Viagra isn't the only option. Specific berries and other fruits and vegetables can prevent the problem, and you don't have to eat them in enormous amounts.

"The benefits for reducing risk of ED can be had by including a few portions of fruits people already eat," says Aedin Cassidy, nutrition professor at the University of East Anglia in the U.K. and lead researcher of the first study of foods that fight ED.

The study, which was a collaboration between Harvard University and British scientists, analyzed the diets and sexual health of more than 50,000 American men between 1986 and 2008. The findings were published in "The American Journal of Clinical Nutrition."

"Total fruit was associated with a reduction in risk, but citrus fruits and berries — including blackberries, strawberries, black currants, blueberries, grapes, and cherries — were associated with the greatest reduction," Cassidy tells Health Radar. These are all rich sources of flavonoids.

Underlying Mechanism

Viagra increases blood flow to the penis. Flavonoids have a similar effect, although they work in a more subtle way. "Exactly how flavonoids cause these benefits is not fully known, but we do know from clinical trials that some flavonoids improve blood pressure, make our arteries more flexible, and help open blood vessels, resulting in improved blood flow," says Cassidy. They also give fruits and vegetables some of their vibrant colors.

In nature, there are six types of flavonoids. Any one fruit or vegetable contains different combinations and amounts of these substances.

The study analyzed foods with all of the different types of flavonoids and found that two in particular are especially beneficial for erectile function.

- Anthocyanins. Found in red, blue, and purple fruits and vegetables, such as blackberries, strawberries, black currants, blueberries, red and purple grapes, cherries, cranberries, eggplant, radishes, and red wine.
- Flavanones. Found in citrus fruits, such as oranges and grapefruit.

Other studies have found better sexual and overall health among men who follow a Mediterranean diet, one that is rich in plant foods, including plenty of fresh fruits and vegetables, and whole grains, and fat from olive oil rather than other types of vegetable oils or dairy fats.

Such a diet includes small amounts of fish or meat, but is dominated by fresh foods from plants. □

Best Fruits to Eat

The Harvard-U.K. study found that the richest sources of ED-fighting nutrients are blueberries and strawberries. Other top sources are citrus fruits and blackberries, black currants, grapes, and cherries.

Eating four or more portions of these each week reduced risk for ED by 19 percent. Other fruits, such as apples and pears, as well as red wine, were also beneficial.

One portion consists of:

- 1 cup of berries
- 1 medium orange or grapefruit
- 1 medium apple or pear
- A five-ounce glass of red wine

Best ways to eat:

- 1. Have a bowl of berries for dessert or as a snack.
- 2. Add berries to cereal or a smoothie at breakfast.
- 3. Eat an orange as a snack.
- Instead of potatoes for a side dish, have grilled eggplant seasoned with olive oil and herbs.

Shopping tip: Berries can be pricey. When they are in season, shop at farmers markets or buy directly from farms. At other times of year, buy frozen berries. Spread them out on a flat surface so that they aren't touching each other, and allow to thaw at room temperature, or on a low setting in the microwave for a few minutes.

Identifying and Treating Balance Disorders

By Lynn Allison

Q: What is a balance disorder?

A: A balance disorder is a disturbance that makes you feel unsteady, dizzy, woozy, and imbalanced. It affects at least 35 percent of the general population at some point in their lives, making it a common condition that can interfere with daily activities and be quite frightening. It affects both genders equally, and the incidence increases with aging.

Balance disorders raise your risk of falling and injury, and undermine your sense of self-control. For some, the condition is mild and transient, but it can be chronic, severe, and progressive.

Q: What are some symptoms?

A: When your balance is impaired, you may find it hard to maintain orientation. For example, some people experience a spinning sensation and find it difficult to walk without staggering. Others may feel dizzy or nauseous, have blurred vision, or feel as if they are falling. Still others experience fatigue, depression, and difficulties concentrating.

Q: What are the causes of a balance disorder?

