

From the HEART

The best interests of the patient are the only interests to be considered.

A newsletter from Saint Luke's Cardiovascular Consultants

Winter 2026

INSIDE

Fiber: The Humble Nutrient That Protects Your Heart and Gut 4

Magnesium to Protect Your Hearing 6

Under the Stars, Not the Streetlights: The Healing Power of Darkness 7

Rewriting the Playbook: A Cardiologist's Journey into Cardiac Amyloidosis 8

Cacao and EVOO: Two Doctors Share Secrets for Longevity 11

Omega-3 + Curcumin: Potent, Gentle Pain Relief 12

Living Wholeheartedly 15

Staying Younger Longer: Breakthroughs in the Science of Aging Well 16

Thoughts, Emotions, and Motivation 19

Blood Donation—Good for Others, Good for You. 20



It's Called Happy Hour for a Good Reason

James H. O'Keefe, MD

For most of my career as a cardiologist, the advice around alcohol was fairly straightforward: everything in moderation. In recent years, however, that message has shifted dramatically. We now hear, with growing certainty, that *all* alcohol is harmful—and that the only truly healthy choice is complete abstinence.

I understand where this perspective comes from. Alcohol misuse is common and often devastating. I see its consequences regularly in clinical practice. Still, I worry that

this increasingly rigid, all-or-nothing narrative may be throwing the baby out with the bathwater.

After decades of caring for patients—and observing the lives of the people I love most—I've come to believe something more nuanced is true: **For many people, light and responsible drinking, especially in a social setting, can be safe and may even support health and longevity.**

I saw this play out vividly in my own family. My mother, grandmothers,

and great-grandmothers lived well into their 90s. One of them, my grandmother Dorothy O’Keefe, made it all the way to 103. These women shared a simple, steady ritual: one small drink at happy hour before dinner, nearly every evening. A modest glass of wine or a small cocktail, enjoyed slowly, usually in the company of others.



Their husbands, on the other hand, tended to drink more—sometimes much more. And almost without exception, their lives were shorter. We used to joke that Dorothy’s nightly Manhattan was really a *Man-hooten*, because about ten minutes into happy hour she and her friends would be hooting with laughter. But beneath the humor was an important truth: **This was never about alcohol alone—it was about connection, joy, and relaxation.**

That distinction matters.

We are living through an era of unprecedented social isolation. Even before the pandemic, many people were drifting apart. Afterward, the trend accelerated. We spend more time alone, more time on screens, and less time in face-to-face conversation than any generation before us.

Happy hour, at its best, is a deliberate pause in the day. It’s an invitation to sit

down with loved ones—friends, family, neighbors, new acquaintances—to talk, listen, laugh, and tell stories, get to know each other, and emotionally support one another after a long day of work. It’s not about escaping life; it’s about reconnecting with it.

And the science on social connection is striking. **Study after study shows that having a few strong, loving, supportive relationships is the single most powerful predictor of healthy longevity. More predictive than cholesterol levels. More important than exercise alone. Even more influential than genetics or any other factor.**

Seen through that lens, it’s not surprising that large, well-conducted observational studies consistently show that **people who consume about two to seven alcoholic drinks per week have fewer heart attacks** (still the most common cause of death in America) compared with those who drink none at all. This is one of the most reproducible findings in cardiovascular epidemiology.

Is alcohol itself the magic ingredient? Probably not. In fact, alcohol is a carcinogen and cardio-toxin that can also cause strokes and dementia. However, it’s a dose-dependent poison. In small doses, alcohol is virtually harmless, and its pro-social effects can be a tonic for improving health and well-being. Alcohol, used responsibly, often acts as a *social lubricant*—one that helps people slow down, open up, and connect. I suspect that if you’re someone who drinks socially and in moderation and you give up alcohol entirely, you may not live longer, but it will just feel longer because you’re not having much fun.

Here’s another key point: the more you drink, the more you will need to

drink to get that euphoric buzz. But the opposite is also true—the less you drink, the less it takes to get you buzzed. So when you keep your drinking in the light range, you get all the emotional and longevity benefits and none of the downside.

That said, alcohol has a dark side, and it would be irresponsible to ignore it. Alcohol is the **fourth leading cause of premature death in America**. It is undeniably a slippery slope. For many people, one drink can quickly become several. I know this personally: Alcohol dependence runs in my own family. I’ve seen how destructive it can be.

That’s why this conversation demands humility and honesty. **Not everyone can drink safely.** And I never advise someone who doesn’t drink to start. If alcohol has ever been a problem for you—or for those close to you—abstinence is a wise, life-affirming choice.

But for those who *can* drink responsibly, moderation truly matters. In practical terms, that usually means **one drink, occasionally two, but never routinely more than that.** It also means being intentional about timing.



I generally recommend enjoying alcohol **with or just before dinner**. Compared to drinking water with dinner (also a good choice, by the



way), one drink—especially non-sweet (dry) red wine—reduces the post-meal glucose spike. As the Glucose Goddess Jessie Inchauspé emphasizes, blunting this post-meal spike confers myriad health benefits. Also, having that drink with or before your evening meal allows more time for your body to metabolize the alcohol prior to bedtime—important for preserving high-quality sleep.

And there’s no rule that says what you drink during happy hour must contain alcohol. Mocktails, non-alcohol (NA) beer, and sparkling water with a lemon are all great beverage choices that allow you to still have the ritual of socializing with loved ones without ingesting a toxin. But be careful not to consume too much sugar—another addictive substance that causes a lot of disease and suffering in our culture.

In my own life, I’ve settled into a rhythm that feels both enjoyable and sustainable. I’ll have a happy hour three to six days a week, but only if I’m with a family member or a friend. **I never drink alone.** I rarely ever exceed six ounces of wine, and often it’s closer to three or four. That small amount allows me to relax and be present without disturbing my sleep or giving me a headache the next morning.

This approach isn’t about indulgence. It’s about **ritual**. About creating protected time for conversation, laughter, storytelling, and human warmth. And sometimes animal warmth—my mother Leatrice in her final years would often have happy hour with her little dog Henri on her lap, feeding him cheese and carrots while she chatted on the phone.

So when I hear sweeping declarations that all alcohol is harmful, I am concerned about unintended consequences. If we eliminate the ritual without replacing the connection, we may inadvertently worsen the very loneliness and stress that can make us miserable and shorten our lives.

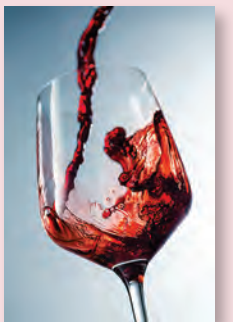
Health is not just about avoiding risks. It’s also about cultivating meaning, joy,

and relationships. For some people, light alcohol consumption—used thoughtfully and responsibly—can be part of that equation.

At its best, happy hour reminds us to show up and let ourselves be seen, to slow down, and savor time with people we cherish. **So here’s to your health. May your glass be half-empty and your heart be full of laughter and love.**

Rules for a Healthy Happy Hour

- **Keep it light.** One drink is ideal; occasionally two. More than that, and the benefits fade quickly.
- **Never drink alone.** Happy hour is about connection, not consumption. Save it for time with friends, family, or loved ones.
- **Pair it with food.** Enjoy your drink with or just before dinner to blunt blood sugar spikes and slow alcohol absorption.
- **Mind the pour.** A standard drink is smaller than most people think—about 4 to 6 ounces of wine, 1 to 1.5 ounces of spirits, or 12 ounces of beer.
- **Go early.** Drinking earlier in the evening allows your body time to metabolize alcohol before sleep. If alcohol disrupts your sleep, scale back—or skip it altogether.
- **Choose a dry red wine.** This is without question the healthiest option. But honestly, the dose of alcohol is the most important feature of a healthy drinking habit. Dorothy made it to 103 drinking whiskey, not red wine, each night before dinner.
- **Know yourself.** If moderation is difficult or alcohol has ever been a problem, abstinence is the healthiest choice.
- **Relish the ritual.** Sip slowly, laugh freely, and focus on the people—not the beverage.



