

FROM THE HEART

Newsletter from
 **Saint Luke's**
 CARDIOVASCULAR CONSULTANTS

Stop Stressing about Stress

Stress can kill you. . .or make you stronger. You choose.

By James H. O'Keefe, M.D., with Joan O'Keefe, R.D.

**My guardian angel often
looks like this**



I have a confession to make. For years I've been warning you that stress is the enemy; increasing risk for everything from the common cold and depression to heart disease. But Kelly McGonigal has changed my mind about stress, and now I want to change yours too.

A landmark study followed 30,000 U.S. adults for eight years and found that those who reported feeling a lot of stress had a 43 percent increased risk of dying; however, that was true only for those who also believed that stress is dangerous for their health.

People who experienced a lot of stress but did not believe stress is harmful to their health were at no higher risk for death; indeed, they even had a lower risk of death than the folks who said that they had no stress.

Is it possible that just changing your attitude about stress can actually make you healthier? Cutting-edge science says yes—how you think about stress radically changes how your body responds to stress, and this can make the difference between dying young and frazzled, or enjoying a long and meaningful life.

The Upside of Stress: Why Stress Is Good for You, and How to Get Good at It is by Kelly McGonigal, a brilliant young PhD psychologist from Stanford. As I read and re-read this book and then listened to Kelly's TED Talk over and over again, I realized that my admonitions to my patients about the dangers of stress might have been doing more harm than good.

Admittedly, not a single person has ever told me, "Thanks so much Dr. O'Keefe for pointing out that my stressful life is toxic to my heart. I am sure I can easily eliminate the stress,

but it had just never occurred to me before you mentioned it!"

Let's face it, stress is an unavoidable part of life, but trying to ignore or escape it is not your best coping strategy. Instead we need to re-think and even embrace stress, and learn how to transform this potentially lethal emotion into a force for cultivating resilience, courage and meaning in our lives.

Meaningful Life = Stressful Life

Stress is what happens when something you care about is at risk. It might be that you are feeling stressed about your mounting debt, your relationship with your spouse, your biopsy results, your child's report card, or global warming.

When you are worried because you sense something important to you is at stake, or feel like someone you love is threatened, stress inevitably arises. Think about it—stress and meaning are intricately linked. When you say, "I couldn't care less," you are tacitly acknowledging that you don't stress

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out about something or someone you don't care about. On the other hand, it's impossible to cultivate a meaningful life without suffering some stress.

"The more directly one aims to maximize pleasure and avoid pain, the more likely one is to produce instead a life bereft of depth, meaning, and community."

Richard Ryan

Surprisingly, the countries with citizens who report high levels of daily stress also tend to rate higher on statistics related to overall health, quality of life, and life expectancy. The same people who report high-stress lives often also say their lives are filled with meaning. And many studies have documented the fact that people who have a strong sense of purpose generally live longer than those who don't.

Moreover, individuals who report higher levels of boredom have been shown to be at increased risk of heart attack. So these data might explain why stress is not always harmful to health and happiness. Stress is often an unavoidable byproduct of pursuing challenging, but significant goals.

So then the key is to learn how to get better at living with stress. When you face a challenge, you will feel more empowered and less threatened if you can embrace stress and recognize it as a potential tool. Then you can channel the energy of stress into constructive actions rather than letting the negative emotions burn you out.

By understanding the biology of stress, we can recognize that these are not deadly self-destructive hormonal disturbances, but rather natural adaptations that help us overcome obstacles, meet deadlines, and thrive in our demanding world.

A friend who writes for a major national newspaper told me he does his best work under stress. He explained, "I'm not a procrastinator; I just prefer doing all my work in a deadline-induced panic." He has a sign over his desk that reads: "Don't rush me; I'm waiting for the last minute."

Tend and Befriend Rather than Fight or Flight

"Hardships often prepare ordinary people for an extraordinary destiny."

C.S. Lewis

Shortly after my grandmother, Dorothy O'Keefe, got married, her husband, Emmett, became critically ill with tuberculosis. To make matters worse, during that same

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year the Great Depression descended on America. They had three children, though Emmett was largely disabled with not only TB, but also alcoholism, and they struggled just to keep food on their table and a roof over their heads.

Dorothy was a secretary at a grain mill and walked back and forth to work even during winter, when it is frequently snowing and temperatures are often below zero in Grand Forks, North Dakota—my family's hometown. Despite a life seemingly burdened with a massive amount of stress, Dorothy was irrepressibly cheerful and upbeat.

She instinctively reacted to her stressful environment the same way many women do, not with hostility or a “fight or flight” response, but rather a “tend and befriend” response. Dorothy was too busy holding her family together and being strong for them to feel sorry for herself.

During times of distress, caring for, comforting, and helping your loved ones can bring hope and meaning to your life. If instead, we focus on alleviating our own suffering we will remain trapped in fear and self-pity.

You can begin to create the biology of courage even through small actions: holding your partner's hand when they are upset, or sending off a supportive text to your troubled friend.

Recently during a trans-Pacific flight, we unexpectedly hit a patch of violent turbulence. The woman seated across the aisle looked at me with terror in her eyes and said, “This is the first time I have flown in decades; are we going to be okay?”

I reached over and squeezed her forearm and told her that this is like going over speed bumps with a car, and that the plane was designed to safely withstand much worse. Her face relaxed and her eyes filled with tears of relief. Surprisingly, the angst that I too had been secretly feeling, seemed to suddenly evaporate.

During my childhood, every time we visited her home, Dorothy would become so genuinely excited to see us that you might have guessed the Beatles just walked through her door. I lived with Dorothy for four years while I attended the University of North Dakota. Subsequently, nine more of her grandchildren would come to live with her in her quaint house near the university.

Dorothy overlooked the suffering she endured as a young woman, but she never forgot the lessons it taught her. She was frugal, practical, optimistic and resilient. Stress was not a word I ever heard her use, and she never ruminated about the past, held grudges, or complained, even about providing free room and board to her 10 grandkids while having to endure all of our college antics.

Dorothy lived to just a few months shy of her 103rd birthday; I still think of her nearly every day. Even as she grew older, she focused on serving others: volunteering at the local church and doing hair at a nursing home down the street, in addition to hosting her cronies for bridge games.

Frequently neighbors and friends joined her in the late afternoon for happy hour. Dorothy would always have one or occasionally two Manhattans, which we referred to as “Manhootins,” because after even one drink she was hooting with laughter.



The Brave and Brokenhearted...

There is no greater threat to the critics and cynics and fear-mongers than those of us who are willing to fall, because we have learned how to rise.

With skinned knees and bruised hearts; we choose owning our stories of struggle, over hiding, over pretending.

When we deny our stories, they define us. When we run from struggle, we are never free. So we turn toward truth and look it in the eye. We will not be characters in our stories. Not villains, not victims, not even heroes.

We are the authors of our lives. We write our own daring endings.