A: There may be disturbances in the vestibular or balance system that causes a disruption in the signal from the labyrinth — a floating organ in the inner ear — to the brain. This is called a peripheral vestibular disorder. Infections, head injuries, certain medications, and aging may affect this delicate balance system. People with brain disorders or severe arthritis can also experience balance difficulties. Vascular or blood flow problems are other causative factors.

Q: What are some types of balance disorders?

A: Benign paroxysmal positional vertigo, or BPPV, is a brief, intense sensation of vertigo that occurs when you suddenly change the position of your head. Many people experience BPPV when getting out of bed in the morning or looking for an object high upon a shelf. Labyrinthitis is an

infection or inflammation of the inner ear that can cause dizziness. Meniere's disease is a less common inner ear condition that can cause severe bursts of dizziness and vertigo accompanied by a plugged inner ear sensation. Mal de Debarquement syndrome can leave you feeling shaky and rocky, even when you disembark from a ship, plane, train, or treadmill. Anxiety and panic disorders are believed to be the most common causes of balance disorders because stressors interfere with the chemical makeup of the body.

Q: How are balance disorders treated?

A: Treatment depends on the patient and the nature of the balance disorder. An otologist or neurologist will take a detailed medical history and conduct a full physical exam and may order further tests such as MRI, CT scanning, bloodwork, as well as special tests such as an ENG, or electronystagmogram, that tests the vestibular system.

Once the cause has been determined, the treatment may involve correcting the underlying factor if it's an infection or other medical cause. Options may also include balance retraining exercises that offer head and movement postures specific to the patient.

Lifestyle changes such as reducing alcohol and caffeine, and avoiding nicotine are often helpful. Mindfulness training is useful as well, as are physical exercises such as yoga and Pilates. Occasionally, the use of medication or surgical intervention is required. The key to dealing with balance disorders is to make your healthcare providers aware of your symptoms early on and forge a thorough investigation of your condition in order to obtain promising solutions. \square

Behrouz Farsi is a physician assistant with a Master of Medical Science degree from the Yale School of Medicine. He works as a balance and dizziness specialist at Ear Associates of San Jose, Calif.



Best Foods to Destroy Cancer Cells

By Lynn Allison

It's no secret that certain foods contain powerful properties that can fight diseases. But research now shows that specific foods may prevent and even control the growth of cancer in the body.

That's good news, because cancer is growing as American life spans increase — outstripping heart disease in many states as the No. 1 killer.

"These foods have antiinflammatory properties," Dr. Dmitri Alden, a renowned New York City-based cancer surgeon tells Health Radar. "Inflammation causes cancer cells to grow and spread. Eating these foods can prevent that process."

Here are 10 of the foods that destroy cancer cells.

Grapes and red wine.

Resveratrol, the powerful ingredient found in grapes and wine, is an extremely powerful antioxidant. It inhibits production of cyclooxygenase-2 (COX-2), which is related to cancers and other types of inflammation. COX-2 inhibitors such as resveratrol have been shown to decrease cancer and precancerous growths.

Sea vegetables. These treats include nori, arame, kombu, and wakame. They contain a variety of antioxidant and anti-inflammatory compounds that prevent and reverse the damage done by other factors that cause inflammation and oxidative stress — contributors to many cancers.

Turmeric. Curcumin is the miracle ingredient in the Asian spice turmeric, which is found in most Indian dishes. Curcumin is a potent antioxidant and anti-inflammatory that reduces the spread of tumors, and may destroy or prevent their growth in the first place. The spice inhibits the formation of new blood vessels in cancer cells — a crucial step in delaying development.

Green tea. Plant flavonoids known as catechins give green tea cancer-destroying abilities. One of these catechins — epigallocatechin gallate (EGCG) — is the most powerful anti-inflammatory agent ever discovered, and also disrupts the development of cancer cells.

Cruciferous vegetables. We all know that veggies are healthy, but cruciferous vegetables like broccoli, arugula, cabbage, cauliflower, and kale contain chemicals called glucosinolates that create compounds that fight cancer. They eliminate carcinogens before DNA can be damaged.

