

From the HEART

A newsletter from Saint Luke's Cardiovascular Consultants

Winter 2023

INSIDE

Be Like Harry	3
Practicing What He Preached . . . for 105 Years! . . .	4
The Unmatched Power of Real Food	6
Sleep at Least Seven Hours Nightly to Power Wash Your Brain.	8
Take Steps Now to Avoid Alzheimer's in the Future . . .	10
Blue Mind: The Power of Water to Improve Well-being.	12
Living Wholeheartedly	15
Brave New World: Strategies for Trimming Your Waistline and Improving Heart Health	16
What's Making Us Sick, and How to Fight It.	18
New Providers at Saint Luke's Cardiovascular Consultants	20

Is Retirement Stressful for Your Heart?

James H. O'Keefe, MD

Many people look forward to the day that they can afford to retire, and I personally know a great many people who are thriving in retirement. Paradoxically though, leaving the workforce can be a serious life stress for some people. Indeed, one study reported that people in the first year of their retirement were 40% more likely to suffer a heart attack or stroke compared to similar people who kept working.

Waiting to retire till after age 65 might be good for longevity too, according to a study published in the *Journal of Epidemiology & Community Health*. Researchers at Oregon State University analyzed data from about 3,000 people who were employed at the beginning of the study and then followed them closely for the next 18 years to note when they retired and then correlated that with how their health fared. Compared with the cohort retiring at age 65, the workers who deferred retirement until age 67 had a 21% lower risk of dying during followup. The people who waited until 70 to retire had a 44% lower risk of death, and by age 72 the risk was 56% lower. These apparent longevity benefits of delay-



ing retirement occurred irrespective of other lifestyle factors, including gender, education, income, and occupation.

"Use it or lose it" is probably relevant to why postponing retirement for some people seems to delay age-related declines in physical and mental functioning. Mandatory retirement in the U.S. was abolished in 1986 except for a few professions such as airline pilots and judges, though in recent years, age limits even for those occupations have been pushed out to older ages. My father was a judge in North Dakota. When he finally retired at about age 65, he told me, "The worst part of be-

Is Retirement Stressful for Your Heart?

ing retired is that you never get a vacation.”

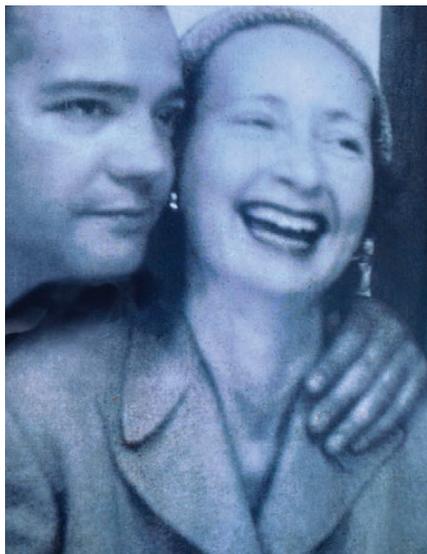
For a while, leaving behind a long commute, workplace politics, time pressure, and a harsh boss can feel like a welcome relief. However, many recent retirees discover that after a few months, the novelty of a never-ending vacation wears off, and they find that they miss the sense of purpose and social connections that came with their job, as well as the satisfaction of being productive. And then there’s the loss of the salary, health insurance, and other work-related perks. All this should make you think twice before retiring fully.

New retirees can be at increased risk for mood problems like depression and anxiety. Instead of feeling untethered, relaxed, and content, you may feel complacent, bored, and isolated. You may mourn the loss of your identity at work, feel stressed about your loss of a focus, or worry that being at home all day might affect your relationship with your significant other.

I’ve been a doctor for more than 40 years, and many of my contemporaries are retiring. But I can assure you that voluntary retirement is not in my foreseeable future. I have always been grateful to be in a profession that heals, and I enjoy my work more than ever. I feel like I’m doing what I was meant to do. Why retire? I love caring for my patients, many of whom have become personal friends. I am privileged to work at Saint Luke’s Hospital of Kansas City, whose motto is “The best place to get care. The best place to give care.” It’s a pleasure to teach young doctors, whose curiosity and intelligence are inspiring.

Our cardiology group, Saint Luke’s Cardiovascular Consultants of the Mid America Heart Institute, is one of the

very best cardiology practices in the nation, and many of my colleagues and co-workers are dear friends. I’m genuinely happy and enthused to go to work each morning even after all these years. Our ability to prevent and treat heart disease and improve our patient’s quality of life and longevity are better than ever. Confidentially, I would probably keep doing what I’m doing even if I wasn’t getting paid. The other key issue here is that my wife, Joan, is much happier when I leave the house at 8:00 each morning and don’t come home until dinner.



Leonard and Kathleen, circa 1953

In Okinawa, Japan, the culture with the best life expectancy in the world, they don’t even have a word for retirement. Instead, they focus on *ikigai*, which means “the reason for which you wake up in the morning.” Okinawans don’t stop being productive once they reach retirement age. Instead, they transition from full employment to being fully engaged in other endeavors, like a second career, volunteering, gardening, spending time visiting and helping their friends, and supporting family members. My Grandmother Dorothy O’Keefe, who I lived with during

my four years at University of North Dakota, was a cheerful source of love and inspiration during my formative years. I was the first of 10 grandkids for whom she provided free room and board while we went to college. Never a negative word out of her, and she lived to age 103.

Retirement Was Invented

Retirement in the United States was invented in the 1950s as the post-war American economy boomed and Social Security provided a government-subsidized pension for people at least 62 to 65 years of age. This first generation of retirees were mostly males who had lived through and maybe fought in world wars, then labored at physical jobs they held for decades. Back then, life expectancy was only about 65 to 70 years for men, and they often yearned for a few years of fun in the sun with their spouses.

My father-in-law, Leonard, could have been a poster boy for the 20th century American ideal retirement. He was a union dockworker on Fisherman’s Wharf in San Francisco until he retired at age 62, when he and his wife Kathleen bought a modest but comfortable home in Sun City West, Arizona. He lived another 32 years and spent his days enthusiastically gardening, playing golf, feeding the wildlife in the Arizona desert, doing crossword puzzles, and socializing with his wife and friends at happy hour. He thoroughly enjoyed a second childhood after retirement because he reinvested his time and energy into personal passions that made him excited to greet each new day.

Generally, people who are enjoying happy and healthy retirements have re-engaged their energy and interests in fun and productive endeavors. I tell my patients who are nearing or

continued bottom of next page



Darren taking Theo for her morning walk

Be Like Harry— Get Outside for a Brisk Morning Walk

his neighborhood, past the houses, schools, and churches he had always known.

His daily routine started with a 20 to 40 minute bracing walk as the sun was coming up. Harry said that he walked “as if I were on my way to an important meeting.” While president, his security guards tagged along behind as Harry marched at about 120 paces per minute, a military cadence he learned from his days as a soldier in the army during World War I.

Harry was also a dog lover and famously said, “If you want a friend in Washington, buy a dog.” In fact, adopting a dog is an ideal strategy for developing a walking habit. Compared to people who don’t have a dog, those who adopt a dog into their home are about 14 times more likely to be recreational walkers, and four times more likely to meet current U.S. guidelines

of 150 minutes per week of physical activity. The highlight of your canine best friend’s life will be getting out for a walk with you at least once a day, regardless of the weather. I believe that the considerable mental and physical health benefits of having a loving and devoted walking partner are worth the added responsibilities and expenses of dog ownership.

The season of the year didn’t matter much to Harry, who walked the streets even when they were covered in snow. With the passing decades, he continued his morning walks, albeit for shorter distances at a more leisurely pace. In 1969, when Truman was 85 years old, a school-boy at William Chrisman Junior High School recalled seeing the retired president walking by a few minutes before 8:00 each morning.

continued on page 9

at retirement age, “If you enjoy your work, it might be good for you to put off retirement for a while, but at the very least, make sure you are not overworking. You should take plenty of time off for play, rest, and relaxation.” Understandably, as people near retirement age they usually do not want to put in more than 40 or 45 hours per week or work weekends and holidays. They would instead prefer to have more time off to do what they want, when they want, with whom they want. Engaging in hobbies, especially creative, playful, or social activities, enhances mental wellbeing and cognitive function. A study from Japan found that hobbies also reduce risks of heart attack and stroke. A hobby helps to develop an alter-ego that’s not defined by your job. Having more than

one “identity” boosts self-esteem and helps to avoid burnout.

In 2022, things are very different from 70 years ago, when retirement was a foreign concept. For the first time ever, there are more women than men in the American workforce. Most of these women and many of their spouses will live not just a few years past 65, but decades longer, often in good mental and physical health. Encouraging them to stay home, watch TV, and sit on the front porch rocker watching the world go by is not in their best interests, nor is it in their nature. All of us will be more vibrant and youthful if we stay



engaged with the outside world as much as possible. So whether you decide to retire or not, try to stay in the mix, cultivate purpose in your life, and search for meaningful ways you can share the wisdom and skills that you earned from decades of productive life in the workplace.