We craft love from heartbreak, compassion from shame, grace from disappointment, courage from failure. Showing up is our power.

Story is our way home. Truth is our song. We are the brave and brokenhearted.

We are rising strong.

~Brene Brown, from *Rising Strong*



The Magic of Changing Your Mindset

Clearly, some mindsets can have potent and far-reaching effects on health and longevity. Having a positive mindset about stress turns out to be one of those beliefs that really matters.

Another pivotal mindset involves beliefs about aging. Individuals with a positive attitude about getting older tend to live longer than people who hold negative stereotypes about aging. One landmark study from Yale University followed middle-aged adults for 20 years. The people with a positive view of aging (for example, I don't regret growing older—it's a privilege denied to many) lived an average of eight years longer than those who had negative views (such as: I would rather die young than get old).

In a classic stress response, your heart rate rises and your arteries constrict, also your stress hormones like cortisol and adrenaline go up. Thus, chronic stress can predispose to cardiovascular disease and high blood pressure.

But in a study from Harvard University, volunteers were trained to re-think their stress response as useful rather than harmful. They were taught that the pounding heart is preparing one for action, the faster breathing is delivering more oxygen to the brain, and the hormone changes can energize and strengthen a person.

After adopting the mindset that the stress can be helpful, they reported feeling less anxious and more confident. What's more, their blood vessels stayed relaxed, and although their heart was still pounding, their overall cardiovascular profile was much healthier—more closely resembling the body's response during times of joy or courage.

Transforming Stress into Courage

Carrie is a 22-year-old college senior who came to see me over her semester break in December. For years she had been suffering from chronic anxiety and even occasional panic attacks.

She was taking Xanax for anxiety and an antidepressant as well, but complained about fatigue and other bothersome side effects from her meds. Yet, her panic attacks were terrifying for her and she was worried about her heart.

Sometimes before a big exam or a presentation in front of her college classmates, Carrie would notice her heart pounding harder and her breathing would quicken, then she would notice cotton-mouth and sweaty palms, with butterflies in her stomach and racing thoughts bouncing around in her head. She told me, "It feels like the stress is going to kill me!"

By coincidence, I just read an interview with Bruce Springsteen where in response to a question about whether he still enjoys performing after 40 years of doing live rock music concerts, he said, "Before I walk out onto the stage in front of thousands of screaming fans my heart is pounding, my palms are clammy, I have butterflies in my gut, and my head is spinning. It's the greatest feeling in the world!"

Carrie feels the stress hormones kick in and interprets it as fear and danger. Bruce senses the same stress symptoms, but instead harnesses them to amp up his energy and performance, and generate excitement in his fans.

Kelly McGonigal advises her students during times of emotional distress to say to themselves, "My body is just getting excited; I'm not stressed." And she tells them that rather than worrying about trying to relax so they don't blow it, they should instead embrace their nerves, and tell themselves, "your heart is in it and you're ready to perform your best."

This simple mindset intervention has been shown to make a huge difference for boosting performance and neutralizing the toxic health effects of stress. By the way, Carrie is using this strategy, along with relaxation breathing exercises, and is now off her meds and thriving in her senior year at college.



Mother Nature's Cure for Stress

When Joan was six months pregnant with our first child, we discovered a large cancer that had already spread. Her own life was in jeopardy and the doctors deemed that the baby would almost certainly not survive. She started radiation therapy and then underwent major surgery to deliver the baby and remove her spleen.

It was the most stressful time of our lives, and I felt like a deer frozen in the headlights with a truck bearing down on us. Joan, in contrast, was courageous, optimistic and unwavering. The day after surgery I showed Joan a Polaroid picture of baby Jimmy (above), who was intubated and in a neonatal ICU in another hospital a mile away.

From her hospital bed, Joan looked up at me with a fierce determination, and said, "My baby needs me and I am going to survive and raise him. I don't care if I have to stand on my head with bells on my toes, we will do whatever the doctors tell us and we are going to beat this."

She was like a fearless mama bear protecting her cub—I was in awe of her supernatural strength in the face of daunting stress. In retrospect, I now realize that her stress hormones helped to save Jimmy's life and her own; both of whom remain in superb



health 29 years later.

Having a baby and serious stress are two of the strongest triggers to raise levels of oxytocin, also known as the "moral molecule" or the "love hormone." Oxytocin gives you courage to defend people you care about, causes you to crave physical contact with your family and friends, and makes you want to connect with others emotionally.

Your pituitary gland pumps this hormone out in response to perceived threats. Oxytocin is as essential to your stress response as the adrenaline that causes your heart to pound. When you are feeling beleaguered and overwhelmed, your stress response helps you to be brave and emotionally bond with the people you love.

This neuro-hormone doesn't just act on your brain, your heart also has oxytocin receptors that when stimulated help cardiac cells regenerate; this assists in healing any stress-induced cardiac damage. Paradoxically, oxytocin is a stress hormone that strengthens your heart.

In essence, your stress response has a phenomenal built-in mechanism for making you more stress-proof, and that mechanism is an oxytocin-driven human connection. In other words, Mother Nature's remedy against toxic stress is love and connection.

Make Stress Your Friend

I want to tell you about one last study; in it the researchers asked 1,000 U.S. adults two central questions: 1) Over the past year, how much stress have you experienced? 2) During the past year, how much of your time have you spent helping out neighbors, friends, and others in your community?

What they found was that for each major stressful life experience, such as financial difficulties or a family crisis, a person's risk of dying during the five-year follow-up period rose by 30 percent. Yet this was not true for all the participants. The people who spent much of their time caring for others, the way Dorothy did, were completely immune to the lethal effects of stress—they showed absolutely no stress-related increased risk of dying. Caring for others conferred resilience.

The lifesaving take-home message is that toxic effects of stress on your health and longevity are not inevitable. By your thoughts and actions you can transform your relationship with stress. When you view your stress response as helpful, you will create the biology of courage. And if you choose to help others in times of stress, you can build resilience.

Kelly McGonigal's work has given me a whole new perspective on stress. While I can't say I'm hoping for more stressful experiences in my life, I have newfound appreciation for the upside of stress.

I'm going to try to emulate my grandmother Dorothy, who vaccinated herself against stress by focusing on helping others. Armed with this new mindset, I feel I can trust my body to handle the stress and suffering that life inevitably brings.

The Effect You Expect is the Effect You Get

Housekeeping is vigorous exercise and burns about 300 calories per hour, which is about the same intensity as lifting weights, doing water aerobics, or walking at a pace of 3.5 miles per hour.

However, when Stanford researcher Alia Crum asked housekeepers if they exercised regularly, two-thirds of them responded that they were not physically active, and one-third of them believed they got no exercise at all. Their bodies reflected this opinion—the housekeepers had blood pressures, waist measurements, and body weights that were just what you would expect from an inactive group.

Crum then did a mindset intervention. In four hotels she pointed out to the housekeepers that they in fact were doing a lot of hard work, which required strength and stamina, and thus they had to be physically fit.