Garlic. According to researcher Carmia Borek, people have used garlic as a remedy for cancer for thousands of years. The National Cancer Institute says that garlic may reduce the risk of stomach, colon, esophageal, and breast cancers. The Iowa Women's Study revealed that women who consumed the most garlic had a 50 percent lower risk of cancer of the colon. Borek recommends taking Aged Garlic Extract, or AGE, for the best cancer fighting benefits.

Hemp oil. Studies show that hemp oil speeds healing throughout the body and also raises levels of melatonin, which has been shown to reduce or even completely stop growth of certain types of cancers. Hemp oil can be consumed through gelcaps or even directly out of the bottle.

Mushrooms. These tasty fungi have antiviral and anticancer effects that have been proven through numerous in vitro and animal research studies. Mushrooms have been used for more than 5,000 years as traditional medicines due to their powerful effects on a number of diseases and ailments — including cancer.

Ginger. Certain compounds found in ginger make it a powerful anti-inflammatory and antioxidant to reduce oxidative stress. Studies have shown that ginger can reduce cancerous tumors by as much as 56 percent. It has also been shown to be a more effective remedy than traditional medical treatments like chemotherapy in the case of certain types of cancer.

Tomatoes. This staple of Italian food contains lycopene, a compound known for its ability to destroy cancer cells. Scientific studies show that lycopene in tomatoes and sauces helps prevent prostate, lung, and stomach cancers. It is also a potent antioxidant that reduces your risk of heart disease by lowering "bad" LDL cholesterol and blood pressure. □

8 Ways to Boost Your Brainpower Without Drugs

By Gary Greenberg

We spend a lot of time, money, and effort working out to keep our bodies in shape. But far too often we overlook the most important part of our bodies — the brain.

"The same way everyone with a car needs to learn the basics of driving and maintenance, everyone with a brain needs to learn the basics of how brains and minds work, and how to maintain, if not enhance, them," says Alvaro Fernandez, author of "The SharpBrains Guide to Brain Fitness: How to Optimize Brain Health and Performance at Any Age."

You can start with regular exercise and a good diet. That means shunning sugars and carbs, foods that can cause insulin resistance, which is a marker of diabetes. In fact, many researchers now call Alzheimer's disease "Type 3 diabetes" because chronically high blood sugar increases the odds of dementia.

Because the brain is 60 percent fat, it's also wise to include in your diet healthy fats such as olive oil and omega-3 fatty acids from fish and fish oil.

Here are eight other steps experts recommend to keep your brain healthy:

1. Take your vitamins. Many Americans are deficient in vitamins D and B12, which can lead to all sorts of cognitive trouble. "Both of these vitamins

have profound effects on brain function and mood," says integrative psychiatrist Dr. James Greenblatt. "Nutritional deficiencies have been found to exacerbate symptoms of depression and anxiety, and even contribute to memory loss and cognitive decline."

- 2. Get in tune. Music can soothe the wild beast and boost brainpower. Called the "Mozart Effect," listening to classical tunes appears to improve cognitive function. "Musical activity involves nearly every region of the brain and nearly every neural subsystem," notes psychologist Daniel J. Levitin in his book "This Is Your Brain On Music."
- 3. Embrace Mother Nature. The great outdoors has a rejuvenating cerebral effect, according to a Stanford University study that used brain scans to compare people who walked in urban areas versus natural surroundings. "Nature experience, even of a short duration, can decrease a pattern of thinking that is associated with the onset of mental illnesses like depression," says the study's lead author Gregory Bratman.
- **4. Learn something new.** Seniors who learn new things, such as how to quilt or play a musical instrument, can improve their cognitive abilities, concludes a University of Texas at Dallas study. "It is important to get out and do something that is unfamiliar and mentally challenging," notes lead researcher Denise Park.