Practicing What He Preached . . . for 105 Years!

John Camoriano, MD



Sometimes a life is so well-lived, for so long, that it becomes a study in itself on HOW to live. Such is the case with Dr. Shigeaki Hinohara. Born in Japan in 1911, he lived a remarkable life, both professionally and personally, until his death in 2017 from respiratory failure.

Dr. Hinohara graduated from Kyoto Imperial University in 1937 and then practiced in Tokyo, where he became the director of St. Luke's International Hospital (not affiliated with Saint Luke's Hospital of Kansas City) in 1942. Far from living in an ivory tower, he stayed involved in patient care on a day-to-day basis in ways that reads like a novel.

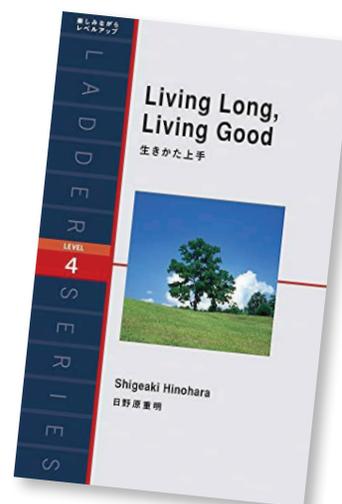
During World War II, he lived through the firebombing of Tokyo where more Japanese died than did in the nuclear bombing of Nagasaki. He ministered to the burned and injured during that time.

In the 1950s, he pioneered a system of complete annual physicals that he

called "human dry-dock." In the 1970s, he reclassified strokes and heart disorders as lifestyle ailments that were often preventable through diet and exercise. These advances helped lengthen the lives of average Japanese people. Women born there today can expect to live to 87 and men, to 80. When he was born, the average lifespan of the Japanese was closer to 40.

In the 1970s, when flying to a medical conference, he was taken hostage with 121 other passengers when Red Army terrorists armed with pipe bombs and swords hijacked a commercial jet and held them handcuffed to their seats, for four days on the runway in 100F heat. This greatly influenced his later life as he explained, "I believe that I was privileged to live, so my life must be dedicated to other people."

In 1995, a radical cult attacked a subway with poisonous gas. Dr. Hinohara had equipped his hospital a year before with capabilities to handle mass casualties and is credited with saving 640 of 641 would-be victims because of it. In 2000, at the age of 88, he conceived a musical version of Leo Buscaglia's book *The Fall of Freddie the Leaf*, which was performed in Japan and played Off-Broadway in New York. He wrote scores of books in Japanese, including *Living Long, Living Good* (2001), which sold more than a million copies. His last book was written when he was 101.



Dr. Hinohara took up golf in his last two decades of life. He was still seeing patients in his practice up until the last weeks of his life, sometimes working up to 18 hours a day.

So what did Dr. Hinohara say were the keys to his successful and long life?

- 1. Don't make too many rules.** He warned against too many rules, saying, "We all remember how as children, when we were having fun, we often forgot to eat or sleep. I believe we can keep that attitude as adults—it is best not to tire the body with too many rules such as lunchtime and bedtime."
- 2. Avoid obesity.** How did he do this? He maintained his weight at about 130 pounds. His breakfast: coffee, milk, and orange juice with a tablespoon of olive oil. His lunch: milk and a few biscuits. His dinner: vegetables with a small portion of fish and rice. He would consume three and a half ounces of lean red meat twice a week.
- 3. Exercise.** He advised people to take the stairs (he did, two steps at a time) and carry their own packages and luggage. Even at more than 100 years of age, he would exercise by walking with a cane at least 2,000 steps per day.
- 4. Remember that doctors cannot cure everything.** He warned against too much medical intervention. He himself refused a feeding

tube at the end of his life. He said “When a doctor recommends you take a test or have some surgery, ask whether the doctor would suggest that his or her spouse or children go through such a procedure. Contrary to popular belief, doctors can’t cure everyone. So why cause unnecessary pain with surgery?”

- 5. Don't underestimate the beneficial effects of music and the company of animals.** Both can be therapeutic. He instituted animal/pet therapy, art therapy, and music therapy in his hospital for the patients' well-being.
- 6. Don't ever retire.** But if you must, do so a lot later than age 65, and craft a life of active volunteerism (see #9 below). Having a reason to live gives you little time to die.
- 7. Prevail over pain by enjoying yourself.** He advised imitating the child who forgets his toothache through the distraction of play.
- 8. Pick a worthy role model.** He revered his pastor father who graduated from Duke University and taught him to love literature and poetry. “Find a poem or saying that gives you meaning and live by it,” his father told him.
- 9. Share yourself and be giving.** “Share what you know. I give 150 lectures a year, some for 100 elementary school children, others for 4,500 business people. I usually speak for 60 to 90 minutes, standing, to stay strong.”
- 10. Don't worry about material things.** You can't take them with you. Simplifying life reduces stress. Why serve your things by storing, fixing, cleaning, and managing them? Make sure that the things you have serve you.

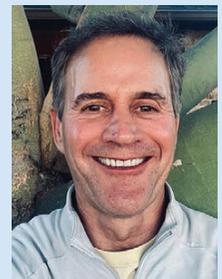
Saint Luke's Cardiovascular Consultants

Suzanne V. Arnold, MD
 Bethany A. Austin, MD
 Dmitri V. Baklanov, MD
 Charles W. Barth, MD
 Timothy M. Bateman, MD
 Matthew C. Bunte, MD
 Kevin A. Bybee, MD
 Paul S. Chan, MD
 Adnan Chhatrwalla, MD
 Matthew G. Deedy, MD
 Jonathan R. Enriquez, MD
 Mark P. Everley, MD
 Tim Fendler, MD
 Adam Fleddermann, MD
 Michael J. Giocondo, MD
 Joseph A. Goeke, MD
 Thomas H. Good, MD
 J. Aaron Grantham, MD
 Anna Grodzinsky, MD
 Sanjaya K. Gupta, MD
 Anthony J. Hart, MD
 Kenneth C. Huber, MD
 Chetan Huded, MD
 Arun Iyer, MD
 Dany Jacob, MD
 Andrew C. Kao, MD
 Taiyeb M. Khumri, MD
 Jessica Kline, DO
 Mikhail Kosiborod, MD
 Steven B. Laster, MD
 Stephanie L. Lawhorn, MD
 John K. Lee, MD

Kyle Lehenbauer, MD
 Jason B. Lindsey, MD
 Anthony Magalski, MD
 Michael L. Main, MD
 Susan A. Mayer, MD
 Justin R. McCrary, MD
 A. Iain McGhie, MD
 Michael E. Nassif, MD
 James H. O'Keefe, MD
 Nicholas M. Orme, MD
 Alejandro Perez-Verdia, MD
 John E. Peterson, MD
 Riaz R. Rabbani, MD
 Valerie J. Rader, MD
 Brian M. Ramza, MD, PhD
 Carlos Rivas-Gotz, MD
 David M. Safley, MD
 Mohammed Saghir, MD
 Adam C. Salisbury, MD
 Andrew Sauer, MD
 John T. Saxon, MD
 Laura M. Schmidt, MD
 James E. Sear, MD
 David G. Skolnick, MD
 Brett W. Sperry, MD
 Daniel A. Steinhaus, MD
 Tracy L. Stevens, MD
 Robert E. Tanenbaum, MD
 Randall C. Thompson, MD
 Deepthi Vodnal, MD
 Alan P. Wimmer, MD
 Martin H. "Tony" Zink, III, MD

Emeritus: Allen Gutovitz, MD; Warren Johnson, MD; David McConahay, MD; Daniel Scharf, MD; and David M. Steinhaus, MD. In Memoriam: Robert D. Conn, MD; James E. Crockett, MD; Geoffrey O. Hartzler, MD; and Ben McCallister, MD.

Funds generously donated to the Saint Luke's Foundation by grateful patients enable us to publish *From the Heart* and send it to more than 260,000 homes and offices. All materials are created by our physicians solely for the education of our patients and referring physicians and should not be considered a substitute for medical advice. You should always talk to your health care provider for diagnosis and treatment regarding your specific medical needs.



Dr. O'Keefe

James H. O'Keefe, MD, Editor-in-Chief
 saintlukeskc.org

Lisa Harkrader, Associate Editor
 lisaharkrader.com

© 2022, Saint Luke's Cardiovascular Consultants. All rights reserved.

To be added or removed from this newsletter mailing list, email Lori Wilson at ljwilson@saintlukeskc.org or call 816-751-8480.



Lisa Harkrader



The Unmatched Power of Real Food

James H. O’Keefe, MD, and Joan O’Keefe, RD

Dr. Robert Lustig has spent more than 40 years as a physician/researcher treating obesity and diabetes and finding ways to prevent these issues. He lays out a compelling case against processed food as the principal offender that’s ruining our health, burdening the economy, and polluting our environment.