She put up posters in their lunchroom about the physical benefits of housekeeping and congratulated them on meeting or exceeding the Surgeon General's recommendations for physical exercise. She also told them that they should expect to see the health perks of being so active.

In contrast, the housekeepers at the other three hotels, who served as a control group, were reminded that exercise was good for them, but were not given the facts about how they were already performing extensive exercise during each workday.

One month later, the housekeepers who had been told that they were doing a great deal of strenuous exercise at work had shed pounds, lost inches off their waistlines, and burned off body fat. Their blood pressures were reduced and they even reported liking their jobs more.

Conversely, the housekeepers in the control group displayed none of these beneficial changes. Amazingly, all these improvements in the first group happened despite the fact that the housekeepers had not made any changes in their behavior or diet. The single thing that had changed was the housekeepers' perception of themselves as exercisers. The effect you expect is the effect you get.

The "Shake Tasting Study" was another astonishing demonstration of this concept. Stanford student volunteers reported to a research lab at 8 a.m. after skipping breakfast. During their first visit, the hungry participants received a milkshake in a bottle labeled, "Indulgence: Decadence You Deserve," and its nutritional label showed 620 calories and 30 grams of fat. During their second visit, just a week later, they received a second milkshake labeled "Sensi-Shake: Guilt-Free Satisfaction," with a label showing only 140 calories and 0 grams of fat.

After drinking the two milkshakes, the participants' blood levels of ghrelin (known as the hunger hormone) were tracked. Ghrelin levels go down when you feel full; and rise when you are hungry. When you eat something high in calories or fat, ghrelin levels drop radically. Less filling foods produce only minor reductions in ghrelin.

Thus, a decadent milkshake versus a low-fat, low-calorie shake should stimulate very different effects on ghrelin levels—which they did. The Sensi-Shake produced a small drop in ghrelin, while drinking the Indulgence Shake led to a much more dramatic drop.

But here's the thing: those milkshake labels were a hoax. During both visits, the participants received the



same 380-calorie milkshake, so their bodies should have responded the same both times. But instead, when they believed the drink was a sweet and creamy indulgent milkshake, their ghrelin levels plummeted three times as much as when they believed it was a diet drink.

Yet again, the result they expected—to feel full—was the result they got. Expectations can dramatically change something as concrete as hormone production from your gastrointestinal tract.

During both the milkshake study and the housekeeper study when people changed their perceptions, their bodies instinctively changed as well. Perceiving housekeeping activity as strenuous exercise somehow helped transform their bodies from fat to fit. Considering the milkshake as a high-fat indulgent treat altered hormones to produce higher levels of fullness after drinking it.

When you tell yourself, "This stress is killing me and ruining my life!" your body responds very differently than when you believe, "Stress is harmless, and helps me be courageous, strong, and more connected to my loved ones." Again, the result you expect is the result you will get.

So, what do you tell yourself about how stress affects you??



Quotes for Resilience

"New York may be the city that never sleeps, but Kansas City is the city that never quits."

Kansas City Mayor Sly James

"Not the strongest, nor the most intelligent survives; but the one most able to adapt to change."

Charles Darwin

"The asset I most value, aside from health, is interesting, diverse and long-standing friends."

Warren Buffett

"At some point, everything's gonna go south on you...and you're going to say, this is it. This is how I end. Now you can either accept that, or you can get to work. That's all it is. You just begin. You solve one problem...and you solve the next one...and then the next. And if you solve enough problems, you get to come home."

Matt Damon in The Martian

"People who are wrong don't change their minds. They just die off and are replaced by people who see the world anew."

"Knocking me down is the easy part; if you want to keep me down you are going to need backup."

"Never give up on a dream just because of the time it will take to accomplish it. The time will pass anyway. Great things take time."

"You need to learn how to select your thoughts just the same way you select your clothes every day. This is a power you can cultivate. If you want to control things in your life so bad, work on the mind."

Elizabeth Gilbert

"In the blink of an eye everything can change, so forgive often and love with all your heart."

"Success consists of going from failure to failure without loss of enthusiasm."

Winston Churchill

"Never give up on someone with a mental illness. When 'I' is replaced by 'we,' illness becomes wellness."

Shannon Alder

"Sometimes the heart sees what is invisible to the eyes."

H. Jackson Brown Jr.

"We're all just walking each other home."

Rumi

"Be stronger than your excuses."

"When we know better, we do better."

Maya Angelou

How to Slow Down Time

By James H. O'Keefe, M.D.

I grew up in North Dakota, near the Canadian border where the state tree is the telephone pole and they have only two seasons, winter and road repair.

As kids, time was on our side—every day was a new adventure, and each year seemed like a lifetime. In the summer we would ride our bikes into the countryside to play in the streams and fields; we looked up at the clouds and imagined feather dragons and ice cream castles in the air.

When night finally fell we would chase fireflies and lie on our backs in the grass, gazing at the Northern Lights dancing across the sky. In the winter we would bundle up and go outside to dig forts in the snow banks, skate in the streets, go sledding in a blizzard, or have neighborhood snowball fights.

As the decades roll by many people grumble about how time seems to move too quickly. Years click by; it seems like you just celebrated your last birthday and now here it is again. The holiday season comes and goes and you wonder where the time went.

The endless summer vacations we savored in childhood now are just a couple of unpleasant hot and humid months spent sweating through work clothes in 95-degree heat. When you were a kid, your life was spontaneous and your calendar was all white space—heck you didn't even have a calendar! Back then you might have even felt twinges of boredom from time to time. Now you whine about never having the time to pursue your true passions.

Despite the years receding in the rear-view mirror of your life, deep down at the core of your being, you're



Photo by Darren Thomason, the midnight sun setting over the Baltic Sea; Visby, Sweden, June 24, 2015.

pretty much the same person you were as a 7-year-old. Like, I bet you still mentally sing the ABCs to see which letter comes next.

One of the keys to fully enjoying life is being able to channel the sense of wonder you had as a child. A century ago Albert Einstein proved that time is relative—it passes at different rates depending on the prevailing conditions.

Time as you perceive it is a by-product of your mind's perspective. It is indeed possible to think like a child again, which will slow down the passage of time, giving you a longer and fuller life regardless of how many years you've left here on Earth.

Invest Some Time in Helping Others

A surprising study from the University of Pennsylvania showed that helping someone else can improve a person's feeling of time scarcity more than actually giving the person extra time.

People who spend free time helping others, even in small ways, report feeling more capable and appreciated than individuals who use all of their free time on themselves. Performing acts of kindness also improves one's self-confidence about being able to effectively deal with time pressure and demands.

By helping someone else, time as a resource can seem to become more abundant. The hormonal effects of altruism can also make problems seem less overwhelming. So, when you are feeling time pressured, you might try being more generous with your time—in spite of your instinct to be less so.