- 5. Break the routine. Run your normal jogging route backward, take a different way home from work, try new restaurants in your area. Your brain gets lazy when you go to the same places and do the same things all the time, notes clinical neuropsychologist Paul Nussbaum, author of "Save Your Brain." Give your brain a workout by shaking things up.
- 6. Make new friends. Social connections are good for brain connections. "People with rich social networks are mentally sharper and have less risk of dementia. If you take up a new activity and make friends doing it, you are doubling the brain benefits," says neurologist Dr. Marie Pasinski, author of the book "Beautiful Brain, Beautiful You."
- 7. Chill out. Stress is bad news for your gray matter because it releases the hormone cortisol, which causes brain atrophy. "You can improve your brain health by practicing stress management on a daily basis with things like deep breathing, meditation, yoga, or journaling," says chiropractor Carri Drzyzga.
- **8. Sleep well.** Neurologist Dr. Romie Mushtaq says sleep is the key to mental health: "Sleep is sacred. When we deprive ourselves of sleep, we deprive our minds and bodies of critical rest and healing time. The end result of sleep deprivation is poor focus, declining memory and cognition, depression, imbalanced hormones, and weight gain."

Latest FDA Approvals: Cancer, Hep C, Epileptic Seizures, Hemophilia B

Compiled exclusively by Health Radar, here are the most significant new drugs and medical devices approved by the U.S. Food and Drug Administration.

Halaven Approved for Soft Tissue Cancer

Halaven (eribulin mesylate) has been approved by the U.S. Food and Drug Administration as the first drug to improve survival in people with advanced liposarcoma, a type of soft tissue cancer. The drug is for people who have received prior chemotherapy that contained anthracycline. Liposarcoma affects fat in the head, neck, arms, legs, trunk, or abdomen.

Halaven was evaluated in studies involving more than 140 people with liposarcoma that had spread or couldn't be removed surgically. Average rate survival among people who took Halaven was 15.6 months, compared to 8.4 months for those who took dacarbazine.

The most common side effects of Halaven included fatigue, nausea, hair loss, constipation, nerve damage, abdominal pain, and fever. More serious side effects included deadly infection, nerve damage, harm to a pregnant woman's fetus, and heartbeat abnormalities.

Zepatier Approved for Chronic Hep C

Hepatitis C causes liver inflammation, which can lead to liver failure. Most infected people have no symptoms until the onset of liver damage. Some 3 million Americans are believed to be infected with a form of the virus.

Zepatier, sometimes paired with another antiviral drug, ribavirin, was evaluated in 12-to-16-week clinical studies involving nearly 1,400 people. At the end of the studies, between 94 percent and 100 percent of infected patients had no detected virus.

The most common side effects included fatigue, headache, and nausea. The drug could cause a spike in liver enzymes. As a result, bloodwork should be obtained before starting therapy.

Briviact Approved for Epileptic Seizures

Partial onset seizures are those that originate in a limited area of the brain. Epilepsy, a common

disorder believed to affect more than 5 million people in the U.S., is characterized by recurring seizures. Common causes of epilepsy include stroke, infection, tumors, brain injury, and abnormal brain development.

Briviact, taken with other medications, was evaluated in clinical studies involving more than 1,500 people. Common side effects included drowsiness, dizziness, and nausea. As with other anti-epilepsy medications, Briviact may carry more serious risks including suicidal thoughts, feelings of agitation, depression, aggression, and panic attacks.

Rarely, users may develop allergic-like reactions that include symptoms such as swelling of the lips, eyelids or tongue, and difficulty breathing.

Idelvion Approved for Hemophilia B

Idelvion has been approved to replace a deficient blood-clotting factor among people with hemophilia B. The product is created using recombinant DNA technology that links the blood-clotting protein known as factor IX to another blood protein, albumin. This technology allows the protein to last longer when given intravenously.

People with the rare genetic disorder hemophilia B are prone to recurring episodes of serious bleeding, primarily into the joints. The product is meant to control bleeding and to reduce frequency of bleeding. It can be given to prevent bleeding after surgery.