Some chronic diseases cannot be cured by food alone, and you should always consult with your doctor, but eating a diet of real, whole, unprocessed food is the simple and powerful habit that can cure most of the nefarious health problems that plague modern humans. “When you look carefully at the science of pathologies that cause modern diseases,” Dr. Lustig says, “you realize that **none are druggable**, which is why they don’t respond to our current medications, and why people keep getting sicker despite the doctors’ best efforts.” These pathologies are glycation, oxidative stress, mitochondrial dysfunction, insulin resistance, membrane instability, inflammation, epigenetics, and autophagy. These may not be druggable, but thankfully, they are **“foodable”**—eating and drinking almost exclusively natural unprocessed foods will correct

the pathologies and thereby prevent or treat the diseases that are so prevalent, including heart disease, cancer, diabetes, most gastrointestinal (GI) disorders, and Alzheimer’s. Dr. Lustig says, “So all these medicines that we currently throw at these various chronic diseases, they are treating the symptoms of the disease, but they are not treating the underlying pathology. The disease is still there.”

Dr. Lustig’s mantra is: **It’s not what’s in the food but what’s been done to the food.** Processing food generally involves stripping out the fiber and nutrients and adding in sugar, salt, preservatives, and other chemicals. Jack LaLanne was on target when he urged, “If man made it, don’t eat it!” Often you can’t tell what’s been done to the food by looking at the food label, which is why the healthiest foods tend to be those that don’t carry a nutrition facts label, such as fresh vegetables, fruits, berries, fish, seafood, and lean fresh cuts of meat. There are exceptions, like water, which is ideally processed by filtration and/or reverse osmosis to remove all impurities and chemical contaminants to get it back to water that might be found in pristine natural sources.

Dr. Lustig has been on the forefront of medicine and science for the past four decades, and he believes that our current health care paradigm has “gone off the rails” under the influence of Big Food, Big Pharma, and Big Government. In his brilliant new book, *Metabocal*, he asserts:

- Most chronic diseases are not “druggable,” but they are “foodable.”
- Medications for chronic disease treat symptoms, not the disease itself.
- Processed food made with added sugar, white flour, salt, caffeine, and other additives is not only toxic, it’s also addictive.
- The battle between vegetarian and Paleo diets is a false war. The combatants are on the same side, where real food is the answer and processed food is the villain.
- Big Food, Big Pharma, and Big Government are on the “dark side,” deluding us into thinking that we can fix our nation’s deteriorating health and shortening life expectancy with more processed foods and drugs.

Protect the Liver, Feed the Gut

Dr. Lustig says food is the single most potent lever we can use to bring about the biochemical changes needed to optimize our health. He insists that what we choose to eat should be based on two overarching mandates. The first goal—protect the liver—is accomplished by avoiding all foods with added sugars, as well as junk food, processed foods, fast food, and sweetened beverages. These high-calorie, ultra-processed foods are quickly digested, resulting in spikes in insulin, sugar, and triglycerides. This eventually overwhelms the liver by stuffing it full of fat, a condition we call hepatic steatosis (fatty liver), which is seen in up to 40% of U.S. adults. When the liver is chock-full of fat, it spews inflammatory cytokines (small proteins that stimulate big changes in cells) into the bloodstream that light the fires of inflammation throughout the body, predisposing to everything from heart disease and cancer to obesity and Alzheimer's.

The second mandate—feed the gut—refers to the trillions of microbes inside your GI tract that play a fundamental role in health and well-being. To nurture beneficial microbes in your gut, it is essential that you eat whole foods in their unprocessed state. As Michael Pollan advises, "If it came from a plant, eat it; if it was made in a plant, don't." Foods like vegetables, nuts, fruits, legumes, and whole grains are rich in fibers—both soluble and insoluble—perfect for growing and maintaining a healthy and robust microbiome in the GI tract. You can also feed the gut by eating fermented foods like sauerkraut, kimchi, unsweetened yogurt and kefir, and pickles.

For example, my breakfast this morning was chilled boiled shrimp and avocado slices drizzled with fresh-squeezed lemon juice, a large bowl of unsweetened, fat-free Greek yogurt topped with frozen wild blueberries and walnuts, and a bowl of sauerkraut (the kind that's fermented with live cultures). I drank 24 ounces of water (with lemon juice) and 10 ounces of green tea. Meals like this promote health and healing from within. Nothing else that can reliably confer health benefits as well as a steady diet of real and unprocessed foods.

And nothing tastes as good as lean and fit feels. Make it a priority to eat whole natural foods and avoid virtually all beverages except water, unsweetened sparkling water, coffee, and tea (no sugar or sweeteners). A low-sugar alcoholic drink, like a glass of dry red wine, can be part of this healthy diet if you can keep it to not more than 10 drinks per week.

When you eat for health rather than taste, you develop a healthy taste.

—Bob Conn, MD

Fundamental Health Habits

- Take very good care of your feet and toenails. Keep your nails trimmed and filed. Scrub your feet when you bathe. Wear comfortable and well-fitting shoes.
- Be meticulous about your oral care. Brush at least twice a day, ideally with an electric toothbrush such as Sonicare or Oral B. Floss at least once a day. A diet of whole foods is the opposite of fast food and in fact, could be called "slow food" because it requires a substantial investment of time and energy spent on chewing up crunchy nuts and seeds, leafy greens, crisp veggies like carrots and celery, high fiber fruit like apples, avocados, and berries, and lean fresh protein foods like steak and seafood. All this chewing is not only good for

your gut and metabolism, it's also great for your gums, teeth, jaw, and facial muscles.

- Eat a big breakfast. Fast at least 12 hours nightly. Do not eat or drink anything with calories or artificial sweeteners after dinner. Overnight fasting protects the liver and feeds the gut by giving your system a chance to purify itself overnight. Remember, it is important to stay well hydrated with water during your fast.
- Get to bed by 10:30 p.m. and sleep seven or eight hours per night. Be very regular about your bedtime, during the week as well as on weekends and vacations.



Sleep at Least Seven Hours Nightly to Power Wash Your Brain



Getting enough good quality sleep is beneficial to mood and memory. Recent studies also consistently show that sleep is critical for decreasing your risk of dementia and early death.

Harvard researchers studied 2,800 people 65 years of age or older to evaluate the link between sleep habits and risk of developing dementia. They discovered that individuals who slept less than five hours per night were two times more likely to develop dementia and twice as likely to die from any cause during the five-year study, compared to those who slept six hours or more per night. Even after adjusting the data for demographic characteristics, including age, marital status, race, education, health conditions, and body weight, the people who did not get at least six hours of sleep per night were twice as likely to die during the study or to develop Alzheimer's disease.

In another recent study, researchers from France, Britain, the Netherlands, and Finland evaluated data from 8,000 people and found that regularly sleeping less than six hours in middle age was linked to a 30% increased risk of dementia compared to people sleeping at least seven hours per night. This study measured sleep duration objectively using a wearable device that tracked their sleep using body movements which made the sleep data more accurate and reliable.

We all have justifications for not getting enough good sleep, such as work, captivating TV shows or sporting events, social media, caretaking duties, and insomnia, to name a few. Although some of these excuses are legitimate, many are flimsy. Time spent sleeping is among the most important and valuable time of all. We must prioritize our sleep because nearly everything else depends upon it. Get in the habit of getting to bed early. If you need to set an alarm to awaken in the morning, you are not going to bed early enough. Just keep moving your bedtime earlier until you wake up spontaneously and start your day refreshed and revitalized without an alarm.

Power Wash Your Brain

One of the likely reasons that inadequate sleep increases your risk of Alzheimer's and dementia relates to the cumulative buildup of free radicals and protein debris in the brain. The brain is the most metabolically active organ of all. During waking hours, as it's busy thinking and directing the show for your whole body, it burns a large quantity of fuel. Your brain weighs about three pounds—only about 2% of your total body weight—but it burns about 20% of the calories you consume. Like any fire, this generates a lot of metabolic "smoke and ash" in the form of free radicals and protein debris, like beta amyloid—toxic gunk that needs to be washed away

nightly so that it doesn't accumulate and eventually trash the brain.

Thankfully, during a long and deep night's sleep, the glymphatic system flushes all this metabolic smoke and debris out of the brain. When we sleep, the neurons, glial cells, and blood vessels shrink substantially to open up a network of channels throughout the brain, allowing the watery cerebrospinal fluid to flow into all the nooks and crannies and wash away the nasty smoke and beta amyloid. If you don't get enough sleep, your brain won't have enough time to fully cleanse itself of the metabolic by-products. Eventually, inadequate sleep causes accumulation of this waste to the point that it interferes with the brain's function, resulting in dementia.