Don't Think of Time as Money—Though It Is the True Currency of Life

Whether it's food, or water, or money, or social interactions—if we don't have enough of an essential item, we tend to focus on it more. So if you think of your time as money, and your life as an hourglass running out of sand, then time becomes extremely valuable and threateningly scarce.

Sadly, with an attitude of scarcity about time, you might become obsessed with your work, and become a workaholic to make enough money to last your lifetime.

Instead of leaving time to explore your world with curiosity and wonder, you may spend your life running errands and getting chores done. You can't enjoy reading for pleasure because it takes too much time; as does preparing a meal at home and sitting down to dinner with your family. Our leisure time becomes packed with an agenda of things that need to be done before we can waste time just enjoying life.

Instead, try to think of time as the ultimate luxury—and one that you can afford. Time you enjoyed wasting was time well spent. But make sure it is not always the same-old, same-old routine.



When was the Last Time You Did Something for the First Time?

Time seemed to pass more slowly when we were children because we spent a large portion of our waking moments experiencing new things; much of what we felt, saw, smelled, heard, tasted and thought was brand new to us.

“Don't live the same year 75 times and call it a life.”

Robin Sharma

We were fascinated and curious about each new experience, as our minds were being filled with novel sensations and memories. We were newbies here on planet Earth, and thus time seemed to pass much more slowly due to the abundance of novelty. Each day was an unknown entity, an adventure filled with surprises.

Contrast that with the typical monotonous adult routine. About 70 percent of what we do each day is performed on autopilot, based upon well-worn habits.

We rise from bed about the same time each morning, we consume a boring breakfast, take an identical route to work, sit down at our desk and get busy with the same tasks we've done for years. Everything is repetitive and predictable.

Your brain doesn't fully engage because it isn't incorporating new data or experiences. One hour blends into the next, days overlap and disappear without many distinctive memories.

We can't recall what we had for dinner yesterday or what we did last weekend or who we spent time with last month—not because we have Alzheimer's, but because we are in a mind-numbing rut carved deep by endless repetition.

So your mission is to make your life interesting and novel again. Ride your bike to work—it is my favorite way to commute when I get the chance.

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Try skydiving—it's a sensory-overload wild rush that you will never forget. Hike in the woods, take a dance class, go to new restaurants, travel to new places.

Take an unusual route to work; even small deviations from your routine can make a big difference. Be daring and have fun spicing up your love life with your partner. Learn a new language, join a club, or discover how to fly a drone. Listen to audiobooks instead of the news. Adopt an animal to play with and love.

Balance Your Life



Americans are among the hardest working people in the world. And when we aren't working we are thinking about working. Yet, balance is key to happiness and health in the long run. Take vacations; and at the day's end leave your work at the office. As much as possible avoid multitasking, which adds stress, compromises the quality of your work, and eventually burns you out.

Scientists find that spending more time using digital technology makes time seem to lapse more quickly. Furthermore, studies show that excess time spent on computer entertainment and social media tends to make a person more anxious and depressed.

So, be careful to not become too immersed in electronic communication and digital entertainment. Whether it's email, social media like Facebook, texting or watching movies or TV shows, or doing video gaming, it's best to limit screen time during your non-work waking time to not more than two hours total per day.

Be a Body in Motion

Einstein's Theory of Relativity alluded to earlier, states that the faster one moves through space, the slower time passes. Fascinatingly, this same phenomenon seems to happen on a local, personal level, even if it's just in our mind's eye.

In early June 2014, just after my daughter Kathleen graduated from high school we went to San Francisco for a long weekend. We spent Saturday with her friends Morgan and Aden strolling the hilly streets, hopping on street cars, window shopping through the Haight-Ashbury, bike-riding through Golden Gate Park, and having lunch on the sandy shores of Ocean Beach. The day seemed to last forever, and left us with many lovely and enduring memories.

Perhaps you can recall a similar day during which you were very physically active, exploring a stimulating environment. Then compare and contrast it with a day you spent being a sedentary spectator, say watching TV for hours on end.

Which day left you with more memories? Which seemed to last longer? After which of the two days did you feel happier, and sleep more soundly? Using your own body to move yourself through space will allow you to make the most of your time and probably also make your life feel fuller and richer.

Joy of Anticipation

One of my favorite parts about traveling is the joy of anticipation. I try to plan our trips several months ahead of the actual date of departure. Imagining us exploring new surroundings and meeting new people makes me smile and brings excitement, even though the trip is months away.

My family really dislikes tightly choreographed trips, so we don't try to plan everything right up to the last detail. But we love to Google the region and culture, and look at photos and talk about the options of things to do and places to see. This multiplies the joy and excitement beyond the trip itself, and markedly enriches the experience. And you can cherish the memories for the rest of your life.

If you can throw together a rough itinerary—one that leaves lots of room for spontaneity, you can increase the personal joy and exhilaration you get out of your vacation, which will also slow down your perception of time.

Lose Yourself Out in Nature

Modern life forces us to become slaves to the clock, whereas getting outdoors tends to liberate us from that sense of time tyranny. Nature isn't just a place to visit, it is our ancestral home.

Out in nature, time is measured in sunrises and sunsets, seasons, phases of the moon, and thunderstorms. It's a much more organic way to enjoy the luxury of time.

“All we have to decide is what to do with the time that is given us.”

J.R.R. Tolkien

The Medical Cure for Coronary Disease?

PCSK9 Inhibitors: Breakthrough Therapy for Cholesterol

By Becky Captain, R.N., D.N.P., C.L.S., B.C., F.N.P.-C., and James H. O'Keefe, M.D.

Holly had a heart attack at age 40, and discovered that her total cholesterol was over 400, with an LDL (bad cholesterol) of 345 mg/dL due to familial hypercholesterolemia (inherited genes that cause very high cholesterol).



Despite being on two of our strongest cholesterol pills: (atorvastatin 40 mg with Zetia 10 mg) her LDL was still frighteningly high at 190, and her coronary arteries kept filling up with cholesterol-rich plaques. Holly needed coronary bypass surgery in the 1990s, and since has required so many balloon procedures that she now has what we cardiologists call a "full metal jacket:" her native coronary arteries are almost entirely lined with stents, including one that was just placed less than a year ago.

When a revolutionary injectable agent named Praluent came out just six months ago, we added it to her medical regimen of the statin plus Zetia. When we re-measured her cholesterol just four weeks later, we could hardly believe the results. Her LDL had tumbled all the way down to 42 mg/dL.

When Holly saw her numbers she was filled with a mixture of excitement, amazement and relief. Tears of joy ran down her cheeks knowing that after fighting a losing battle against coronary disease for decades, she now might finally have the upper hand.

Studies show that when the LDL

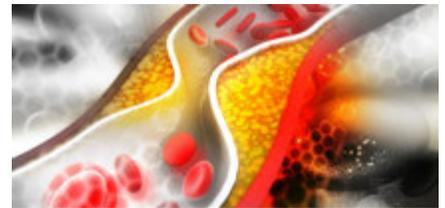
is driven to below 70 mg/dL, the coronary plaque starts to melt away. Holly is just one of many patients in whom we have seen unprecedented improvements in cholesterol using this new class of drugs at the Cardio Health and Wellness Center.