Idelvion was evaluated in clinical studies involving 90 adults and children, ages 1 year to 61. No safety concerns were identified during the studies. □

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MOLES ON ARM INDICATE SKIN CANCER ODDS

The number of moles a person has on his or her right arm is a good indicator of the risk of deadly melanoma skin cancer, say scientists from King's College London. The right arm was found to be the most predictive of melanoma risk, especially the number in the area above the right elbow. Women with more than 11 moles on their right arms were likely to have over 100 moles in total, and were at significantly higher risk of melanoma. The new technique would make it easier to quickly identify patients at high risk.



ASPIRIN LOWERS PROSTATE CANCER DEATHS

Taking aspirin has been shown to boost heart health, but a new study found that it also cuts the risk of dying from prostate cancer. Researchers from Harvard Medical School found that taking three or more aspirin tablets a week reduced the risk of dying by 39 percent among men who had been diagnosed with the disease. The study, which spanned more than three decades, also found the risk of getting lethal prostate cancer

dropped by 24 percent in healthy men who took aspirin. Researchers speculate that aspirin's ability to repress platelets in the blood—the same reason aspirin can cause bleeding—might allow the immune system to recognize cancer more readily and destroy it.

PROCESSED FOODS SPUR AUTOIMMUNE DISEASE

Processed foods weaken the body's defenses and make it more likely to develop autoimmune diseases such as Type 1 diabetes and Crohn's disease, says a study published in "Autoimmune Reviews." Scientists identified seven additives including salt, sugar, and emulsifiers that weaken the ability of intestinal mucosa to protect the body from bacteria, allergens, and toxins — a condition known as leaky gut, which increases the risk of autoimmune diseases that make the body's immune system attack healthy cells. The Israeli and German researchers call on governments to increase supervision of the food additive market, and for people with autoimmune diseases to avoid processed foods.

ANTIDEPRESSANTS INCREASE BIPOLAR DISORDER

Common antidepressants increase the risk for bipolar disorder by up to 35 percent, especially in patients who have either a family history or other factors that predispose them to the condition, according to scientists at King's College London. A study that followed more than 21,000 adults being treated for major depression found that the strongest link was for those prescribed serotonin reuptake inhibitors (SSRIs), which include

"FIT AFTER 50" FACT

Got arthritis? Get moving. That's the upshot of new research that shows exercise helps manage the pain caused by hip osteoarthritis. Americans develop 3 million new cases each year — most often among those who are older, obese, have previous joint injuries, weak muscles or genetic risk factors. The new research, led by Kay M. Crossley of La Trobe University in Bundoora, Australia, is based on a review of 19 studies of waterbased or land-based exercise therapy or manual therapy for osteoarthritis. Most found at least short-term benefits from exercise, even though doctors typically do not recommend exercise therapy, relying instead on pain-relieving drugs for osteoarthritis.

citalopram (Celexa), escitalopram (Lexapro), fluoxetine (Prozac), and sertraline (Zoloft), and those prescribed venlafaxine (Effexor). Venlafaxine is in the serotonin-norepinephrine reuptake inhibitor (SNRI) class of antidepressant drugs, but is no longer available in the United States.

DEMENTIA DRUG REDUCES PARKINSON'S FALLS

Falls are a common problem for people with Parkinson's disease — about 70 percent fall at least once a year. But a drug commonly prescribed to treat dementia may keep them on their feet. A study published in "The Lancet

Neurology" found that Parkinson's patients who were given the drug rivastigmine (Exelon) were 45 percent less likely to fall compared to those who took a placebo. "This trial shows that there may be drugs already available, being used for other purposes, that can help treat Parkinson's," said Dr. Arthur Roach, director of research at Parkinson's UK, which funded the study.

HAY FEVER MEDS EASE IBS SYMPTOMS

Irritable bowel syndrome (IBS) is difficult to treat, and there are no current medications that can ease the abdominal pain patients endure due to the bowels' hypersensitivity. Until now, scientists didn't know what caused the increased perception of pain, but Belgian researchers have found that histamine released in the gut impacts a pain receptor called TRPV1. They also found that a substance called ebastine, which is found in hay fever medications, blocks the receptor and eases pain.