Great News

The critical point is that getting adequate sleep will reduce your risk of developing dementia. A recent study showed that people who were at increased genetic risk of developing Alzheimer's because of having one or two copies of the APOE4 gene had a lower risk of dementia if they got adequate amounts of high-quality sleep each night. Better sleep for these individuals not only lowered the likelihood of getting Alzheimer's disease, it also reduced the development of tau tangles that are one of the pathologic hallmarks found in the brain of Alzheimer's patients.

Bottom Line

Sleep isn't merely a passive and inconvenient interruption in the fun and productive waking hours. Along with a nutritious diet and physically active lifestyle, sleep is one of the three pillars upon which long-term brain health is built. Emerging scientific data shows that inadequate sleep over time can eventually lead to Alzheimer's and premature death, and

the troubles can start in middle age. You can slash your risk of dementia by prioritizing seven to eight hours of nightly sleep. If you're having issues with insomnia and you feel like you need a sleep aid, non-drug therapies like magnesium, melatonin, or baby aspirin taken before bedtime are your best options. Avoid prescription sleeping pills because they tend to be addictive and don't promote the deep

and restful sleep you need. The one prescription alternative that appears to be safe, effective, and non-habit-forming is trazadone.

*Sleep in an essential part of life.
But more important, sleep is a gift.*

—William Dement

Be Like Harry *continued from page 3***Getting Outside in the Morning Light Is Vital**

Andrew Huberman is a renowned neuro-ophthalmologist and a professor at Stanford University who hosts one of the most popular podcasts on health and well-being. He asserts, "Getting sunlight in your eyes first thing in the morning is absolutely vital to mental and physical health.

Being outdoors in the morning sunshine for a walk, a run, a bike ride, some yoga, or gardening is the best way to entrain your circadian rhythm so that you're wide awake all day and sleeping soundly at night. The morning outdoor light in your eyes triggers the timed release of cortisol, which acts as a wake-up signal and promotes alertness and the ability to focus during the day. The dawn sunlight also starts a timer for melatonin—suppressing it during the day. Then as dusk fades into darkness, the melatonin level rises again, which induces deep restorative sleep.

Huberman says that being bathed in the sun's rays outside is vastly superior to seeing sunlight through a window for synchronizing your internal clock to Earth's natural light/dark planetary rhythm. Glass filters out a swath of blue light wavelengths that are essential for providing the wake-up

signals the body and brain rely upon for maintaining your circadian rhythm. Huberman emphasizes that bright outdoor light coming into the eyes during the day, provided it's not painfully bright, is excellent for boosting mood and energy level, blunting food cravings, and improving sleep.

However, Andrew also warns that we should "avoid light like the plague" during normal sleeping hours. Bright light between about 10 p.m. and 4 a.m., particularly if it happens on a regular basis, suppresses dopamine release in the brain, which predisposes to learning and memory difficulties, depression, anxiety, elevated blood sugar levels, and maybe even cancer.

10K Steps a Day Keeps the Doctor and Alzheimer's Away

A new study published in *JAMA Neurology* found that taking 10,000 steps a day can slash the risk of dementia by 50%. Even getting 4,000 to 5,000 daily steps can reduce dementia risk by 25%.

The UK Biobank study involving 78,000 adults reported that regularly walking for 30 minutes at a brisk pace was linked to a 68% decrease in the risk of dementia. To be more specific, participants who walked at about 80 to 120 steps a minute, even for

short periods on a regular basis, had significantly lower risks of developing dementia. My good friend Dr. Mark Freed gives his patients "marching orders" whereby he tells them to "walk like you're running behind."

Brisk walkers also reduce their chances of developing cancer and cardiovascular disease. An abundance of data shows that getting in the habit of walking with vigor can dramatically improve long-term health and well-being. Walking fast enhances CV health by lowering blood pressure, blood sugar, and cholesterol, trimming waistline and body weight, and soothing emotional stress. Rather than walking indoors on a treadmill, hiking outdoors is much better for brightening mood, synchronizing your body's internal clock, and improving sleep. Walking briskly outdoors with a friend or your dog also stimulates BDNF, which fosters new brain connections and improves cognitive abilities.

Take-home message:

An outdoor exercise routine is a key habit that confers longevity and helps us age gracefully.

Take Steps Now to Avoid Alzheimer's in the Future

James H. O'Keefe, MD



The cardiologist who recruited me to Kansas City in 1988, Ben McCallister, MD, was a brilliant visionary and a lovable character. He founded Saint Luke's Mid America Heart Institute in 1975 as the first hospital in America developed and designed specifically for cardiovascular care. Each year, the *U.S. News & World Report* ranks patient outcome data and other key details from the largest 800 hospitals in the U.S. In 2022, Saint Luke's Mid America Heart Institute was ranked #22 in the nation. No other hospital in Missouri or Kansas was in the top 25 for cASardiology. The next closest was Barnes Jewish Hospital in St. Louis, Missouri, at #39. The Mid America Heart Institute would have never come into existence without Ben's vision, hard work, and dedication to making it a reality.

Dr. McCallister was one of my all-time favorite people. He was always genuinely concerned about his family, patients, and colleagues, as well as the nurses, techs, and maintenance staff at the hospital. A happy and optimistic soul with a great sense of humor, he was a genius at program development. He devoted virtually all his boundless energy to the people in his life, his profession, Saint Luke's hospital, and the Kansas City community.

In his late 70s, Ben began to have memory problems and became increasingly confused. Tragically, he was diagnosed with Alzheimer's disease, which progressed rapidly. About 18 months after he was diagnosed, his son told him that they were looking at admitting him to a skilled nursing unit. Upon hearing this, Ben never uttered another word and immediately stopped eating or drinking anything. It was like a deep part of his personality that was still intact decided a hunger strike was his last, best option. He slowly drifted into a coma and died just one week later.

It broke my heart to see this happen to Ben. He was an iconic leader in American cardiology and gave so much to the world, yet in the end had to endure such a tragic fate. Still, if he could see Saint Luke's Cardiovascular Consultants today, it would make him smile to recognize that his legacy remains the foundation of our group: cutting-edge excellence in a diverse and collegial health care team that follows his dictum, "The best interests of the patient are the only interests to be considered."

Alzheimer's is perhaps the worst disease of all as it robs us of our personality and leaves us unable to care for ourselves so that we become a burden on our loved ones. With the improved life expectancy over recent decades,

more and more of us are vulnerable to this increasingly prevalent scourge. Today, we have no cures or effective therapies for this type of dementia so it is essential to get out in front of it and prevent it from someday destroying our brains.

Thankfully, we are increasingly able to prevent Alzheimer's, and the beauty of this evolving strategy is that it's also a sure-fire recipe for keeping you fit, happy, and healthy with a good heart. If you make it a priority to try to follow the steps outlined below, you can almost certainly avoid ever having to deal with the dreadful consequences of Alzheimer's, even if you have a family history of dementia or genes like Apo E4 that predispose to it.

Good for the heart, good for the brain.

Most of the risk factors that cause atherosclerosis, heart attacks, and strokes also increase the risk for Alzheimer's. These troublemakers include high blood pressure, high LDL cholesterol, obesity, inactivity, depression, bad diet, sugar, junk food or ultra-processed foods, and smoking. Vascular dementia can be prevented by making sure these risk factors are controlled. We recently completed a notable study that showed having blood levels of omega-3 in the top quintile reduced risk of stroke by 17%.

We know for sure how to prevent strokes and heart attacks by stopping smoking, minimizing use of alcohol to not more than seven drinks per week for women or up to 10 drinks per week for men. It is also essential that you are conscientious about following a healthy diet high in fiber from vegetables (especially leafy greens and cruciferous veggies like broccoli, kale, and cauliflower), fruit (particularly berries), nuts, and fish or seafood. It's equally

important to avoid the dietary villains, including anything with added sugar, white flour, and other highly processed foods. Additionally, you need at least 150 minutes per week of exercise—moderate activity is ideal, and more is better. Make sure your blood pressure is low-normal and keep your blood sugar level under 100 as much as possible.

Lifestyle affects Alzheimer's risk.

Emerging research indicates that other factors are linked to dementia. By modifying these risk factors, we can lower the risk of dementia including Alzheimer's disease.

- **Depression.** This is highly treatable with omega-3, curcumin, and exercise. Many safe and effective antidepressant meds are also available if needed.
- **Social isolation and loneliness.** Take a class, join a group, or attend religious services regularly. Connect with your family, neighbors, and friends every chance you get. Humans are among the most social creatures on Earth—we are happier and healthier when we bond with other people, animals, and plants. Dr. O.E. Wilson, a famous Harvard biologist, dubbed this “biophilia,” or love of living things. This is the notion that we Homo sapiens possess an innate tendency to seek connections with other forms of life. An instinctive need to connect with natural creatures, including other humans, is deeply engrained in our DNA.
- **Physically inactive lifestyle.** Make it a priority to be more active. It's one of the best ways to reduce risk of dementia. Exercise is extremely beneficial, particularly if it's done outdoors, with a friend or a dog, or by playing interactive sports. Shoot for 8,000 to 10,000 steps per day. Get an activity tracker or just use your phone. Pro-tip: You will get credit for more steps per day if you are wearing a tracker on your wrist rather than with using your phone to count your steps.
- **Hearing loss.** Protect your ears when around loud noises. If you have hearing loss that's making it hard to communicate with others, get hearing aids. They get better and more affordable all the time. Now hearing aids are available without a prescription, which makes them much less expensive.