The "next big thing" in cardiology is here: a new class of drugs known as PCSK9 Inhibitors. These are genetically engineered, fully human monoclonal antibodies that work by binding to a specific protein in the blood known as PCSK9.

These two agents, Repatha and Praluent, substantially increase the number of LDL cholesterol receptors in the liver. Those LDL receptors naturally pull the "bad" cholesterol particles out of the blood and into the liver. By doing so, Praluent and Repatha lower the LDL levels by 50 to 70 percent.

Over the years, we have learned that lowering LDL cholesterol translates into fewer heart attacks, strokes, stents and bypass surgeries. The studies thus far with the PCSK9 Inhibitor show that they have very few side effects, and appear to lower the risk of cardiac events like heart attack and cardiac death by about 50 percent.

If you have high cholesterol, it's ideal to lower it with diet and exercise if possible. But for those individuals who are growing coronary plaques and are unable to attain healthy cholesterol levels through diet and exercise, we start prescription medications. Statin medications have been the gold standard of treatment for LDL lowering since the 1980s, and are effective



for preventing heart attacks and death in people with coronary disease. But for some people, statins either do not lower their LDL cholesterol enough, or they are unable to tolerate them. For these individuals, the new PCSK9 Inhibitors are remarkably effective, especially if we can add them to at least a low dose of statin.

PCSK9 Inhibitors have emerged as one of the most promising novel strategies to reduce heart disease. Their efficacy in lowering LDL (bad) cholesterol and the possible synergistic effects with statin medications, combined with their favorable safety and tolerability profile, give them the potential to revolutionize the treatment of heart disease.

In the Duboc Cardio Health and Wellness Center we have had the opportunity to use Repatha or Praluent in dozens of patients who have LDL levels that remain too high despite our best efforts. These extremely powerful cholesterol-lowering agents must be given by injection subcutaneously – just 4 mm under the skin, every two weeks.

You can perform these injections in the comfort of your home. They come with an injector pen so all you have to do is press the button and wait a few seconds for the "click" to know the injection is done. Call us to schedule an appointment if you think you might be someone who could benefit from these game-changing new drugs.

Discover Your Future... Then Change your Destiny

By James H. O'Keefe, M.D., with Joan O'Keefe, R.D.

I had my DNA analyzed through 23andMe—the results were a mixed bag. First the bad news: I'm at increased risk for obesity, Alzheimer's disease, alcohol dependence, schizophrenia and heart attack. I also seem to have an unusually large amount of



Neanderthal DNA in my genome—it's wild to imagine how that got there!

But there was some good news too. I'm at reduced risk for male pattern baldness, and I metabolize caffeine rapidly. And I'm proud to say that 23andMe confirmed that I have a little Native American Indian blood in me; which was just contentious speculation in our family folklore for generations...until my DNA verified it.

Decoding Your Genetic Blueprint

I suggest that you too consider having your DNA tested through 23andMe (I have no financial interest in this company). They are world leaders in direct-to-consumer (self-pay) genetic testing, and are FDA approved.

You simply register online at 23andMe, and for \$199 they send you a small cardboard box in the mail. When it arrives you spit into a test tube and

send it back in the same self-addressed return package via the U.S. Postal Service.

A short while later you will start to receive a stream of astounding facts about your specific DNA, including hundreds of details about your ancestry, genetic predis-

position to various inherited diseases, risks of common conditions and random facts about specific traits like high versus low fertility, physical endurance, and sensitivity to the sound of chewing.

The 23andMe testing focuses on identifying genetic markers known as "snips," short for single-nucleotide polymorphisms (SNPs). These are genetic variations in the DNA chain that predispose to, or protect against various diseases and conditions.

This test also will give you fascinating details about where your ancestors are from with much greater precision and certainty than any genealogy-based family tree or old courthouse records ever could.

Avoiding Crashes During Your Life's Journey

Life is full of surprises; so we need to work with as much accurate infor-

mation as we can get our hands on. Safeguarding your well-being is kind of like taking a long road trip across the country; your chances of staying safe will be much better if during your journey you pay close attention to the road signs, your car's gauges and sensors, and the weather reports. Forewarned is forearmed; knowing which specific diseases might be stalking you makes it easier to avoid these dangers.

My late colleague, Dr. Robert Conn, used to say, "Good genes are only as good as you treat them." My corollary of Dr. Conn's law is this: "Bad genes can almost always be neutralized with a very good diet plus a healthy lifestyle." In other words, your inherited DNA is not your destiny. Genetic expression is modifiable—even though your genes may load the gun, it's usually your environment that pulls the trigger.

Patient: "The problem is that obesity runs in my family."

Doctor: "No, the problem is that no one runs in your family."

You may have a genetic predisposition, but we are becoming very good at preventing problems, especially when we know the specific issues that are lurking in your DNA, waiting for the opportunity to be expressed.

For example, if the test indicates that you are prone to type 2 diabetes, you can take preventive action by losing weight and not consuming things made with added sugar or white flour, and you'll never be diabetic.

If you are at risk for colon cancer, you can eat a high-fiber diet, avoid processed meats like bacon, sausage, and deli meats and also have regular colonoscopy screenings starting at age 40 rather than age 50.

You might be the one out of every four people, like me, who has a snip called the ApoE4 variant that puts you at increased risk of Alzheimer's disease. Since I have this snip, my risk of getting Alzheimer's is 12.5 percent, compared with an average risk of 7.2 percent. I'm converting my worries about that into motivation to follow closely the diet/lifestyle that is highly effective at keeping one's brain sharp for a century or beyond.

And I'm not losing any sleep over my rather impressive 74 percent chance of developing obesity. I've been scrawny all my life and that's highly unlikely to change. My mother, Lee, didn't need to memorize my number when I tried to play football, she would just look for the boy with the bird legs.

Join the Genetic Revolution

Each of us has our own set of health issues and personal vulnerabilities. The smart approach is to be proactive and figure out what diseases you are most susceptible to, then prevent them before they ever get a foothold in your system.

Today we have the unprecedented ability to peer into our future by decoding our DNA to reveal profound information; then we can alter our destiny by making lifesaving tweaks to our lifestyle and diet.



Footprints in the Sand

By Mary Stevenson

One night I dreamed a dream. As I was walking along the beach with my Lord, across the dark sky flashed scenes from my life. For each scene, I noticed two sets of footprints in the sand, one belonging to me, and one to my Lord.

After the last scene of my life flashed before me, I looked back at the footprints in the sand. I noticed that at many times along the path of my life, especially at the very lowest and saddest times, there was only one set of footprints.