FLAVONOIDS PREVENT WEIGHT GAIN

Foods high in flavonoids, like berries and apples, can help prevent weight gain. A study published in "The British Medical Journal" found that people whose diets were highest in three particular types of flavonoids — anthocyanins, flavonoid polymers, and flavonols — gained less weight over a 25-year period. Anthocyanins give fruits their red, purple, and blue hues and are found in large amounts in berries. Flavonoid polymers are found in tea and apples. Flavonols are found in oranges, tea, and onions. Researchers believe that

their results can help people choose fruits and vegetables that will help manage their weight.

DO VIRUSES CAUSE AUTISM?

Scientists have found a link between viral infections during pregnancy and the development of autism. T-cells, or T-lymphocytes, are immune cells that are activated to fight invading viruses. A subcategory of T-cells called Th17 cells produces interleukin 17 (IL-17), a protein that increases the body's response to infections. Research conducted at the University of Massachusetts Medical School discovered that activating IL-17A in pregnant mice alters brain structures in the developing fetus and causes symptoms in baby mice similar to those in humans diagnosed with autism spectrum disorder (ASD). When scientists blocked the cells that produce the chemical, normal brain structure was restored in the baby mice.



WALNUTS LOWER CHOLESTEROL, AID WEIGHT LOSS

Eating a handful of walnuts daily can lower cholesterol levels and help with weight loss, says a study published in the "Journal of the American Heart Association." Overweight and obese women

ages 22 to 72 were assigned one of three diets: a lower fat and higher carbohydrate diet, a lower carbohydrate and higher-fat diet, or a walnut-rich, higher-fat and lowercarbohydrate diet. Those prescribed a diet rich in walnuts ate 1.5 ounces each day. Although weight loss was comparable in all three groups, those in the walnut-enriched group exhibited the most improvement in cholesterol levels, especially in those who were insulin-resistant. In addition to a significant decrease in LDL cholesterol, the walnut group had a greater increase in HDL (good) cholesterol in comparison to the other diet groups. □

"FIT AFTER 50" FACT

Can't remember the last time you went to the gym or went for a jog? There may be a scientific explanation: New research shows exercise helps protect older adults' brains from memory loss and mental declines. In fact, the University of Maryland research found physical fitness reverses brain shrinkage tied to Alzheimer's disease. The study involved 34 inactive people, ages 61 to 88, who engaged in a 12-week exercise regimen. Over time, the participants experienced improvements in heart/lung health function, but they also had an increase in the thickness of a region of the brain that typically shrinks with Alzheimer's. The study was published in the "Journal of the International Neuropsychological Society."

Oxygen and Stem Cells for COPD

By William S. Maxfield, M.D.

Recent years have seen increasing acknowledgement of the value of regenerative medicine, which is the use of stem cells to treat different types of disease. Of particular interest has been the use of stem cells to treat chronic obstructive pulmonary disease, or COPD.

COPD is a progressive disease that gradually makes it difficult for the sufferer to breathe. Cigarette smoking is the leading cause, but long-term exposure to lung irritants may also contribute to the disease.

Lung disease is the third leading cause of death in the United States. Traditional treatment methods have been ineffective for the last 30 years.

I have used hyperbaric oxygen therapy (HBOT) to treat COPD. One patient I saw had previously visited a major medical center in California and was given only a few months to live. She was beginning to lose cognitive function due to oxygen deficiency.

When we started her on HBOT, her symptoms turned around, and she enjoyed five excellent years before dying of other problems — not COPD.

We now know that HBOT can significantly increase the availability of stem cells in a patient's body by a factor of about 8. Therefore, the hyperbaric oxygen is doing exactly the same thing as stem cell treatment for COPD and other lung conditions.

According to the Lung Institute, 84 percent of patients with COPD have benefited from stem cell treatment, which was recognized with the passage of the Stem Cell Therapeutic and Research Reauthorization Act in December 2015. That law

Dr. William S. Maxfield, M.D., is a board-certified physician in hyperbaric medicine, radiology, and nuclear medicine. He is one of the nation's foremost experts in hyperbaric medicine. He has served on the faculties of the Johns Hopkins School of Medicine, Tulane University School of Medicine, and LSU Medical School. He also has served as the chief of the Radioisotope Laboratory at the U.S. Naval Hospital in Bethesda, Md. He currently is in private practice in the Tampa Bay, Fla., area.

provides funding for the stem cell industry for the next five years.