Therapies that show promise.

- **Omega-3, particularly the DHA form of fish oil.** A recent large meta-analysis showed that higher levels of DHA in the cell membranes were linked to a 49% lower risk of Alzheimer's. The optimal dose to get the brain benefits of omega-3 is at least 2,000 mg per day of DHA + EPA. Make sure to take omega-3 with a meal that has some fat in it to help with absorption.
- **Curcumin.** This extract from the spice turmeric is a potent brain-booster that works by reducing levels of TNF- α , the master hormone that turns on inflammation throughout the brain and body. Look for a well-absorbed form of curcumin like Theracurmin that has proven benefits for boosting brain function.
- **Statins.** A recent definitive meta-analysis of 46 observational studies that included almost six million participants focused on the effects of long-term statin use on the risk of Alzheimer's disease. Surprisingly, this study found that statins were associated with a highly significant 32% reduction in the risk of Alzheimer's. Rarely, people complain of temporary brain fog on a statin, and there is an urban myth in America that statins cause brain problems. This authoritative study indicates that the opposite may be true—statins help to protect your brain and prevent Alzheimer's in the long run. If you have high cholesterol but can't or won't take statins, talk to your doctor about ezetimibe or Repatha—drugs that have minimal side effects yet lower cholesterol and reduce the risk of heart attack, stroke, and CV death.

- **Keep your blood pressure normal, ideally under 120/80 most of the time.** A healthy lifestyle and diet help to keep blood pressure down, but take prescription BP meds if needed.
- **Flu vaccine.** A recent study of 2 million Americans found that those who routinely got an annual flu vaccine were 40% less likely to get Alzheimer's. One more reason to get your flu shot each fall.
- **Vitamin D.** A large new study from the U.K. Biobank found that Vitamin D deficiency was strongly linked to an increased risk of dementia. Know your vitamin D level and keep it in the normal range. This usually requires taking a daily vitamin D supplement.

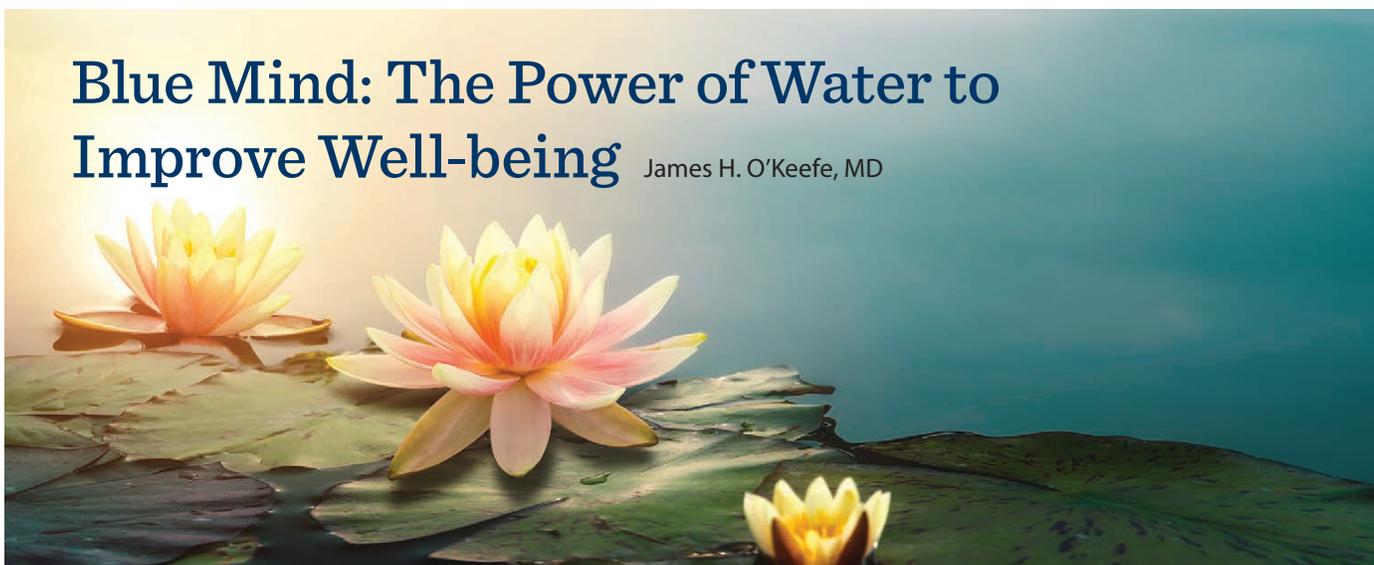
Dr. O'Keefe is founder and chief medical officer of CardioTabs, which markets omega-3, curcumin, magnesium, and vitamin D.

Practical steps to slash risk of Alzheimer's and dementia:

- Be an avid reader and listen to audiobooks.
- Study a foreign language.
- Learn to play a musical instrument.
- Volunteer in your community. Here at Saint Luke's, the volunteers are a force for good that help make our patients feel truly cared for.
- Play group sports, such as pickleball, tennis, soccer, golf, bowling, softball, or frisbee.
- Explore new activities or hobbies.
- Cultivate an active social life.
- Prioritize getting at least seven to eight hours of restful and restorative sleep.
- Garden and care for plants.
- Adopt a dog into your home.
- Protect your head with a helmet when bicycling, etc. Don't dive into water.

Blue Mind: The Power of Water to Improve Well-being

James H. O'Keefe, MD



My wife Joan grew up in California near the Pacific Ocean, and she is still a beach girl at heart. Since childhood, Joan has instinctively known that water has special powers to relax and destress her mind and body. In fact, she was planning on studying to be a marine biologist until she became fascinated with nutrition in college. Her favorite vacation is a quiet and warm seaside venue where she can walk barefoot in the sand and sunbathe during the day, and then sometime after sunset drift off to sleep to the sounds of gentle waves rolling onto the shore. As a teenager, Joan swam competitively for several years, often in a cold outdoor pool during predawn workouts, which left her with a negative connotation of swimming. Since then, for her day-to-day water therapy, she indulges herself with a long, steaming-hot shower as an essential part of her morning routine.

Wallace J. Nichols is a marine scientist who authored a wonderful book, *Blue Mind*, which uses science and stories to make the case that being near, in, on, or under water can make us less stressed, healthier, happier, and more connected. After the last few nerve-

wracking years, many Americans are feeling emotionally exhausted, burned out, and struggling to find balance in their lives again. If you feel like you need to refresh your mental state of mind, water can be a vital therapy to accomplish this goal.

Neuroscientists have found that spending time near blue spaces—lakes, oceans, rivers, streams, and even pools and fountains can calm anxiety, lift mood, boost mental sharpness, and generally improve well-being. Doing activities in or on water, such as swimming, paddleboarding, sailing, kayaking, or surfing can help immerse us in a flow state, where we become engrossed in the activity and lose track of time. In the flow state, you're completely focused on a single task, and all your attention is directed toward the activity so that you don't experience any thoughts about yourself or your performance. Some people also refer to this as being in the zone.

On the other hand, during daydreaming the mind tends to wander to unhappy thoughts, worries, and ruminations. As Ryan Holiday says, "We suffer more in imagination than in reality. Most of the things that we're anxious about, that we torture ourselves

about, that we dread, that we catastrophize in our head—they never actually end up happening. Sure, bad stuff does happen in life, but our nightmares are usually worse than reality. Don't suffer unnecessarily. Don't borrow suffering from the future."

Engaging with water tends to soften our focus and produces a natural mindfulness that is ideal for being fully present in the moment, which reduces worry and cultivates gratitude and creativity. This is why being around water in nature is so restorative.

Albert Einstein was an avid, though absentminded, lifelong sailor. At age 18, Albert regularly took his sailboat, Tinef (translated meaning is "a little piece of junk"), out to meander on Lake Zurich, Switzerland. He would bring a notebook with him and zigzag across the water. When the wind died down and the sails drooped, he grabbed the notebook and scribbled down ideas that came to him unbidden. Author Jamie Sayen wrote that Einstein "loved it when the sea was calm and quiet, and he could sit in Tinef thinking or listening to the gentle waves endlessly lapping against the side of the boat." When the breeze picked up, he was back to sailing again.