Fiber: The Humble Nutrient That Protects Your Heart and Gut

James H. O’Keefe, MD



Decades ago, British surgeon Denis Burkitt noticed something striking: Populations that ate traditional, high-fiber diets passed large daily stools and had remarkably low rates of heart disease, diabetes, gastrointestinal (GI) diseases like esophageal reflux, and colon cancer. As societies modernized, fiber intake and stool size shrank, while heart disease, obesity, diabetes, dementia, and the need for hospitals exploded.

Burkitt famously quipped, “If you pass small stools, you need large hospitals.”

Scientific data strongly support the spirit of his observation: Low fiber intake tracks closely with higher burdens of chronic disease and health care use.

I believe that markedly increasing daily fiber intake is one of the simplest and most powerful habits for improving long-term health—for your heart, your gut, and likely your longevity.

An Avocado a Day Keeps the Doctor Away

My grandson Grant jokes, “An apple a day keeps the doctor away. . . if you throw it hard enough.”



My version is simpler: An avocado a day keeps the doctor away.

One large avocado delivers 13 to 14 grams (g) of fiber—nearly half the daily need. I eat at least one daily, along with nuts, seeds, berries, legumes, and plenty of non-starchy vegetables like leafy greens, broccoli, and tomatoes. Avocados are calorie-dense, but they’re filling and nutrient-rich—and they crowd out junk food.

Instead of guacamole with chips, I eat it with celery and carrot sticks. I also aim for at least one serving of legumes—beans, lentils, or edamame—daily.

Each morning, I mix about two tablespoons of psyllium fiber into a large glass of water and drink it quickly. I also take a capsule of beta-glucan, the soluble fiber found in oats and barley. I’ve done this for years because it reliably supports gut comfort, cholesterol levels, and overall well-being.

Why Fiber Is Fundamental

Fiber is the part of plant foods your digestive enzymes can’t break down. It survives the stomach and small intestine and arrives in the colon, where it feeds beneficial microbes and adds bulk that keeps things moving.

Different fibers play different roles:

- **Insoluble fiber** (vegetable skins, nuts, seeds, wheat bran) adds bulk and speeds transit.

- **Soluble viscous fiber** (psyllium, oat and barley beta-glucan) forms a gel that slows digestion, blunts blood sugar spikes, and lowers LDL cholesterol.

- **Fermentable fiber & resistant starch** (beans, lentils, oats, onions, green bananas) feed gut microbes, producing short-chain fatty acids like butyrate that protect the colon.

Think of insoluble fiber as the broom, viscous fiber as the sponge, and fermentable fiber as fertilizer for your gut garden.

Fiber, Cholesterol, and the Heart

Large population studies consistently show that people who eat the most fiber have 20–30% lower rates of cardiovascular disease and premature death than those who eat the least. While observational, the findings are remarkably consistent—and biologically plausible.

The strongest heart benefits come from viscous soluble fibers:

- Psyllium binds bile acids in the gut. Because bile acids are made from cholesterol, the liver pulls more LDL (“bad”) cholesterol from the blood to replace them. About 10g per day lowers LDL cholesterol by about 10–12 milligrams per deciliter (mg/dL) in clinical trials.

- Beta-glucan from oats and barley works similarly. About 3g per day—easily reached with a hearty bowl of oatmeal—can reduce LDL cholesterol by roughly 10 mg/dL.

These effects are modest compared with cholesterol-lowering medications like statins or PCSK9 inhibitors, but they are safe, consistent, additive, and FDA-approved for heart-health claims. Fiber won’t replace your medications—but they’re a steady tailwind in the right direction.

Blood Sugar, Weight, and Metabolic Health

Viscous fibers slow gastric emptying and carbohydrate absorption, flattening post-meal glucose and insulin spikes. In randomized trials, they lower HbA1c levels—a measure of average blood sugar over three months—by 0.4–0.6%, which can make the difference between developing diabetes or avoiding it.

For weight, fiber helps, but it’s not magic. By increasing fullness, it often leads to 100 to 200 fewer calories per day, resulting in two to five pounds of weight loss over several months.

In the era of powerful antidiabetic GLP-1 medications like semaglutide

continued on page 14

Help us save trees and reduce printing costs by opting to receive From the Heart as an e-newsletter. You’ll get all the articles, sent out once or twice a month, rather than in an entire issue every six months. You can also choose to receive both a paper copy and the e-newsletter in an online blog.



Scan the code with your smartphone or QR code reader app to go to a form to state your preferences. Thank you for helping us go green.



Saint Luke’s Cardiovascular Consultants

- | | | |
|---------------------------|--------------------------|--------------------------------|
| José Aguilera Heredia, MD | Amanda Heuszel, MD | Alejandro Perez-Verdia, MD |
| Suzanne V. Arnold, MD | Chetan P. Huded, MD | John E. Peterson, MD |
| Talal Asif, MD | Erika Hutt Centeno, MD | Valerie J. Rader, MD |
| Bethany A. Austin, MD | Arun M. Iyer, MD | Brian M. Ramza, MD, PhD |
| Dmitri V. Baklanov, MD | Dany Jacob, MD | Carlos Rivas-Gotz, MD |
| Charles W. Barth, MD | Amrit Kanwar, MD | David M. Safley, MD |
| Timothy M. Bateman, MD | Andrew C. Kao, MD | Mohammed K. Saghir, MD |
| Kevin A. Bybee, MD | Taiyeb M. Khumri, MD | Adam C. Salisbury, MD |
| Paul S. Chan, MD | Steven B. Laster, MD | Andrew J. Sauer, MD |
| Adnan Chhatrwalla, MD | Stephanie L. Lawhorn, MD | Laura M. Schmidt, MD |
| Matthew G. Deedy, MD | John K. Lee, MD | David G. Skolnick, MD |
| Chris DeZorzi, MD | Kyle Lehenbauer, MD | Brett W. Sperry, MD |
| Jonathan R. Enriquez, MD | Jason B. Lindsey, MD | Daniel A. Steinhaus, MD |
| Mark P. Everley, MD | Anthony Magalski, MD | Tracy L. Stevens, MD |
| Timothy J. Fendler, MD | C. Arun Mahabir, MD | Robert E. Tanenbaum, MD |
| Michael J. Giocondo, MD | Michael L. Main, MD | Randall C. Thompson, MD |
| Thomas H. Good, MD | Susan A. Mayer, MD | Ahmad Turk, MD |
| J. Aaron Grantham, MD | Justin R. McCrary, MD | Deepthi Vodnala, MD |
| Elizabeth A. Grier, MD | Patrick J. Miller, MD | Suchith Vuppala, MD |
| Anna Grodzinsky, MD | Michael E. Nassif, MD | Alan P. Wimmer, MD |
| L. Andy Godwin, MD | James H. O’Keefe, MD | Martin H. “Tony” Zink, III, MD |
| Sanjaya K. Gupta, MD | Nicholas M. Orme, MD | |
| Anthony J. Hart, MD | Shailja Parikh, MD | |

Emeritus: Allen Gutovitz, MD; Kenneth C. Huber, MD; David McConahay, MD; Iain McGhie, MD; Barry Rutherford, MD; Daniel Scharf, MD; James E. Sear, MD; and David M. Steinhaus, MD. In Memoriam: Robert D. Conn, MD; James E. Crockett, MD; Geoffrey O. Hartzler, MD; Warren Johnson, MD; and Ben McCallister, MD.