In addition, the Catholic Church has signaled its appreciation of regenerative medicine by scheduling The Third International Conference on the Progress of Regenerative Medicine and Its Cultural Impact to be held at the Vatican April 28-30, 2016.

With the increasing interest in stem cell treatment and recognition that hyperbaric oxygen promotes the availability of stem cells in the body, I believe that the use of stem cell therapy and HBOT will be expanded to even more chronic diseases than they have to date.

When we consider the possibility of adding stem cell therapy with regenerative medicine to hyperbaric oxygen therapy, there is a good chance that we will see spectacular improvements with the combination.

Best Bet Against Zika?

The news media is buzzing about the Zika virus, which is spread by mosquitos and has become an epidemic in some of the South and Central American countries. When the virus infects a patient during early pregnancy, it can produce microencephalopathy, a neurodevelopmental disorder that results in an abnormally small head.

Zika has been most frequently reported in Brazil, but we are beginning to see a few cases here in the United States. At present, there is no treatment for the virus.

With ultrasound technology, it should be possible to check pregnant women for the presence of microencephalopathy in utero. But even without confirmation of Zika, the use of HBOT during the last trimester of the pregnancy might be of value.

HBOT is used extensively in Russia for women who have had a miscarriage; they are put on the therapy for their third trimester.

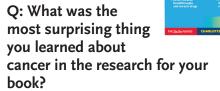
In the U.S., horses that have had a miscarriage and do not have successful pregnancies are put on HBOT for the third trimester. With the help of the therapy, they are developing and having normal fetuses.

Use of HBOT might prevent microencephalopathy from a Zika infection. It would certainly be worth a try, as HBOT has been effective in treating viral meningitis and other infectious processes. □

5 Questions With Charlotte Libov, Author of the 'Cancer Survival Guide'

Charlotte Libov's new book, "The Cancer Survival Guide," was published this year by Humanix Books and is available wherever books and E-books are

sold. Libov spoke with Health Radar about the book and the latest in cancer research, treatment, and prevention.



A: For 50 years, we had three basic ways to fight cancer: surgery, chemotherapy, and radiation. Anything new was basically a refinement built on those approaches. But when I began researching this book three years ago, scientists told me that we're on the brink of a revolution in cancer treatment. Well, that revolution is here. We now have treatments based on immunotherapy — boosting the body's natural defenses to fight cancer. And they are beginning to revolutionize the way cancer is treated, as we see every day.

My favorite example is former President Jimmy Carter. He's still traveling the world and giving lectures at 91. He was diagnosed with cancer last August and now is cancer-free and no longer receiving treatment, thanks to immunotherapy. What we had before wouldn't have worked on him. He would never have been treated for his cancer, let alone still be alive.

Q. Is cancer always a death sentence?

A: No. Many types of cancer are not only survivable, but they are becoming manageable conditions. This includes most breast cancer, prostate cancer, non-Hodgkin's lymphoma, bladder cancer, and

melanoma. The majority of people with these forms of cancer are still alive five years after diagnosis, and many live far longer than that. In fact, there are an estimated 14.5 million cancer survivors in the U.S. today. That number is expected to grow to 19 million in less than 10 years.

Q: President Barack Obama announced plans for a cancer cure. Is this a practical goal?

A: The president has called for \$1 billion more in cancer funding; that certainly will help. But talking in terms of a cancer cure is unrealistic when you consider that it costs millions of dollars to bring one new cancer drug to market.

What we've learned over the decades is that cancer is an umbrella term for more than 100 different diseases. It's a challenge. Progress comes in slow increments, but it comes.

Q: What are the most promising areas of cancer research?