Water has special characteristics that tend to amplify nature's positive impact on mood. Being near a body of water can captivate us with its wave action, soothing sounds, reflections, and clear blue colors. I love to walk/bike/hike next to a lake or stream, or do yoga next to an ocean or lake at sunrise or sunset. I also jump at the opportunity to kayak or use a standup paddleboard (usually with my dog, Lady) every chance I get.



In a recent article in the Wall Street Journal, Elizabeth Bernstein wrote, "Bodies of water also can produce a glorious sense of awe—the emotional response to something vast that expands and challenges how we see the world. Awe can decrease stress and help us put things into perspective." Our modern lives often demand intense focused attention on a screen or the road or a job, which predictably depletes our cognitive energy. Paying attention to blue spaces gives the mind a break from this daily grind by inducing a soft fascination, whereby water holds your attention in a calm and peaceful manner. Waves and other dynamic features of water in nature produce a play of light, colors, and sounds that are mesmerizing. Even scents from blue spaces can evoke pleasant memories and brighten mood.

continued

Saved by the Pool

John is an impressive 79-year-old physician who is active physically and socially. He is still working fulltime as an ophthalmologist and continues to be editor-in-chief of a peer-reviewed medical journal. He is an overachiever and carried this intensity into his fitness routine. For decades he was overdoing it with excessive amounts of strenuous exercise (marathons, triathlons, bike races, etc.), which led to atrial fibrillation (AFib) and severely calcified coronary arteries (he has a high CardioScan calcium score of 1,600). He also has suffered a host of overuse orthopedic injuries in his feet, knees, and hips.

About 25 years ago, John saw his orthopedic surgeon, who took X-rays of his hips, revealing that only paper-thin layers of cartilage remained on his ball-and-socket hip joints. When this residual cartilage was worn away, he would be subjected to debilitating bone-on-bone pain. The orthopedic surgeon told John that if he kept running, he would need hip replacements in 12 to 18 months. This enlightened orthopedist advised walking and swimming instead, and recommended wearing fins while swimming to build up the muscles that support and stabilize the hips.

John followed the doctor's advice and joined a pool and health club, which he thoroughly enjoys to this day. As always, he started overdoing it, so I suggested he cut back a bit on his water exercise. These days, at about 8:30 p.m., he does a one-hour pool workout two to three times a week, which includes sets of moderate-to-light intensity freestyle swimming with interspersed rest periods of two to three minutes. Then he grabs his kickboard, which he uses while swimming forward, on his back, and on his sides, and then finishes up with 10 minutes of stretching in the pool.

According to John, "Swimming has been fabulous for me! My back and hip pains resolved and have never returned. I take no pain meds or anti-inflammatory drugs. I stand straight and am very flexible." John also walks on a treadmill one to two times per week at 2.7 MPH for 1.5 miles per session and does a lot of outside gardening for his wife. John, who has been an ardent follower of our strategies in the Duboc Cardio Health & Wellness Center, says, "I am very grateful for your pro-active, preventive approach."



Blue Mind

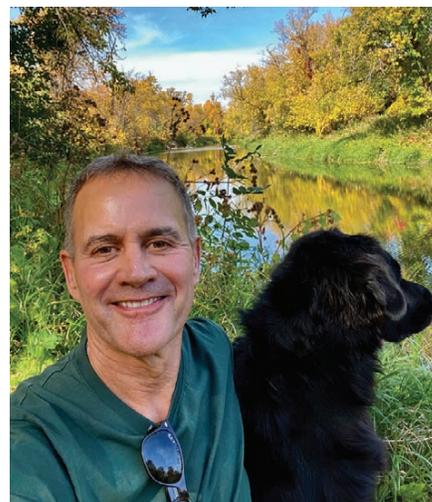
Throughout my life, when I find myself feeling stressed or facing a daunting problem or just needing to recharge, I seek the healing power of water.

Usually, this is in the form of swimming, preferably in an outdoor pool, lake, or ocean. For about five months of the year, as the sun comes up, I swim in a quiet neighborhood pool surrounded by large pin oaks. I alternate between freestyle and backstroke, and when on my back I stare at the clouds. Like staring at flames in a fireplace or campfire, focusing on clouds floating overhead never fails to put me in a meditative state.

Physical activity performed in water is a combination of exercise and meditation. Swimming forces you to focus on your breathing, while the noise of the outside world is replaced by the rhythmic sounds of water flowing around your body. When you are floating in or gliding through it, water gently stretches your muscles, tendons, and ligaments; reduces stress hormones; and induces a pleasant trance-like state. Regardless of my mood before I swim, when I climb out of the water, I feel euphoric and grateful.

I suspect you already realize that spending time near blue spaces like oceans, lakes, and streams can melt away anxiety, relieve mental stress, and rejuvenate the mind and body. Here are some practical strategies to enjoy therapeutic benefits from water:

- Visit blue spaces near you, even if just a local pond, canal, stream, or river. Look for wildlife like waterfowl, other birds, and fish.
- On weekends, make a day trip to a lake or recreational blue space.
- At least once per year, ideally in winter, vacation at a warm sunny beach.
- Kansas City is known as the City of Fountains, and with more than 200 man-made water features, we have more fountains than Rome. Notice and appreciate them. Gaze at and listen to the sounds of the flowing water.
- Marvel at the rain and snow. Maybe it's because I love to garden and have Irish heritage, but my whole life I've loved the rain. I make a point of going out for a walk with the dogs when it's raining. And growing up near the Canadian border in North Dakota and Minnesota, blizzard days were my absolute favorite times of the year. I love to ski or snowboard when the snow is coming down.
- Take a warm bath before bed and use Epsom salts (magnesium), which will soothe your musculoskeletal system and ease your mind.



Water: Clearly Your Best Beverage Choice

Your body and brain are about 60% water. So drink up—cold or room temperature, sparkling or still—water should be your customary beverage of choice. Joan has been saying for decades that water is by far the best beverage for your health. Each day you should be to drinking at least 64 ounces (2 quarts) of water. This is beneficial for almost everything, including mood (when dehydrated, people tend to be irritable), kidneys, heart, and skin.

When consumed frequently, water tends to replace caloric beverages like sweetened sodas, fruit juice, and alcoholic drinks, and this will magnify water's health benefits. Staying optimally hydrated should feel like a bit of an inconvenience because you will be visiting restrooms frequently throughout the day. One simple way to know that you're drinking enough H₂O is to simply note the appearance of your urine—it should be almost colorless, like water. Joan says your urine should be clear by noon. If it's yellow, you need to up your water intake. Many people misperceive thirst as hunger and eat mindlessly when what their body and brain are actually craving is water. What's more, as people get older they tend to not perceive clear thirst signals, so are often dehydrated without realizing it.





Living Wholeheartedly

There are no goodbyes for us.
Wherever you are, you will always
be in my heart.

—Mahatma Gahdhi

I am seeking. I am striving. I am in it
with all my heart.

—Vincent Van Gogh

The truth will set you free; but at first
it will piss you off.

—Ted Lasso

Every day try to do something for
someone who will never be able to
repay you.

—Barry Rutherford

The opposite of love is not hate;
it's fear.

—Arthur Brooks

Perhaps the most valuable result of
all education is the ability to make
yourself do the thing you have to do
whether you like it or not.

—Thomas Henry Huxley

If things are going to stay the same,
then things are going to have to
change.

—Queen Elizabeth

We are like islands in the sea—
separate on the surface but
connected in the deep.

—William James

If you think you have room to grow,
you do and you will. If you think you're
as good as you can be . . . you're right.
You won't get any better.

—Ryan Holiday

You are the sum of one small choice
stacked upon one small choice
stacked upon one small choice, *ad
infinitum*. If your life were a painting,
these choices would be the brush-
strokes that compose it. In other
words, your life is defined by your
choices, *by your discipline*. Which is
why, *discipline is destiny*.

—Ryan Holiday

Omega-3s are fish oil, not snake
oil. Omega-3s might just be the
healthiest thing you can put in
your mouth.

—Robert Lustig

Any weather is good weather.

—F. Joseph Glynn

I try more and more to be myself,
caring relatively little whether
people approve or disapprove.

—Vincent Van Gogh

If you yourself don't choose what
thoughts and images you expose
yourself to, someone else will.

—Epictitus (circa 100 A.D.)

The Dalai Lama's Instructions for Life

- * A loving atmosphere in your home is the foundation for your life.
- * Don't let a little dispute injure a great relationship.
- * Remember that silence is sometimes the best answer.
- * Share your knowledge. It's a way to achieve immortality.
- * Be gentle with the Earth.
- * Learn the rules so you know how to break them properly.
- * Once a year, go someplace you've never been.