Funds generously donated to 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, Managing Editor
LisaHarkrader.com



Lisa Harkrader

Mary Kate Fernandez, Developmental Editor

© 2025, Saint Luke’s Cardiovascular Consultants. All rights reserved.

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



Mary Kate Fernandez

Magnesium to Protect Your Hearing

James H. O’Keefe, MD

Have you ever walked out of a loud concert with your ears ringing and other sounds muffled? If so, you’ve experienced temporary hearing damage—and believe it or not, magnesium may help protect you from that. My father and paternal grandmother experienced hearing loss as they got older. Hearing loss is very common and has been linked to an increased risk of dementia, aka Alzheimer’s disease.

I have been very conscientious about protecting my hearing through the years. For example, I wear noise-cancelling earbuds when I go to a concert, and for decades I have made sure I consume plenty of magnesium.

Magnesium plays a critical role in keeping the tiny, delicate hair cells inside the inner ear healthy. These cells convert sound waves into electrical signals that your brain interprets as hearing. Once those hair cells are damaged—from loud noise, poor circulation, or oxidative stress—they don’t grow back.

That’s where magnesium comes in. Studies have shown that magnesium improves blood flow to the inner ear and helps reduce inflammation and oxidative stress, both of which contribute to noise-related and age-related hearing loss. In fact, an interesting study done in soldiers exposed to artillery noise found that those with higher magnesium levels

had significantly less permanent hearing damage.

Magnesium’s effect on sleep is for most people the most compelling reason to take it as a supplement. It is a reliable and gentle way to relax your mind and allow you to drift off to your dreams in about 20 minutes. Both magnesium taurate and magnesium glycinate cross the blood brain barrier and calm the mind without any morning hangover or other adverse effects. It also works well when taken in the middle of the night if you awaken and are having a hard time getting back to sleep.

Thankfully, getting enough magnesium is easy, abundant in:

- Leafy greens (spinach, kale, spring greens, arugula, etc.)
- Avocados
- Nuts and seeds (pumpkin seeds, almonds, cashews)
- Beans and other legumes
- Dark chocolate (at least 85% cocoa)
- High-quality magnesium supplements. My favorite is a combo of magnesium glycinate with magnesium taurate, which is remarkably safe as a sleeping aid and is non-habit-forming.

Most people—especially adults over age 50—don’t get enough magnesium from food alone. And your inner ear is one of the first places to suffer when levels get low.

Bottom Line

Keeping your magnesium levels up is good not just for your heart, bones, muscles, sleep, brain, and blood pressure, it’s great for protecting your hearing too. It’s a simple daily habit that may help protect one of your most precious senses for the long run. I find that most of my patients feel better when they increase their daily magnesium intake. And magnesium glycinate + magnesium taurate is in my opinion the safest and most effective sleep aid—I personally take it every night at bedtime.

Dr. O’Keefe’s Magnesium Checklist

- ✓ Best food sources: spinach, pumpkin seeds, almonds, avocado, black beans, dark chocolate (at least 85% cocoa)
- ✓ Best supplement forms: magnesium glycinate and magnesium taurate—gentle on the stomach, well absorbed, and great for sleep
- ✓ Ideal daily intake: at least 300–400 mg per day from food and supplements combined
- ✓ Ideal time to take: evening—it can calm the nervous system and improve sleep
- ✓ **Bonus:** Magnesium also helps lower blood pressure, support heart rhythm and bone health, reduce muscle cramps, ease anxiety, and save your hearing

Under the Stars, Not the Streetlights: The Healing Power of Darkness

James H. O’Keefe, MD

One of the reasons I enjoy getting outside the city and exploring remote wilderness areas is to get away from light pollution. I always find it awe-inspiring to gaze into a pitch-black sky strewn with countless stars. And the latest science shows that we tend to be happier and healthier when we regularly immerse ourselves in extremes of light—bright sunlight during at least part of the day and total darkness when we sleep. This helps to reset our circadian rhythm so that we sleep more soundly at night and are more energized and cheerful during the day.

A Harvard study presented at the American Heart Association’s Annual Scientific Sessions on Nov. 10, 2025, should motivate us to minimize screentime at bedtime and darken our bedrooms before we snuggle under the covers. This fascinating research reports that increased exposure to high levels of artificial light at night appears to raise risk for cardiovascular (CV) disease.

The study showed exposure to artificial light from screens, streetlamps, electronic devices, and other sources at night triggers inflammation in the arteries and provokes a stress response in the brain, which in turn exerts a strain on the CV system. Individuals with the highest doses of light exposure at

night had a 35% increased risk for a major heart event.

Lead researcher on the study Shady Abohashem, MD, MPH, from Harvard Medical School said, “Prior research has shown that light at night disrupts our body’s natural circadian rhythm, while our work demonstrates that it also activates stress centers in the brain and triggers inflammation in the arteries, a combination that we’ve previously found to increase heart disease risk.”

The findings are not definitive, but they do support the theory that avoiding exposure to artificial light at night may calm stress pathways in the brain and reduce arterial inflammation, which may translate into a lower risk for developing heart attack, stroke and CV death.

“For individuals living in areas with high light pollution, we recommend minimizing unnecessary sources of artificial light. That means keeping the bedroom as dark as possible, using blackout blinds, eye masks, dimming lighting, and reducing screen time in the hours before sleep,” Dr. Abohashem said.

Emerging evidence suggests that excessive ambient light during sleep—in other words, failing to sleep in a truly dark bedroom—may carry implications beyond mere sleep

disruption: It may increase cancer risk. Studies show that exposure to artificial light at night suppresses melatonin, a hormone that normally rises in darkness and plays a role in regulating the body’s night signals, as well as possibly exerting anti-cancer effects. A 2023 meta-analysis found that higher indoor or outdoor nighttime light exposure was modestly associated with a higher risk of breast cancer in women. A global ecological study reported significant positive correlations between artificial light at night and incidence rates of breast, colorectal, lung, and prostate cancers.

Research shows that even dim light in your bedroom—from a nightlight, phone charger, or streetlight through the blinds—can interfere with melatonin production and disrupt circadian rhythms and may alter hormone secretion and increase inflammation and oxidative stress, raising long-term risks for conditions like obesity, diabetes, cancer, and CV disease.

To protect your sleep and overall health, aim for total darkness: Turn off electronic devices, cover glowing clocks, use blackout curtains, or try a soft eye mask. Cool, quiet, and dark are the three pillars of good sleep hygiene—and sleeping in darkness is one of the simplest ways to help your body heal, renew, and protect itself every night.

Rewriting the Playbook: A Cardiologist's Journey into Cardiac Amyloidosis

Brett Sperry, MD



My career in medicine began with a simple fascination: Why do certain diseases refuse to stay in one lane? Early in medical school, I found myself drawn to problems that involved multiple body systems at once—ones that demanded you zoom out and consider the entire body. For example, a clinical picture of unexplained swelling, a thickened and deteriorating heart, and progressive neuropathy would pique my curiosity and force me to slow down, considering possibilities beyond the usual suspects.