This really troubled me, so I asked, "Lord, you said once I decided to follow you, you'd walk with me all the way. But I noticed that during the saddest and most troublesome times of my life, there was only one set of footprints.

I don't understand why, when I needed you the most, you would leave me."

He whispered, "My precious child, I love you and will never leave you; never, ever, during your trials and testings. When you saw only one set of footprints, it was then that I carried you."

Why Middle-Aged Whites are Dying

By James H. O’Keefe, M.D.

Something shocking is occurring among middle-aged white Americans. Death rates are rising, not falling for U.S. whites between ages 45 to 54 years of age. This is in stark contrast to other age cohorts, other ethnic and racial groups, and virtually all other wealthy nations, where life expectancy continues to improve.

Nobel Prize-winning economist Angus Deaton from Princeton co-authored this very disturbing new study, which highlights problems with addiction and depression among middle-aged white Americans that began abruptly with the new millennium.

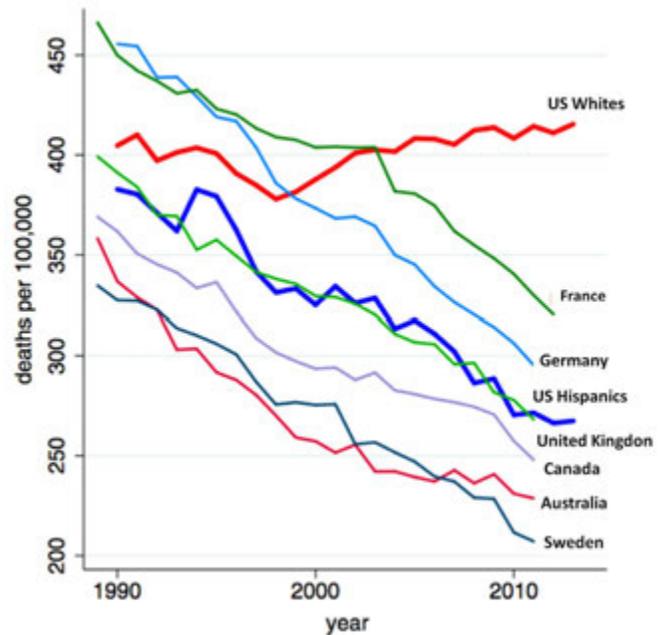
The increasing mortality rates among this group are being driven not by the usual suspects such as heart disease and cancer, but instead by an epidemic of substance abuse and depression, with rising rates of alcoholic liver disease and suicides, and overdoses of narcotics (such as morphine, hydrocodone and oxycontin), and benzodiazepines (such as Xanax or Ambien).

The rising death rate was seen only among people with a high school education or less, where mortality rates rose by 22 percent; in contrast death rates dropped for middle-aged whites with a college education. The essence of the article can be gleaned by just looking at the two figures to the right; catastrophic upswing in mortality rates only among middle-aged American whites starting about 1999.

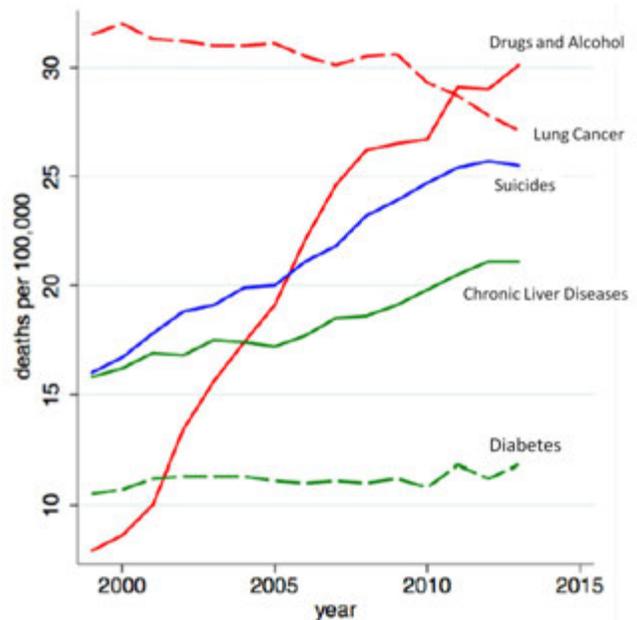
Dartmouth economists Ellen Meara and Jonathan S. Skinner in an accompanying editorial to the Deaton article in *Proceedings of the National Academy of Sciences* wrote, “It is difficult to find modern settings with survival losses of this magnitude. Clearly this is an unambiguous indication that something is awry in these American households.”

Dr. Deaton wrote that, “Only HIV/AIDS in contemporary times has done anything like this.” Death rates for middle-aged African-Americans and Hispanics continued to decline during the past 15 years, as did mortality rates for younger and older people of all races and ethnic groups.

It remains uncertain why only middle-aged whites experienced a rise in their mortality rates, but this cohort did have higher use of prescription narcotic drugs, and were also more pessimistic about their financial futures. Indeed, during the years of the study, the inflation-adjusted income for U.S. households headed by a high school graduate fell by 19 percent.



U.S. whites aged 45 to 54 show a reversal in the declining mortality rates noted among other rich nations and other ethnic groups.



Causes of death among U.S. whites aged 45 to 54 years.

This study reminds me as a physician to continue to be extremely cautious about prescribing benzodiazepines or opiates for pain and anxiety; but the sad facts are: the United States makes up only 4.6 percent of the world's population, but consumes 80 percent of its opioids, and 99 percent of the world's hydrocodone.

For chronic pain and anxiety, patients should avoid alcohol unless it is done in moderation, and instead of narcotics, try to use healthy coping skills like personal and community interpersonal connections, massage, exercise, sleep, meditation, spirituality, prayer, etc. If patients need a medication to treat chronic pain, acetaminophen (Tylenol), or an NSAID like ibuprofen (Motrin, Advil) or naproxen (Aleve) should be tried first.



Notable Facts for 2013:

- Drug overdose was the leading cause of injury-related death, causing more deaths than motor vehicle traffic crashes.
- There were 43,982 drug overdose deaths in the U.S. Over half of these, 22,767 (51.8 percent) were due to prescription drugs.
- Of the deaths due to prescription drug overdose, 71 percent involved narcotic painkillers, and 31 percent involved benzodiazepines. Victims of drug overdoses often died due to a combination of benzodiazepines, opioids and alcohol.

Heart Failure: What You Need to Know

Heart failure is a condition in which the heart is unable to adequately pump blood out to the rest of the body or to fill efficiently with blood. As a result, less blood and oxygen reach the other organs in the body. This is a common condition. About 5.8 million people in the United States have this diagnosis. Many people are at risk for this condition without being aware of it.

Recognition of risk factors and aggressive management of blood pressure, diabetes, and heart disease can help prevent this condition. Early detection enhances the chance for successful treatment. Saint Luke's Hospital provides expert care for heart failure from early detection to the most advanced heart failure treatments including heart transplants. Saint Luke's Hospital is planning an event to raise awareness about heart failure in the community.