Brave New World: Strategies for Trimming Your Waistline and Improving Heart Health

James H. O’Keefe, MD, Evan L. O’Keefe, MD, and Mikhail Kosiborod, MD



For several decades, obesity and type 2 diabetes have been rising steeply in tandem so that today they are worsening global pandemics with debilitating, expensive, and often lethal complications. The prevalence of diabetes in the U.S. has risen more than tenfold, from 2.5 million people in 1959 to more than 25 million in 2022. During the same timeframe, obesity has risen fourfold, so that now it affects 4 out of 10 U.S. adults and is the leading cause of preventable disease and premature death. About 9 out of 10 individuals with diabetes are overweight or obese, and some traditional glucose-lowering agents, including insulin and glimepiride may cause further weight gain. Even when blood sugar levels are under ideal control using these older glucose-lowering therapies, about two-thirds of type 2 diabetes patients die from cardiovascular (CV) causes.

Lifestyle Improves CV Risk

Lifestyle strategies can produce weight loss and improve the long-term health outcomes for people who have diabetes. Dr. Y.B. Zhang and colleagues in a recent issue of *Journal of Mayo Clinic Proceedings* reported that people with diabetes who followed a healthy lifestyle had much lower risks of CV

disease and death from any cause during a 10-year study. This was a large international study that included more than 100,000 individuals living with diabetes (about 50% were from the U.S., about 25% each from China and the United Kingdom); 93% of the participants were over age 30 when diagnosed, indicating that the vast majority likely had type 2 diabetes.

The five healthy lifestyle factors assessed were: having an optimal body weight with a waist measurement of less than 33.5 inches for women and less than 35.5 inches for men; following a healthy diet; performing regular physical activity (at least 150 minutes per week of moderate exercise, like walking); being a nonsmoker; and drinking a low-to-moderate amount of alcohol regularly (not more than seven drinks per week for women and not more than 14 drinks per week for men). Study participants following four or five healthy lifestyle factors compared to those following only one or none, had a highly statistically significant 40% lower risk of death during the decade-long study. Attaining each one of the healthy lifestyle factors was associated with a statistically significant 16% lower risk of death during the study. People follow-

ing four or five healthy lifestyle factors, compared to those following only one or none, also had a significant 33% decreased risk of heart attack and stroke.

Clearly, healthy lifestyle habits are essential for longevity and robust heart health. But lifestyle-based weight loss strategies, such as diet and exercise, though often effective in the short term, tend to be less effective in the long term because most people with obesity tend to regain their excess weight over time. For this reason, safe and effective medications to help people lose weight and keep it off are desperately needed.

New Wonder Drugs

In 1921, Dr. Frederick Banting discovered the first effective drug for diabetes by extracting insulin from the pancreases of young cows and using it in his diabetic patients. One century later, we have 13 classes of glucose-lowering drugs, including hundreds of FDA-approved medications for the management of type 2 diabetes. Though all these drugs reduce blood glucose, not a single one had been proven to lower the frighteningly high risk of CV death among people with type 2 diabetes until 2015, when a study called EMPA-REG Outcome showed that Jardiance (empagliflozin) reduced risk of CV death by 38%.

In the past seven years, many randomized outcome trials of medications called sodium glucose cotransporter 2 (SGLT2) inhibitors (examples include Jardiance, Farxiga, and others), and glucagon-like peptide 1 (GLP-1) receptor agonists (examples include Ozempic, Trulicity, and others), have proven that these two classes of anti-diabetic drugs bestow important benefits, including lower risk of heart failure, heart attack

and stroke, as well as kidney disease. Because of these benefits, professional societies across the world recommend these medications in individuals with type 2 diabetes that already have—or are at high risk for—heart and kidney complications. Notably, these drugs are also effective for promoting weight loss for overweight and obese individuals.

These agents also help lower blood pressure and decrease the risk of chronic kidney disease progression. Importantly, SGLT2-inhibitors have now been found to be effective for improving outcomes in patients with heart failure and kidney disease even if they don't have diabetes. Similarly, GLP1-RAs have been shown to result in substantial weight loss in individuals with overweight and obesity, but no diabetes (and are being evaluated for potential CV benefits in such individuals).

Here at the Haverty Cardiometabolic Center of Excellence and the Duboc Cardio Health & Wellness Center, we specialize in using these potentially life-changing new treatments to improve the outlook for our patients with diabetes, prediabetes, and other cardiometabolic conditions, and help people get back to a healthy weight and waistline.

Safe and Effective for Weight Loss

Half of American adults have either diabetes or prediabetes, conditions that are frequently linked with overweight and obesity. Getting rid of excess weight around your abdomen can improve many CV risk factors, including high blood pressure, high cholesterol/triglycerides, fatty liver, and sleep apnea. Substantial weight loss can significantly improve diabetes control, and occasionally can even make type 2 diabetes go away.

When patients ask us how much they should weigh, we tell them, “You don't need to focus on weight as much as waist measurement. Ideally, your waist should measure not more than half your height in inches.” So, if you are 6' tall (72 inches), your waist should be

no more than 36 inches; if you are 5'6" (66 inches), your waist should be no more than 33 inches.

Semaglutide (Ozempic) and liraglutide (Victoza) are GLP-1 receptor agonists that are FDA-approved for weight loss. These agents lower body weight up to 5-15% by reducing appetite, and slowing the rate at which your stomach empties thus increasing the feeling of fullness after you eat. Most people find that their cravings for junk food, sweets, and sometimes even alcohol are diminished. The weight loss is gradual, as the dose is increased slowly over three to six months in order to maximize their tolerability.

Empagliflozin (Jardiance) and dapagliflozin (Farxiga), the SGLT2-inhibitors most commonly prescribed in the US, are medications taken by mouth that generally produce relatively modest drops in body weight, typically 3-4% in obese people, and blood pressure, about 4 mm/Hg in people with high blood pressure. Importantly, the weight loss is additive when these two classes of drugs, SGLT2-inhibitors and GLP-1 agonists, are used together (and importantly their cardiovascular benefits may be additive as well).

Best Drug Ever For Weight Loss

Tirzepatide (Mounjaro) is a new once-weekly injection that represents a novel class of drugs which is now available for type 2 diabetes, and is being studied for the treatment of obesity. This medication binds to the receptors in the body for two natural incretin hormones, GLP-1 and glucose-dependent insulinotropic polypeptide (GIP). So far, it's approved for treating type 2 diabetes; however, tirzepatide looks to also be a highly effective drug for weight loss.

A randomized placebo-controlled clinical trial published in the *New England Journal of Medicine* studied tirzepatide for weight loss among obese individuals. Low-dose tirzepatide (5 mg

injected subcutaneously once per week) caused a 15% decrease in body weight; full-dose therapy (15 mg/week) lowered weight 21%, or about 50 pounds on average. Tirzepatide also reduced waist measurement, blood levels of cholesterol, triglycerides, insulin, and glucose, and improved blood pressure. Side effects were limited to gastrointestinal symptoms, such as nausea, diarrhea, and constipation, which tended to diminish after a few days to a few weeks.

Take Home Message

Lifestyle strategies like diet and exercise are effective for improving heart health and life expectancy, and these remain first-line strategies for conferring well-being. You should always consult your physician before starting any prescription drug. But now, for the first time, we also have safe and effective drugs for improving CV outlook for patients with diabetes and for getting weight down to healthier levels in people with obesity. At Saint Luke's Mid America Heart Institute, in the Haverty Cardiometabolic Center of Excellence and the Duboc Cardio Health & Wellness Center, we use these medications routinely in our patients, and we have been observing results that are truly impressive. Most importantly, our patients tend to come back happier and feeling better than they have been in years. In the future, many more cardiologists and other health care providers will be using lifestyle modification along with appropriate use of SGLT2-inhibitors and GLP1-RAs to treat people with obesity and/or diabetes, especially if they have established heart disease or are at high risk for complications. For us and our patients at the Haverty and Duboc Centers, the future is now.

Drs. Mikhail Kosiborod and James O'Keefe have collaborated in research and educational endeavors with pharmaceutical companies the market SGLT2-inhibitors and GLP1-agonists. These companies include Boehringer Ingelheim, Lilly, Novo Nordisk, and AstraZeneca.

What's Making Us Sick, and How to Fight It

James H. O'Keefe, MD



Many Americans are sick. Increasingly, people have diseases like diabetes, cancer, heart disease, and Alzheimer's; many more struggle with high blood pressure, cholesterol, and triglycerides, too much belly fat, low testosterone, menstrual irregularities, infertility, fatty liver, sleep disorders, depression, and anxiety. Doctors are busy treating symptoms, often not realizing all these illnesses have one thing in common: Every one of them is caused or aggravated by a condition known as insulin resistance. And you could have it—over half of all adults in America are insulin resistant.

Glucose is your blood sugar. Insulin is a hormone, arguably the most important hormone of all. Insulin determines what your body does with the calories you consume. Do you store them as fat or burn them as fuel? Insulin is a major determining factor of how your body functions, what your body composition is (percentage of body fat vs. percentage of muscle and bone), even how hungry you are and what you're craving. Insulin is an anabolic (tissue-building) hormone made and secreted by the pancreas that regulates the blood glucose levels.