These are the cases that led me to a career of clinical care and research in cardiac amyloidosis which is a buildup of protein in the heart muscle, making it thick, stiff, and unable to effectively pump blood.

Back then, amyloidosis was described with a sort of mythical quality. It was the disease you only encountered when reviewing flashcards for board exams. In morning reports, it was a zebra, a rare condition someone threw out when they wanted to sound clever. On rare occasions, it appeared on an episode of *House* as the dramatic twist that explained everything in the final minute.

But in the day-to-day practice of cardiology? It was barely a footnote—

rare, mysterious, and inevitably diagnosed too late.

A Small Disease with a Big Impact

I usually explain amyloidosis to patients by starting with the fact that your body is composed of tens of thousands of microscopic molecules, some of which are proteins. Each protein is found in a particular three-dimensional shape that allows it to perform essential tasks inside the body. Sometimes, a protein changes shape and misfolds. Luckily, the body has ways to break down and recycle or remove these abnormal proteins. When the misfolding becomes too frequent or the clean-up process becomes faulty, the proteins can get stuck in different places in the body and cause problems.

The most common amyloid disease that everyone is aware of is Alzheimer's disease. This occurs when the A β protein, found only in the brain, is deposited between the neurons, which leads to symptoms of dementia.

The amyloidosis we see in the heart is of an entirely different species. There are two subtypes of cardiac amyloidosis, caused by the clumping and depositing of either antibody fragments made in the bone marrow or the transport protein transthyretin made in the liver.

A Disease Stepping Out of the Shadows

As I moved through internal medicine residency, I found myself spending extra time on cases where the diagnosis seemed incomplete and unsolved. I had seen cases of amyloidosis, but it wasn't until I undertook my cardiology fellowship at Cleveland Clinic when my interest took hold. I met Mazen Hanna, MD, one afternoon when doing consults in the Emergency Department; he became a lifelong mentor and friend. Dr. Hanna was a world expert in the burgeoning field of cardiac amyloidosis and saw more people with this condition than anyone, but needed a partner to help organize and describe patterns in the patients he was seeing.



Around this time, the field was changing. Noninvasive nuclear imaging scans were becoming more

widely used. We no longer had to biopsy a patient's heart to make the diagnosis. Genetic testing was becoming accessible, allowing entire families to understand the strange set of symptoms many of them struggled with. Therapies for both types of cardiac amyloidosis once thought unimaginable, were entering clinical trials and ultimately, clinical practice.

Suddenly, the zebra was becoming a horse we'd simply never noticed before, and one that we are now learning how to tame.

Here was a disease that was long dismissed as incurable, rare, and hopeless—now stepping into the light because of improved diagnostics and emerging treatments. I wanted to be part of that shift. I wanted to help build the bridge between the hopeless case amyloidosis had been and a brave new world for people with the disease.

At Cleveland, our group helped define several key aspects of amyloidosis. We demonstrated the lifesaving potential of emerging therapies for a rare but dangerous form of the disease—AL amyloidosis—and advanced the field's understanding of noninvasive diagnosis of the second form of the disease—ATTR amyloidosis—using nuclear imaging. We were among the first to report the connection between carpal tunnel syndrome, a painful condition caused by a pinched nerve in the wrist, and amyloidosis.

Building a Program at Saint Luke's Heart Institute

When I joined Saint Luke's Mid America Heart Institute in 2017, I knew this was where I wanted to focus my energy. We had the chance and the responsibility to build something that didn't exist yet in our region: a true cardiac amyloidosis program.

Eight years later, the program has grown beyond anything I could have anticipated. We now have dedicated nurse coordinator Alyssa Hosmann, BSN, medical and research assistant Lauren Halverson, and genetic counselor Rachel Schaff, MS, to help care for the increasing number of patients coming through our doors.

In the beginning, we'd diagnose a few dozen cases per year within our health system—each one a small victory, as we helped a patient finally put a name to their long and frustrating clinical journey. But as awareness expanded around the region, the numbers began to rise. Every educational talk I gave around Kansas, Missouri, Arkansas, Oklahoma, and Iowa was a small victory and another potential health care provider who would be looking for this disease in their patients.

We weren't creating disease; we were finally finding what had been hiding in plain sight for decades.

One of my proudest achievements is the fact that cardiologists, neurologists, and primary care providers are now thinking about and looking for this disease across the region outside of Saint Luke's.

AL Amyloidosis: An Urgent Diagnosis

The first subtype, AL amyloidosis, is less common but far more lethal. It's a plasma cell disorder—a blood cancer—that deposits toxic antibody fragments called light chain proteins in the heart and other organs. Patients may have symptoms of heart failure (swelling, shortness of breath, and fatigue, among others), kidney failure, and neuropathy (damage to peripheral nerves). Some even develop an enlarged tongue or purple bruising around the eyes. When left untreated, it is unrelenting and can progress rapidly within months.

Learning to recognize AL amyloidosis early, partnering with hematologists, ensuring patients receive rapid access to immunotherapy—this became one of the most urgent responsibilities in my practice. Many AL patients walk into clinic thinking they have a "heart problem," never imagining that the true battle is a form of cancer they never knew they had. Luckily, advances in immunotherapy have made this condition very treatable with few if any side effects, particularly if caught early.



ATTR Amyloidosis: Wild-Type and Hereditary

The second major form, ATTR amyloidosis, is more common and progresses slowly but can be similarly unrelenting. Patients with this condition are typically older, with the average age at diagnosis in the mid-70s, and about 90% of affected individuals are men. Common signs and symptoms include heart failure, heart rhythm abnormalities like atrial fibrillation, and orthopedic symptoms—classically carpal tunnel syndrome in both hand and/or spinal stenosis.

The two forms of ATTR amyloidosis are wild-type and hereditary. Wild-type ATTR is a subtype where the transthyretin protein is encoded from normal DNA. The hereditary ATTR

form means that the DNA encoding this protein is slightly abnormal and is passed down from generation to generation. The V122I variant is particularly important, as it affects roughly 4% of the Black population in the United States. In real terms, that means that 1.5-2 million living

Americans are likely at risk of developing this hereditary form of ATTR amyloidosis later in life.

Major advances in treatments for ATTR cardiac amyloidosis have occurred in the past eight years, and now three different medications are

available for the disease with a fourth hopefully on the way. We have seen major improvements in longevity and quality of life since treatments have become available, bringing hope to patients previously without treatment options.

Patients Who Became Partners

What surprised me most in my cardiac amyloidosis journey—what I could never have predicted—was how many of my patients would take their diagnosis and transform it into advocacy, leadership, and purpose.

Mike Lane and the Amyloidosis Army

Mike Lane is one of those people who leaves a mark on every room he enters. When he was diagnosed, he refused to let amyloidosis define him solely as a patient. Mike has the hereditary form of ATTR amyloidosis found in individuals of Irish descent, and he founded the Amyloidosis Army, a support and awareness organization that connects patients, families, clinicians, and anyone touched by the disease.

You can find Mike organizing patient awareness events around Kansas City and throughout the country. He has worked tirelessly to raise awareness of this disease, particularly in the Black population, and encourages people to seek genetic testing or cardiac evaluation if they have symptoms. In 2025, he petitioned the state legislature of Missouri to designate May 8 as Amyloidosis Awareness Day and is working on Kansas next.



Find out more about the Amyloidosis Army at AmyloidosisArmy.org.

Art Still and Still 4 Life

Then there is Art Still, a Kansas City legend and Chiefs Hall of Famer whose onfield presence is matched only by his off-the-field character and resilience. When he learned he had amyloidosis, he also turned his platform into a vehicle for awareness. Through Still 4 Life, he began educating the public—through the NFL alumni network and throughout the Black community—about hereditary ATTR amyloidosis.