Please join Stephanie Lawhorn, M.D., Saint Luke's Cardiovascular Consultants, Advanced Heart Failure and Transplant Cardiology, as she presents information about heart failure including:

- What is it?
- What are the risk factors for developing heart failure?
- What are the signs and symptoms?
- What treatments are available?



Written information will be provided on self-management of heart failure, diet, medications and cardiac rehab. Nurses will be available to answer additional questions and provide free blood pressure screenings. This may be an opportunity for you to assess your risk and to be aware of symptoms that you or someone in your family might be experiencing.

When: Wednesday, April 13, 2016, 6:30 to 8:30 p.m.

Presentation from 7 to 8 p.m.

Blood pressure screening and information booths will open at 6:30 p.m. and will remain open after the lecture.

**Where : Saint Luke's System Office –
First Floor Conference Room**

901 E. 104th St., Kansas City, MO 64131

Cost: Free

**Registration: Call Saint Luke's Concierge
to register at 816-932-5100**

Conquering Chronic Total Occlusions

Marty Moreno was only 42 when he had his first open heart surgery at a Topeka area hospital. So when he had a second open heart surgery a couple of years ago, he hoped his heart was repaired for good.

Instead, just two weeks after surgery, he began suffering from angina. “I was at cardiac rehab and was getting passed on the track by an 85-year-old man when my chest started hurting. I thought, that’s not right.”

Marty’s doctor agreed. He was beginning to run out of options, then was referred to Aaron Grantham, M.D., a Saint Luke’s cardiologist who specializes in opening the toughest coronary blockages called chronic total occlusions (CTOs).

During a five-hour procedure, Dr. Grantham placed six stents in Marty’s chronically blocked arteries. Now two years later, Marty says he can walk as far as he wants, and he hasn’t experienced any chest pain since.

“This ticker of mine has been put back together a couple of times,” Marty says. “But what Dr. Grantham did was nothing short of a miracle. Everyone at Saint Luke’s, the doctors and the nurses, were very kind and understanding. They made sure I received the care I needed, but they also cared about me.”

Chronic Total Occluded Arteries

One in six patients with plaque buildup in their coronary arteries has at least one artery that is



completely closed, like Marty. These blockages, or CTOs, are most frequently treated with medications or bypass surgery.

CTOs are more difficult to open than arteries that are only partially blocked and are considered the final frontier in interventional cardiology. Lower success rates and longer procedure times have hampered physician enthusiasm for attempting to open these lesions with angioplasty.

Expert Care

However, Saint Luke’s physicians have developed a new approach to CTO angioplasty, which includes a specialized CTO device, newer guide-wires, and drug-eluting stents.

“We are the only center in the Midwest, and one of just a handful in the nation to have a dedicated CTO team who has learned and become proficient in these techniques,” Dr. Grantham said.

Saint Luke’s interventional cardiology team:

- Has performed more than 2,000 CTO cases with an average success rate of 90 percent—far exceeding the national average of 65 percent.
- Uses a specialized CTO device, new guide wires, and the recently

developed retrograde approach.

- Has decreased average procedural times by half, from 180 to 90 minutes.
- Helps patients recover in just two or three days.

Grant to Study CTOs

Thanks to this expertise, Saint Luke’s has been awarded a \$3.4 million, three-year grant from Boston Scientific to investigate and better define the success, safety, health benefits, and cost-effectiveness of novel methods to open challenging blocked coronary arteries previously thought untreatable through minimally invasive techniques.

Saint Luke’s has organized the Open CTO registry enrolling consenting patients at 10 hospitals across the country currently using the new hybrid CTO approaches.

A total of 1,000 patients in the study will give Saint Luke’s the statistical power to examine the safety, effectiveness, appropriateness, health outcomes, and cost-effectiveness of the hybrid approach to CTO angioplasty. Dr. Grantham is the research study’s principal investigator.

For more information about the Boston Scientific CTO study or to refer a patient, call 816-931-1883.



Six Providers Join SLCC

Six providers have joined Saint Luke's Cardiovascular Consultants over the past several months.

Ashley R. Moser, D.O.

Dr. Moser received her medical degree from Kansas City University of Medicine and Biosciences in Kansas City, Mo. She then completed both her residency in internal medicine and fellowship in cardiology at the University of Missouri-Kansas City. Dr. Moser is board certified in internal medicine and cardiovascular diseases. She sees patients at our Saint Luke's North office.



Sarah Smith, P.A.

Sarah received her bachelors of science in nursing and completed the Adult/Gerontological Nurse Practitioner Program at the University of Kansas.



Before joining Saint Luke's, she provided primary care in an internal medicine practice in Joplin, Mo. Last year Sarah completed the doctor of philosophy (PhD) in nursing program at the University of Kansas Medical Center. She has co-authored several articles in peer-reviewed national and international journals. Sarah is seeing patients in the Charles and Barbara Duboc Cardio Health and Wellness Center on the Plaza, as well as at the Saint Luke's East and South offices.

Adam C. Salisbury, M.D.

Dr. Salisbury received his medical degree from the University of Missouri-Kansas City. He completed his residency in internal medicine at the Mayo Clinic, Rochester, Minn., followed by fellowships in cardiovascular outcomes research, cardiovascular diseases and interventional cardiology at Saint Luke's Mid America Heart Institute.



He also completed a master of science degree in clinical research with an emphasis in health services outcomes research at the University of Kansas. He is board certified in internal medicine, cardiovascular diseases and interventional cardiology. He also holds board certification from the National Board of Echocardiography. Dr. Salisbury works primarily from the Saint Luke's North office.

Robert M. Piotrowski, M.D.

Dr. Piotrowski received his medical degree from the State University of New York, Downstate Medical Center. He completed his internal medicine residency at Tufts Medical Center in Boston, Mass. He spent a year as a hospitalist at Northwestern Memorial Hospital in Chicago, Ill., prior to starting his cardiology fellowship at Barnes Jewish Hospital and Washington University in Saint Louis, Mo.



During fellowship, Dr. Piotrowski developed an interest in non-invasive

cardiology and heart failure. He is board certified in internal medicine, echocardiography, and is a registered physician in vascular ultrasound interpretation.

James E. Sear, M.D.

Dr. Sear received his medical degree from the St. Louis University School of Medicine. He completed his residency in internal medicine at the Medical College of Wisconsin and returned to St. Louis University to complete his fellowship in cardiology. He is a fellow of the American College of Cardiology and is certified in internal medicine and cardiovascular diseases. Dr. Sear has more than 25 years of practice experience in Kansas City.



John K. Lee, M.D.

Dr. Lee graduated medical school from the University of the Philippines College of Medicine, Manila, Philippines. He performed his residency at John H. Stroger Hospital of Cook County. He completed his fellowship at the University of Rochester/Strong Memorial and continued his fellowship in electrophysiology at the University of Western Ontario. Dr. Lee is board certified in cardiology and cardiac electrophysiology and specializes in treating electrical heart problems. His clinical interests include congestive heart failure, atrial fibrillation management, irregular heart rhythms and autonomic disorders.