One of my favorite work assignments is to make rounds as the cardiologist in charge of the Cardiovascular A Service at Saint Luke's Hospital of Kansas City. I get to work with young doctors and medical students, who teach me as much as I teach them. During their decades-long medical education, they will receive virtually no training on nutrition. This is unfortunate because we

have an increasingly evidence-based understanding about how the right diet and lifestyle can help us avoid or treat nearly all the most common diseases and ailments that shorten our lives and make us miserable. When I am on rounds, I encourage the team—a cardiology fellow, residents, interns, pharmacists, and medical students—to read *Why We Get Sick* by Benjamin Bikman, PhD, and *Metabolic* by Robert Lustig, MD. The theme of these books is that a high-sugar diet of ultra-processed foods is at the root of most chronic disease. Both teach that the sure-fire and inexpensive path to a sexy waistline and robust metabolic health is a diet of whole natural foods devoid of fast and processed foods.

What and how often we eat affects our hormonal balance. In turn, those hormones, especially insulin, ramp up the appetite and store calories as fat inside the abdomen. Consuming refined carbohydrates drives insulin levels up. Eating frequently keeps insulin levels high. Protein stimulates only a small insulin spike. Fat is the only macronutrient that has no effect on your blood sugar or insulin level. So fat is your friend if it's from nuts, seeds, avocados, extra-virgin olive oil, and fish. On the other hand, processed carbs (added sugar and refined grains) are the evil villain; when you eat these foods, the insulin spike tends to turn those calories into belly fat, which eventually causes inflammation and disease.

A seemingly "healthy" breakfast of a whole wheat bagel and orange juice spikes your blood sugar, causing your

insulin to rocket up. For lunch, you have a sandwich, a bag of chips, and a Diet Coke. Afternoon snack is a muffin, then for dinner you have spaghetti with ice cream for dessert. This is the Standard American Diet. It keeps your insulin levels sky-high all day, and in no time your body becomes numb to the effects of chronically high insulin, causing your cells to become insulin resistant.

Insulin resistance causes most of the diseases that we are prone to get in the modern world. To make matters worse, insulin resistance makes you tired, fat, irritable, and constantly craving more sweets, carbs, and junk food. High insulin levels also raise blood pressure and cholesterol levels and cause inflammation and fluid retention.

How the blood glucose and insulin levels go up and down is influenced by how easily digestible the food is; how much sugar, white flour, and other refined carbohydrates it contains; how much fiber you consume; how well you slept last night; how much exercise you've done recently; your genes; your body composition; and even your gut microbiome—the trillions of microbes inside your intestines that help you digest food and boost your immunity.

People who have diabetes and are taking insulin are often prescribed a continuous glucose monitor (CGM). It measures and records your glucose levels 24 hours a day, sending results to an app on your smartphone. Until recently, CGMs were very expensive, about \$400 per month, and only people with diabetes and good insurance had access to this game-changing technology.

In the past year, less expensive CGMs have become available that can be affordable for people without diabetes.

I have been wearing a CGM monitor for much of the past 12 months, and I love it. A CGM is the most powerful behavior modification tool ever. For instance, sometimes when I was on call and got hungry, I would wolf down a bag of corn chips for a snack. When I did that while wearing a CGM, I was shocked to see that this tasty snack spiked my glucose to 150 mg/dL. That CGM feedback convinced me that I need to avoid chips.

Insulin changes blood sugar into triglycerides and stores it as fat in abdomen and in your liver. The fat in your belly,

called visceral fat, churns out inflammatory hormones, makes you insulin resistant, and causes disease and aging. On the other hand, subcutaneous fat—the kind that you can pinch or jiggle—is generally harmless.

Your muscles are the primary engine that burns 80% of the sugar in your bloodstream. So any sort of physical activity will combat insulin resistance because it removes glucose from the bloodstream without the need for insulin. Along with more exercise, the best ways to restore insulin sensitivity is to avoid sugar and refined carbs. Also try to follow a gentle fasting routine whereby you don't consume any calories or artificial sweeteners for at

least 12 hours every night, especially the three to four hours before bedtime. Fat is stored energy; thus, your body fat is what you burn when you fast. More fasting = less belly fat.

Avoid drinking any beverage that contains sugar, including fruit juice, which floods your body with fructose—a particularly addictive and metabolically damaging sugar that generates an insulin spike and gets stored as belly fat. One exception I make is low sodium V8 juice, which has only 7 grams of sugar in 8 ounces and is loaded with healthy nutrients. Fruit in moderation is OK because it has lots of fiber and other nutrients that offset the sugar.

Advice from the “Glucose Goddess” Jessie Inchauspé



Blood glucose profoundly affects how your body looks and works and how your brain functions—your mood, energy, and mental sharpness. The modern diet full of ultra-processed, easily digested carbs causes a “glucose roller coaster” of sudden spikes followed by precipitous dips. This often leads to a cycle of feeling wired on a “sugar high” followed by a period of irritability and exhaustion. The blood sugar spikes and crashes also trigger cravings for more junk food.

“It’s really about health first and foremost,” Jessie Inchauspé says. “In many people, weight loss is often a side effect of getting you back into balance.” If you keep your blood sugar in the low-normal range, energy dips disappear, you notice less fatigue, and you won’t be starving two hours after eating.

About 80 to 90% of the general population experiences glucose spikes daily. These surges in blood sugar happen 30 to 120 minutes after eating easily digestible carbs like sweets, baked goods, chips, grains, sugary drinks, candy, etc. Glucose spikes increase risk of heart disease, diabetes, cancer, depression, and obesity. The blood sugar rollercoaster also causes cravings for more carb foods and disrupts your hormones, predisposing to poor sleep, weight gain in the midsection, acne, gum disease, and polycystic ovarian syndrome. To get off the sugar/insulin rollercoaster, you don’t have to give up all carbs. But you do need to avoid the blood glucose spikes.

Simple Steps to Blunt Blood Glucose Spikes

- Incorporate apple cider vinegar into your meals. Use it with olive oil to dress a salad or vegetables. Just one tablespoon of apple cider vinegar will curb the glucose spike by 30%. Jessie drinks it mixed in a tall glass of water.
- Eat a low-carb savory breakfast. Unsweetened Greek yogurt with nuts and berries, avocado, and eggs are great options to keep your blood sugar stable and low.
- Dress up your carbs with fiber, fat, and protein. This slows the digestion of the carbohydrate in the meal. Spread hummus or avocado on toast. Put meat sauce on pasta.
- Eat a green starter, such as a salad or non-starchy veggies, at the start of the meal.
- Have one glass of red wine with or before an evening meal to blunt glucose spike by about one-third.
- Eat more foods high in healthy fats, like nuts, avocados, seeds, and extra-virgin olive oil.
- Get moving after eating. Going for a 10- or 20-minute walk will significantly blunt the post-meal glucose spike.
- Eat protein such fish, meat, dairy, or nuts before you eat carbs like bread or desert.
- Fast at least 12 hours every night—there’s nothing better for eliminating glucose spikes than not consuming calories.

20-Time Winner of the National Healthcare Advertising Awards!

New Providers at Saint Luke's Cardiovascular Consultants



Dr. Jessica A. Kline is a cardiologist, board certified in internal medicine and cardiovascular medicine. She specializes in cardiac electrophysiology and serves on the Electrophysiology Quality Improvement Committee at Saint Luke's MidAmerica Heart Institute, where she is developing structured reporting for implantable cardioverter

defibrillator procedures. Dr. Kline has written about congenital arrhythmias and bacterial infection in heart disease.

Dr. Kyle Ross Lehenbauer is a cardiologist, board certified in internal medicine, cardiovascular disease, cardiac CT, and echocardiography. He has research and clinical interests in structural heart interventions and outcomes, valvular heart disease, multi-modality cardiac imaging, and echocardiography. He has been a guest lecturer for the University of Missouri-Kansas City Department of Internal Medicine and served as a peer reviewer for the *Journal of the American Heart Association*. He recently completed a fellowship in advanced cardiac imaging in New York City, at Columbia University.



Dr. Alejandro Perez-Verdia is a cardiologist, board certified in internal medicine, cardiovascular disease, and clinical cardiac electrophysiology. He served as the Director of Cardiac Electrophysiology services at University Medical Center in Lubbock, Texas, for more than six years. Dr. Perez-Verdia was an associate professor of cardiovascular disease/clinical

cardiac electrophysiology at Texas Tech University, where he also mentored third-year medical students each year. Dr. Perez-Verdia speaks fluent Spanish.

Dr. Andrew J. Sauer is a cardiologist, board certified in internal medicine, cardiovascular disease, and advanced heart failure and cardiac transplantation. He also serves as an associate professor of cardiovascular medicine at UMKC. He focuses on the clinical, educational, and investigational aspects of heart failure, its therapies, and cardiac transplantation. Dr. Sauer's interests include exploring health care disparities and using remote monitoring technologies with telemedicine to address these disparities.