Watching him speak, seeing the way people listen, you realize that advocacy can sometimes accomplish what medicine alone cannot. Art helps to destigmatize the disease and motivates people to talk about their symptoms and get tested.



Get more information on Still 4 Life at Still4Life.org.

Looking Forward

Patients like Mike and Art changed the way I think about this work. They reminded me that medicine does not end with diagnosis or treatment; it extends into community, education, empowerment, and hope.

When I reflect on how far we've come in eight years, it feels like witnessing a transformation in real time. The



Left to right: Mike Lane, Art Still, and Brett Sperry, MD

disease that once hid in the shadows now has FDA-approved therapies, public figures raising awareness, and a growing network of specialists dedicated to early detection.

More importantly, patients now have something they rarely had before: options.

Throughout this journey, I've often thought about the irony that amyloidosis—one of the more complex cardiology conditions—has brought such clarity to my professional purpose. It taught me that the heart cannot be understood in isolation. That subtle signs matter. That listening to a patient's entire story, not just their symptoms, is essential. And with state-of-the-art imaging and new life-saving therapies, we can turn a once fatal diagnosis into a very manageable condition.



Learn more at SaintLukesKC.org/amyloidosis.



Cacao and EVOO: Two Doctors Share Secrets for Longevity

Daniel Rome, DDS, and James H. O'Keefe, MD



Daniel Rome, DDS

We are big believers in the power of simple, natural habits that nourish both mind and body.



James O'Keefe, MD

Cacao
We each start our day with a hot cup of cocoa made with about two tablespoons (10 grams) of 100% raw unsweetened

cacao powder mixed into 8 to 10 ounces of hot water or milk. If you prefer to sweeten it, add a touch of honey or a pinch of cinnamon.

Daniel toured a cacao farm in Kauai last spring and was surprised to learn that raw cacao seeds taste nothing like chocolate. The chocolate taste we enjoy is a result of fermentation of the cacao seeds. Many dark chocolates on the market claim to be rich in antioxidants, but they're actually made of a processed form of cacao called cocoa. Cacao has

40 times more antioxidants per gram than blueberries. And while commercial cocoa or baking cocoa found in all milk chocolates and most dark chocolates may taste great, most of their antioxidants are lost during high-heat processing known as Dutch processing or Dutching, which neutralizes many of cacao's beneficial compounds. You will see cocoa butter listed as an ingredient if dark chocolate cocoa was Dutch processed.

Raw cacao, the least processed form that comes directly from the cacao plant, has much higher levels of flavonoids compared to processed cocoa. Adding cacao powder or cacao nibs is a gentle, brain-boosting strategy that is delicious and increases mental sharpness without the jittery edge high-caffeine beverages like coffee and energy drinks tend to have. Thanks to its natural theobromine content and a modest dose of caffeine, hot cacao (minimal or no added sugar) gives you a smooth lift that's good for your heart and brain. Specifically, Hershey's Cocoa is a superb cacao powder and it's the brand we recommend. And don't worry, although it is called Hershey's

Cocoa, this is an unsweetened 100% cacao powder that is *not* Dutch processed. We also love and recommend cacao nibs, which are a fermented form of the cocoa seeds that is also a superfood.

In fact, emerging research suggests that regular cacao consumption can help keep your brain sharp as you age, potentially reducing the risk of Alzheimer's disease and other neurodegenerative diseases. Another recent discovery, published in the 2025 *Proceedings of the National Academy of Sciences*, showed that theobromine found abundantly in cacao is more effective at combating the influenza virus than the anti-viral drug Tamiflu. Theobromine has a unique ability to target and block viral replication. More studies are currently being conducted on theobromine for its potential protective effects against a broad range of viruses.

If you're looking for a delicious way to take care of your mind, heart, and blood vessels, cacao is a good way to do it. You can consume dark chocolate to get these benefits, but it should be at least 85% cacao with not more than five grams of sugar per serving.



continued on page 14

Omega-3 + Curcumin: Potent, Gentle Pain Relief

James H. O'Keefe, MD

We've all done it: awakened with a sore knee, aching back, or pounding headache, and reached—almost reflexively—for the familiar orange or blue bottle of ibuprofen or naproxen.

Non-steroidal anti-inflammatory drugs (NSAIDs) are available over the counter (OTC) as Motrin®, Advil®, and Aleve®, or as prescription drugs like meloxicam, celecoxib, and diclofenac. Although NSAIDs have long been the standard quick fix for pain and inflammation, these drugs come with a cost—and it's steeper than you might think. When my mother, Leatrice, was 91, she was prescribed celecoxib for arthritis pain, and it promptly caused kidney failure, very high potassium levels, and cardiac arrest. This is shockingly common. Twenty-nine million Americans regularly use OTC NSAIDs to treat pain. Every year in the United States, NSAID use causes 100,000 hospitalizations and 17,000 deaths.

On the other hand, omega-3 (the active ingredient in fish oil) and curcumin (the active ingredient in the spice turmeric) in combination provide an effective, natural, and gentle anti-inflammatory therapy that is safer than NSAIDs. Combining omega-3 with curcumin can calm joint and muscle pain, brighten your mood, and possibly help prevent Alzheimer's. And

importantly, omega-3 and curcumin don't have potentially life-threatening side effects. Even so, taking omega-3 and curcumin on an empty stomach can cause nuisance gastrointestinal (GI) side effects in some individuals.

NSAID Complications

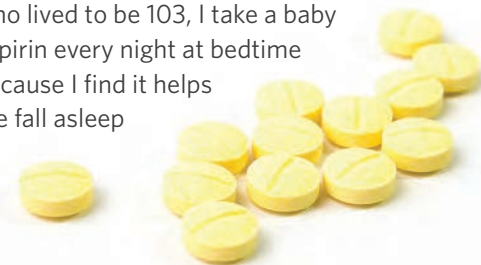
Let's start with the stomach. NSAIDs work by blocking enzymes called COX-1 and COX-2, which are involved in the body's inflammatory response. Unfortunately, COX-1 also protects the lining of your stomach and intestines. When you block it, you risk damaging that protective barrier, potentially leading to ulcers, bleeding, and serious digestive issues.

Then there are the kidneys. NSAIDs reduce blood flow to the kidneys, especially when used frequently. This can lead to fluid retention, elevated blood pressure, and in some cases, kidney injury or failure. Older adults and people with pre-existing kidney disease, hypertension, or diabetes are particularly vulnerable. A steady NSAID habit is like putting the kidneys under chronic stress, and these drugs can even cause catastrophic kidney failure, like it did to my mother.

But perhaps most concerning for my fellow cardiologists is what NSAIDs do to the heart. Many people are surprised to learn that regular NSAID use can raise blood pressure, increase

the risk of heart failure, and lead to heart attacks. In fact, a large meta-analysis published in the *The BMJ* (formerly the *British Medical Journal*) found that NSAID use—especially diclofenac and high-dose ibuprofen—was associated with a significantly higher risk of cardiovascular events like heart attack and stroke. Ironically, the very pills people take to ease the pain of aging joints may be speeding up the aging of their hearts, blood vessels, and kidneys.