A: Number one is immunotherapy, which boosts your immune system so it can recognize cancer cells and kill them. The first immunology drug was fast-tracked for melanoma in December 2014, and it's now approved for advanced lung cancer as well. There are more immunotherapy drugs in the pipeline. Immunology builds upon cancer genetics, which is a promising field. There's also renewed hope of a cancer vaccine, which builds upon our increasing knowledge of viruses and their connection with cancer.

Q: If you're diagnosed with cancer, what do you need to do first?

A: The first thing you need to do is take a deep breath. After the shock wears off the most common knee-jerk reaction is "I have cancer? Get it out of there." But it's very rare that action must be taken immediately. You need to do research and get to the cancer doctor who has the most experience treating your particular type of cancer. Because the treatment you get right from the start may make the difference in whether you survive or you don't.

□



Charlotte Libov is an award-winning Newsmax health writer who previously authored a landmark

book on heart disease in women that became the basis for a nationally broadcast TV documentary.



'SWIMMING' MINI-ROBOTS DELIVER CANCER DRUGS

Researchers at the University of Sheffield have devised a unique way to deliver cancer drugs and other medications to target areas inside the body using microscopic "swimming" robots. While other research has attempted to use micron-size devices inside the body, they were guided by external magnetic fields which required manual guidance and constant observation. The new tiny, round, bead-like robots are the size of human cells and bacteria (100 times smaller than the period at the end of this sentence). The robots move automatically, using natural structures of the body to guide them to a predetermined location. In addition to delivering cancer drugs to targeted areas inside the body, the swimming robots could also have environmental uses, such as delivering neutralizing chemicals to oil spills using crevices in rocks as structural guides.

GENE EDITING IMPROVES VISION

Scientists at Cedars-Sinai Medical Center in Los Angles used a technique known as CRISPR/Cas9 to remove a genetic mutation which causes damage to the retina that eventually leads to blindness. Researchers used the system to improve the vision of rats that were born with an inherited disorder of the retina called retinitis pigmentosa, which causes a loss of photoreceptor cells in the eye. Early stages of the disease are marked by night blindness. But as the disease progresses, a person's visual field constricts until eventually the victim is blind.

Scientists designed the new system to remove and repair the mutated gene, and then injected it into rats engineered to carry a type of inherited pigmentosa. After a single injection, rats were able to see better.

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Although the study involved rats instead of people, it also has huge potential for humans. Retinitis pigmentosa is one of the most common inherited diseases of the retina.

BIOACTIVE GLASS FILLS CAVITIES

Bioactive glass is an unusual type of crushed glass that interacts with the body, and has been used for decades to help bones heal. Engineers at Oregon State University believe it may be the future of tooth fillings, because when used in composite tooth fillings it makes them last longer by reducing the ability of bacteria to attack and cause the filling to deteriorate. New decay, which eventually causes a filling to fail, usually begins at the border of the filling and the tooth.

An OSU study found that molars treated with bioactive glass fillings were 61 percent less likely to be penetrated by cavity-causing bacteria than those with traditional composite fillings. The researchers believe bioactive glass could easily replace the inert glass fillers now added to current formulations for composite tooth fillings.

PREVENTING DIABETES-RELATED KIDNEY DAMAGE

Diabetes is the No.1 cause of kidney failure, and scientists have found that a cytokine implicated in the inflammation that spurs kidney failure can actually prevent or reverse it. Researchers at the Medical College of Georgia at Augusta University were studying the role of the cytokine IL-17A, and found that when they deleted the gene, kidney injury increased — the opposite of what they would have projected. They also discovered that levels of IL-17A were reduced in patients with severe diabetic neuropathy. In subsequent studies, they found that injecting IL-17A every two days in animal models of both Type 1 and Type 2 diabetes prevented or reversed diabetic nephropathy. IL-17A also reduced blood fat levels which are believed to contribute to both kidney and cardiovascular disease. Future research will examine its impact on kidneys which are so damaged the patients can survive only by undergoing dialysis. "If you can recover function from the dead kidney, you could save millions of people from a lifetime of dialysis," said kidney