Forget about It!

How You Can Avoid Alzheimer's Disease and Dementia

By James H. O'Keefe, M.D.

Alzheimer's is a multifaceted disease with many risk factors, including two, age and inherited genes, which are beyond our control. Even so, most of the key determinants of lifelong brain health are modifiable, and by following these steps you can maintain a strong and sharp mind for a century or more.

1. Tend a garden, walk your dog. Gardening is one of my favorite hobbies. It's hard to think anything but pleasant thoughts when eating a homegrown tomato. And one of the many reasons I love my dogs is that I have always-eager partners who make me feel guilty if I don't take them out for a walk or jog to get some fresh air at least once a day.

Walking with your dog and gardening are two of the best ways to cultivate robust physical fitness and mental well-being. Staying very physically active lowers the chances of getting Alzheimer's disease by a whopping 50 percent. Studies show that vigorous exercise raises BDNF (brain-derived neurotrophic factor), which is like Miracle Gro for the brain, stimulating new connections and enabling new learning.

Each week I try to include cardio exercise, strength training (like weight lifting), and balance/breathing work such as yoga and Tai Chi. Gardening is an ideal cross-training exercise that improves fitness, balance and

strength. Vegetables and flowers that you grow yourself improve your health and well-being, even if they never make it to your table.

2. Avoid added sugar and white flour. Experts sometimes refer to Alzheimer's as "diabetes of the brain," and a growing body of evidence shows that blood spikes in glucose and triglycerides trigger inflammation and damage neurons.

Even in people without diabetes, these spikes occur after consuming large, calorie-rich meals, high in processed foods and sweet drinks. This inflames your brain and shorts out connections between neurons, eventually leading to dementia.

3. Savor a Mediterranean diet. Let's be clear, this does not mean binge eating pizza and pasta. Rather, this is an eating style centered around vegetables, nuts, fish, beans and olive oil; choose fruit (berries are ideal) for dessert. Consume only modest amounts of dairy and meat, and avoid processed foods. Unsweetened yogurt is the best form of dairy.

4. Consume plenty of omega-3 fats. The DHA form of omega-3 is essential for keeping the brain's cell membranes soft and supple. Omega-3 fats may help preserve optimal brain function by reducing beta-amyloid plaques. Foods rich in omega-3 include cold-water fish such as salmon, sardines, tuna, trout and sea bass.

5. Protect your brain. Head trauma at any time during one's life can increase the risk for Alzheimer's and other neurodegenerative diseases such as Parkinson's.

This can increase risk whether it's due to serious injuries or concussions from cycling, skating, skiing, or motor vehicle accidents, or repeated hits to the head from sports like diving, boxing, football and soccer.

Make it a priority to protect your brain by wearing helmets and seatbelts; and avoid multi-tasking, such as using your mobile phone when doing activities that carry risk of falls or injury.

6. Infuse your diet with color. The top superfoods are colorful fruits and vegetables; especially those with bright colors and dark hues. Each day consume a rainbow of the color spectrum: ruby red tomatoes, orange carrots, pink grapefruit, leafy greens, blueberries, red strawberries and raspberries, blackberries, and yellow lemons. Joan says that for each of your three daily meals, you should choose two or three colors and a protein. Skip the starch and grains.

7. Get addicted to coffee and tea. Over the past year I have been working with some of the world's top experts in nutrition as we re-write the American College of Cardiology dietary guidelines.

The growing consensus is that cof-

fee is uniquely protective against neurological disorders including Alzheimer's and Parkinson's disease, and also helps to prevent depression—regular coffee drinkers slash their suicide rate by about one-third compared to non-coffee drinkers.

I was so impressed that I've made a point of adding two or three cups of brewed black coffee to my morning routine; and then drinking my green tea in the afternoon and evening. Even the tendency for coffee and tea



to promote dependence can be an asset; the headache and sluggishness will remind you when you forget your morning caffeine fix.

A regular habit of green tea and coffee enhances memory and mental alertness and slows aging of the brain. Green, white and oolong teas are all brain healthy. So shoot for drinking two to three cups of coffee daily, and/or two to six cups of tea each day. Even iced tea is brain-healthy; just skip the sweeteners. Don't drink caffeinated coffee after 2 p.m., or it may disturb your sleep.

8. Consider supplements. Encouraging studies suggest that vitamin D (about 2,000 IU/day), magnesium (300 to 400 mg/day), and fish oil (1,000 mg/day of DHA + EPA) may promote long-term brain health. On the other hand,

vitamin E, ginkgo biloba, vitamin C, and turmeric have yielded less impressive results in clinical trials to date.

9. Sleep eight hours per night. Let me be more explicit here: get to bed by about 10 p.m. and awaken before 7 a.m. The first step in changing anything is measuring it: get an activity monitor that tracks your sleep and your steps.

The first half of the night is for deep stage 4 sleep during which glymphatic channels open up and watery fluid

flushes away the debris and smoke that accumulated in your brain during the day.

The second four-hour segment is for REM sleep and dreaming. This is when your mind consolidates new memories, and deletes unneeded info like where you parked your car while you were shopping earlier in the day.

10. Take the road less traveled. People who continue to learn new things throughout life and challenge their minds are less likely to develop Alzheimer's disease.

Remember, "use it or lose it" applies to your brain as much as to your sex life. Develop new skills, learn a foreign language, practice a musical instrument, take up a new hobby, and read books or listen to audiobooks rather than watch TV. The more the novelty

and the harder the mental challenge, the greater the boost in your brain reserves.

Discover new routes, use your non-dominant hand to eat and brush your teeth. Download new apps and use them. By varying your routine, you will create new brain pathways.

11. Nurture your sense of humor. Don't be afraid to laugh at yourself. The act of laughing improves your mental well-being and your physical health. Don't take yourself so seriously, nobody else does.

12. Avoid substance abuse. Don't smoke; tobacco use almost doubles your odds of Alzheimer's. If you drink alcohol, do so in moderation. Red wine is best, but not more than one 6-ounce glass/day for women and not more than two glasses/day for men. Be careful, heavy drinking increases the risk of Alzheimer's and accelerates aging of the brain.

13. Make sure your blood pressure and cholesterol numbers are good. Uncontrolled high blood pressure and LDL (bad) cholesterol are associated with an increased risk of both Alzheimer's disease and vascular dementia (from strokes). Getting your blood pressure and lipid levels into the ideal range is great for keeping your brain youthful and your heart strong.

14. Manage your weight. Excess body fat, particularly around your mid-section, is a risk factor for dementia. A study of 10,000 people followed for over 30 years reported that those who were overweight during midlife were twice as likely to eventually develop Alzheimer's; while obese people had three times the risk. Aim to keep your waist measurement less than half your height in inches.



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