Aspirin is the original NSAID, and at higher doses it can have all the same problems that other NSAIDs have. Yet low-dose aspirin, 81 mg daily—aka baby aspirin—remains one of our most prescribed meds in cardiology. At the baby aspirin dose, it is quite safe, although it slightly increases risk of bruising and bleeding. If you have a history of coronary disease, such as a heart attack, stent, or bypass surgery, or a CardioScan calcium score above 300, aspirin at 81 mg day is something you probably need. As always, it's something you should discuss with your health care provider. Personally, like my dear grandmother Dorothy who lived to be 103, I take a baby aspirin every night at bedtime because I find it helps me fall asleep



faster and sleep more soundly. Please note, never take NSAIDs on an empty stomach.

Unique Health Benefits of Omega-3 + Curcumin

But if NSAIDs are so dangerous, what's a sore, stiff, inflamed body to do? That's where the dynamic duo of omega-3 fatty acids and curcumin come in. These natural, gentle anti-inflammatory therapies offer many of the benefits of NSAIDs—without the dangerous downsides. I take this combo every day: 2,500 mg of DHA + EPA (found in three or four purified fish oil capsules), and 600 mg of curcumin (as Theracurmin) twice a day with meals. When I forget to take them, my joints will remind me the next day.



Omega-3, found in fish oil and fatty fish—like salmon, trout, and sardines—have powerful anti-inflammatory effects. They're

especially good at taming the kind of chronic, low-grade inflammation that underlies joint pain, heart disease, depression, obesity, and Alzheimer's dementia. EPA and DHA, omega-3 fatty acids found in fish oil, inhibit pro-inflammatory cytokines such as nuclear factor kappa B (NF-κB), tumor necrosis factor-alpha (TNF-α), and interleukins IL-1β and IL-6. Omega-3 also promotes the production of anti-inflammatory resolvins and protectins. Studies consistently have shown omega-3 supplementation can reduce joint pain, morning stiffness, and NSAID use in people with arthritis.

A 2020 meta-analysis in *Nutrients* found that omega-3 supplementation

significantly reduced symptoms of major depressive disorder. Other omega-3 studies show improvements in rheumatoid arthritis symptoms and even protection against cognitive decline. One very well-established benefit from a chronically high intake of omega-3 is protection against age-related brain shrinkage. People who have high levels of omega-3 fats in their cell membranes are much more likely to maintain a plump and youthful brain rather than the shriveled-up organs commonly seen in older individuals, especially in those with dementia.

Curcumin, the active ingredient in the spice turmeric, is perhaps the most potent nutritional weapon against chronic inflammation. Unlike NSAIDs, curcumin shuts down the inflammation right at the source, by reducing levels of NF-κB, TNF-α, and IL-1β and IL-6. These are master hormones that turn on the inflammatory cascade, so when curcumin reduces levels of these key chemical messengers, it does more than mask the symptoms, it reduces tissue inflammation and may prevent cartilage damage, joint destruction, and brain dysfunction or cognitive impairment, as reported in small randomized trials. A 2016 study published in *Phytotherapy Research* found that curcumin was as effective as ibuprofen for knee osteoarthritis—but without the GI side effects. It also appears to help cool down



inflammatory pathways in the body and brain, improve insulin sensitivity, and support endothelial function in blood vessels.

My clinical experience with countless patients and my own body suggests that together, omega-3 and curcumin work synergistically to reduce markers and manifestations of inflammation more effectively than either alone. One study in *Clinical Nutrition ESPEN* found that a combo of curcumin and fish oil improved joint pain and stiffness in people with osteoarthritis, while other emerging research also hints at brain and overall longevity benefits.

When Is It OK to Use NSAIDs?

Now, I'm not suggesting you toss your NSAIDs in the trash. They're still useful after acute injuries, surgeries, and dental procedures, and for other short-term pain, but even then, you should use them sparingly. These drugs, including naproxen, meloxicam, ibuprofen, and Celebrex®, are generally safe for most people when taken as directed for a few days to a couple of weeks. But consider making omega-3 along with curcumin part of your daily regimen as an alternative for treating or preventing chronic aches and pains. You'll be soothing your joints, protecting your heart and brain, and may even be adding a few healthy years to your life without subjecting yourself to the toxic effects of chronic NSAID use.

Disclosure: Dr. James O'Keefe is founder and Chief Medical Officer of CardioTabs, a nutritional supplement company that creates and sells products including omega-3, curcumin, magnesium glycinate + taurate, and probiotics.

Fiber continued from page 5

and tirzepatide, fiber is a supportive ally, not a substitute. Importantly, extra fiber helps prevent constipation in people taking GLP-1 medications like Zepbound® and Wegovy®.

Your Gut, Your Microbiome, and Colon Cancer Risk

In the colon, fermentable fibers feed gut bacteria, which produce butyrate, the preferred fuel for colon-lining cells. Butyrate strengthens the gut barrier, reduces inflammation, and may help damaged cells self-destruct before becoming cancerous.

Higher fiber intake is associated with lower colorectal cancer risk, with studies suggesting about an 8% risk reduction per additional 8g of fiber per day, up to 40g. Not absolute proof, but with minimal downside, it's a wager I gladly take.

On a practical level, fiber keeps you regular. Insoluble fibers add bulk; psyllium normalizes stool consistency,

helping both constipation and diarrhea. When patients say, "My gut feels better when I get my fiber," the science agrees.

A Few Practical Tips

- **Go slow.** Increase fiber by about 5g per day every week or two.
- **Hydrate well.** Psyllium absorbs water—take it with a large glass.
- **Mind medications.** Take fiber supplements a couple of hours before or after drugs with narrow dosing windows.

So What Should You Do?

Here's what I now recommend for most patients, family, friends—and myself:

1. Aim for 30–40g of fiber daily (at least 25g).
2. Get most of it from real food: vegetables, legumes, oats, barley, fruits (especially avocados and berries), nuts, and seeds.

3. Eat unsweetened yogurt and/or take a probiotic supplement. This helps to establish and maintain a healthy microbiome—the community of 40 trillion microbes in your gut that is essential for strong immunity and a healthy GI system.

4. Use supplements to fill gaps:

- Psyllium husk: start with one teaspoon daily and work up to one or two tablespoons per day, ideally with your largest carb-containing meal.
- Beta-glucan: from oats, oat bran, barley, or a supplement, 1g to 3g per day.

Bottom Line

Most people would be wise to make fiber—especially psyllium and beta-glucan—a daily habit. It's simple, safe, inexpensive, and powerfully supportive of heart health, gut health, and a longer, more energetic life.

Our Recommendation

Start your morning with a hot drink made with cacao powder, along with a bowl of nonfat unsweetened yogurt topped with frozen wild blueberries and a handful of nuts. For lunch, have a salad dressed with at least four or five tablespoons of that high-quality EVOO, and make sure to add salmon or other lean protein and maybe some avocado. Wrap up the day with an earlier, lighter dinner, and you've got a simple, delicious eating pattern that supports longevity and keeps you feeling sharp and calm, yet brimming with positive energy. Give it a try and see how it works for you.

Simple Daily Rituals continued from page 11



EVOO

Another cornerstone of an ideal daily diet is a generous drizzle of high-polyphenol extra virgin olive oil (EVOO) that has at least 400 mg/kg of polyphenols—like the Kirkland Signature Italian EVOO from Costco or Olive from the Raw, an option

available online. The potent antioxidants in a great EVOO make it one of the best-documented foods for heart health. The PREDIMED (*Prevención con Dieta Mediterránea*) study, a large Spanish trial that followed thousands of people on a Mediterranean diet—which emphasizes eating vegetables, fruits, whole grains, beans, nuts, olive oil, and fish. The study participants who followed the Mediterranean diet showed a 30% reduction in heart attack, stroke, and cardiovascular death. And it turns out, the olive oil and nuts were the real stars of the show.



Living Wholeheartedly

People think it's all about competition and survival of the fittest, but really, it's survival of the friendliest. Friendship is the key to us living long and healthy lives.

—Lydia Denworth

Better to have, and not need, than to need, and not have.

—Franz Kafka

The most important factor, by far, for conferring healthy longevity is having warm, mutually supportive connections—with people, animals, and plants. Investing time and energy into these relationships should be priority #1.

—James O'Keefe, MD

Connecting with others makes us ourselves.

—Marisa Franco

They listen well. They make you feel funny and valued. You often catch them looking after other people. And as they do so, their laugh is musical and their manner is infused with gratitude. Those are the people we want to be.

—David Brooks

Even when you can't cure, you can care. And that helps.

—John Mandrola, MD

The first wealth is health.

—Ralph Waldo Emerson

The fear of death follows from the fear of life. A man who lives fully is prepared to die at any time.

—Mark Twain

Friendship is unnecessary; like philosophy, like art, like the universe itself. It has no survival value; rather it is one of those things which give value to survival.

—C.S. Lewis

In my life I have found two things of priceless worth: learning and loving. Nothing else—not fame, not power, not achievement for its own sake—can possibly have the same lasting value. For when your life is over, if you can say, "I have learned" and "I have loved," you will also be able to say, "I have been happy."

—Arthur C. Clarke

Doesn't everything die at last, and too soon? Tell me, what is it you plan to do with your one wild and precious life?

—Mary Oliver

Decide what you would like your obituary to say and then live the life to deserve it.

—Warren Buffet

If you get on the wrong train, get off at the nearest station. The longer you stay, the more expensive the return trip will be.

—Japanese proverb

Not everything that is faced can be changed, but nothing can be changed until it is faced.

—James Baldwin

A single act of kindness throws out roots in all directions, and the roots spring up and make new trees.

—Amelia Earhart

The first wealth is health.

—Ralph Waldo Emerson

Red Queen to Alice in *Through the Looking Glass*: "It takes all the running you can do, to keep in the same place."

—Lewis Carroll

According to Harvard Business School Professor Arthur Brooks, a world expert on the science of happiness, the best way to spend money is on experiences and education, especially if you're sharing or giving it to people or causes you love. Similarly, Morgan Housel, in *How to Spend Money*, makes the case that the most valuable things that money can buy are not things at all, but rather the freedom, security, and better health and longevity that money can provide.

Staying Younger Longer: Breakthroughs in the Science of Aging Well

James H. O'Keefe, MD

Old age is like everything else. To make a success of it, you've got to start young.

—Theodore Roosevelt

Almost everyone wants to feel and look younger, whether for vanity or a desire to live a longer and more active and energetic life. This desire to turn back the clock, or at least slow the pace of aging, has motivated charlatans and legitimate scientists from time immemorial to come up with a fountain of youth elixir. Animal data suggest that reducing daily calorie intake can slow the aging process, but scientific studies in humans have shown lifelong calorie restriction to be neither practical nor effective. Thankfully, recent scientific breakthroughs indicate that some drugs and supplements may help to slow down biological aging, especially when used with specific lifestyle and diet strategies.

Chronological aging is immutable. With every lap the earth takes around the sun, you will be one year older. But the pace of biological aging—your real age—is quite modifiable. American culture today reminds me of the opening line of Charles Dickens's *A Tale of Two Cities*: "It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness." Life expectancy and overall wellbeing have been

deteriorating for the last decade in the U.S. Paradoxically, during the same time we have been discovering lifestyle factors, supplements, and drugs that slow aging and maybe even reverse it in ways never thought possible.

If you start paying attention and become proactive about not getting old, there has never been a better time and place to be alive than 2026 America. This article outlines a few key steps you can take to preserve robust health and the vitality of youth no matter your age. This will take some effort on your part, but the payoff is profound. Time, not money, is the most valuable currency of life. These strategies and therapies will enrich your life with many more years or even decades of youthful vigor.

GLP-1 Drugs (Tirzepatide and Semaglutide)

One of the most powerful ways to slow aging and stay youthful is to maintain a healthy body weight. America today is an obesogenic environment that conspires to make us fat. Chronic excess calorie intake has become the most common driver of premature aging—over 73% of adults are now overweight or obese. This extra weight silently fuels a cascade of chronic diseases, including diabetes, high blood pressure, high cholesterol, fatty liver, heart failure, kidney disease, arthritis, cancer, and even dementia. But there's a promising

new approach: GLP-1 agonists like tirzepatide and semaglutide. These breakthrough therapies work not by speeding up your metabolism, but by calming the brain's reward pathways and blunting the cravings that lead to overconsumption—of food, beverages, alcohol, and recreational drugs.

In essence, GLP-1s make it easier to say no to hyper-palatable, ultra-processed foods and tempting substances like alcohol, tobacco, and opioids. As people lose weight and reduce use of addictive substances on these medications, we see dramatic improvements in nearly every marker of health—blood sugar, inflammation, liver function, blood pressure, and cardiovascular risk. In our article "Tirzepatide and Semaglutide as Anti-Consumption Agents," published in *Progress in Cardiovascular Diseases*, we propose that these drugs should be viewed as powerful anti-aging tools. In my opinion, GLP-1 drugs are the most important medical advancement we've seen since antibiotics were invented 100 years ago. These drugs are effective not just for shedding pounds, but for reversing the biological toll of overconsumption and helping people live longer, healthier lives. But don't start a GLP-1 drug at home on your own. Getting and staying on these drugs can be tricky, as we



pointed out in our Summer 2025 issue of *From the Heart*. Partner with a health care team like ours at Saint Luke's Charles & Barbara Duboc Cardio Health & Wellness Center to make sure your GLP-1 experience is safe and effective.

Omega-3, Vitamin D, and Strength Training

Omega-3 fatty acids, specifically DHA and EPA, have shown promising results in slowing biological aging in animals and humans. Evan O'Keefe, MD, was the lead author on our recent study in the journal *Mayo Clinic Proceedings*, showing that having an omega-3 blood level in the top quintile (one-fifth) was linked with a 20% reduction in risk of death from any cause among 160,000 people followed for 14 years. High omega-3 levels were also associated with significantly reduced risks of cardiovascular (CV) and cancer death in that study. Other recent studies show that having high omega-3 levels slows our body's biological clock, keeping us youthful longer. Scientists now use aging clocks (especially epigenetic clocks based on DNA methylation) to estimate biological age or the "pace of aging, rather than simply years lived."

The CDC's National Health and Nutrition Examination Survey, a large observational study of about 20,000 adults, reported that the more omega-3 a person consumed, the slower the pace of aging during the 15 years of follow-up. The full anti-aging benefit was seen at intakes of at least 1,100 mg/day of EPA + DHA—the two main types of omega-3 fats.

A landmark trial called the DO-HEALTH study was recently reported in the prestigious journal *Nature*. This was a randomized placebo-

controlled trial conducted at the University of Zurich. It randomly assigned 2,157 participants from European cities who were ≥70 years old to 2,000 IU of vitamin D3 daily, 1,000 mg of omega-3 daily, and/or performing 30 minutes of strength training at home three times per week. The DO-HEALTH study found that daily supplementation with omega-3, alone or in combination with vitamin D and strength training, slowed the pace of biological aging compared to controls. This combo—vitamin D, omega-3, and weightlifting—significantly reduced the risk of serious infections, falls, cancer, and frailty. This gold-standard randomized, controlled trial discovered that omega-3 supplementation alone slowed the biological age progression (measured by three of four clocks) by about 2.9 to 3.8 months over the years.

According to Dr. Bischoff-Ferrari, lead author of the DO-HEALTH study, "These three factors—omega-3, vitamin D, and strength training—combined had the greatest impact on reducing the risk of cancer and preventing premature frailty over a three-year period by slowing down the biological aging process." Although there is no generally best test for measuring biological age, the DO-HEALTH study used state-of-the-art, currently validated epigenetic clocks.

Our body can't make its own marine omega-3s—specifically DHA and EPA.



The only way to have high blood levels of these nutrients that are so vital for heart and brain health is to eat them in the form of fish and seafood or take an omega-3 fish oil supplement. To get the age-slowing, life-extending benefits of omega-3, most Americans need to ingest 1,000 to 1,600 mg of EPA + DHA daily. This is easy to do by eating a 6-ounce serving of salmon at least three times each week or by taking two or three capsules of a purified omega-3 supplement daily. If you want to be sure you are in the protective range, order online an omega-3 blood level test from Omega Quant or CardioTabs. To get the full benefits from omega-3, your level should be > 8%; most US adults are in the 4 to 5% range.

SGLT Inhibitors

For decades, scientists have been searching in vain for an effective geroprotective agent—a drug to protect against aging. As we explained in a recent scientific paper published in *Progress in Cardiovascular Disease*, the sodium glucose cotransporter inhibitor (SGLTi) medication class appears to be the first safe and effective geroprotective drug. The best of the SGLTIs include Farxiga® (dapagliflozin), Jardiance® (empagliflozin), and Inpefa® (sotagliflozin); dapagliflozin is slated to go generic later this year.

Advancing age is the major risk factor for most of the diseases that have the potential to ruin our quality of life and/or kill us. The older we get, the more likely we are to come down with one or more of the modern scourges—everything from heart failure, heart attack, stroke, atrial fibrillation, and kidney failure to neurodegenerative



disease like Alzheimer's and Parkinson's and nearly all cancers. Modern health care is designed to play whack-a-mole, where we wait till a disease pops up to treat it. But if we had a therapy that slowed the aging process at a cellular level, it would reduce the risk for all these age-related diseases that are so prevalent as we grow older.

The SGLTIs slow aging at a cellular level by mimicking fasting or strenuous exercise. The sodium-glucose cotransporter receptor was a mechanism that evolved 600 million years ago as an energy sensor in the cells. During periods of scarcity, when the cell was stressed, this SGLT receptor was activated, triggering a process called autophagy, or cellular housekeeping. So when cells aren't getting enough food and nutrients, autophagy kicks in, and the cell starts testing all the mitochondria—the tiny power plants that create the energy to power life. In this process, lysosomes patrol around the cells looking for damaged proteins, lipid droplets, and worn-out mitochondria that are not working properly and thus are generating less energy and spewing out more smoke. The lysosomes break down intracellular trash and the older, less efficient mitochondria into amino acids—protein building blocks, which are then recycled to make brand new mitochondria that crank out more energy and give off fewer harmful free-radicals (smoke). In this way, autophagy rejuvenates the cells and makes them more resilient against stress and more likely to survive and thrive.

Revitalized, more energetic cells that give off less pollution make the whole organism healthier and more youthful. I doubt there is a cardiologist in the nation that has used SGLTIs in a higher

proportion of their patients over the past 10 years. I became a huge fan of these drugs when the Empa-Reg study in 2015 found that Jardiance® reduced risk of CV death by 38% in people with diabetes and heart disease. Over the ensuing decade, numerous large and impressive studies show that these drugs reduce risk of premature death, CV death, heart failure, kidney failure, and atrial fibrillation. SGLT also appear to reduce hospitalizations by about one-third. They might even reduce risk of cancer deaths and neurodegenerative diseases like Alzheimer's and Parkinson's.

Although the SGLT class of meds was initially approved for treating type 2 diabetes, about nine out of 10 people whom I prescribe it for do not have diabetes but instead are at risk for developing one or more of these diseases of aging—and aren't we all? SGLTIs are quite safe, but they do work in part by blocking the reuptake of filtered glucose, so that you have sugar in your urine. This can predispose to fungal skin infections like vaginal yeast infections in women and jock itch in men. We advise people on empagliflozin or dapagliflozin to stay well-hydrated, use a wet wipe or tissue paper to clean off any residual urine from skin surfaces, and bathe or shower at least once daily.

Going Outside to Play with Your Friends

As a cardiologist and lifelong athlete, I've spent decades studying how different types of exercise affect not just fitness, but also longevity. In our 2023 article "Training Strategies to

Optimize Cardiovascular Durability and Life Expectancy," published in *Missouri Medicine*, we highlighted something that might surprise you: The best exercise for a long, healthy life isn't grinding out miles on a treadmill; instead, it's the kind that feels like play. My mother Leatrice's mantra to her six kids while we were growing up was, "Go outside and play with your friends." Turns out, this was exactly the right advice for staying young and healthy throughout life.



Activities like tennis, pickleball, soccer, volleyball, softball, and touch football—especially when done outdoors with others—combine movement, sunshine, fresh air, and social interaction into one powerful package. These aren't just workouts; they're joyful experiences that stimulate both body and brain. When we engage in interactive physical play, we release feel-good brain chemicals, build coordination and balance, and keep our cardiovascular systems resilient and adaptable.

Team sports and racquet games stand out in longevity research. These types of activities tend to be more sustainable over the long term because they're fun and social. You're not just working out—you're laughing, competing, bonding, and getting into

a flow state that turns exercise into something you look forward to. And because these games usually involve short bursts of intense effort followed by active recovery—what scientists call high-intensity interval training (HIIT)—they naturally improve heart health and metabolic fitness more effectively than steady-state cardio workouts.

I encourage my patients to find a sport or activity they love and make it a regular part of their routine. Whether it's a weekly pickleball match, a lunchtime walk with a friend, or kicking a soccer ball around with your kids or grandkids, the key is to move your body in ways that bring you joy. That's how you build cardiovascular durability—the ability of your heart and blood vessels to stay strong and flexible well into old age.

Hormone Replacement Therapy for Women and Men

I usually can perceive whether or not a female patient over age 50 is on hormone replacement therapy by just looking at her. Indeed, a key piece of the longevity puzzle is maintaining normal hormone levels as we age. For both women and men, sex hormones—estrogen, progesterone, and testosterone—play vital roles in preserving muscle mass, bone density, cognitive sharpness, cardiovascular health, and sexual vitality. Unfortunately, these hormones naturally decline with age, contributing to fatigue, frailty, mood changes, loss of libido, and a general sense of diminished vigor.

Recent research shows that carefully prescribed hormone replacement therapy (HRT) can safely restore hormone levels to the healthy physiologic range, improving energy, motivation, and overall quality of life.

- For women, estrogen replacement—especially when started within ten years of menopause—reduces hot flashes, preserves bone strength, and may lower risk of heart disease and dementia.
- For men with confirmed low testosterone, restoring levels to normal physiologic range has been shown to increase lean muscle, reduce abdominal fat, and enhance mood, motivation, and sexual function, without increasing cardiovascular risk when properly monitored.

In fact, new research using biological aging clocks based on DNA methylation patterns shows that maintaining hormone levels in the normal range can actually slow the pace of biological aging. Studies have found that postmenopausal women on estrogen therapy and men treated for low testosterone tend to have younger epigenetic ages compared to untreated peers—suggesting that balanced hormone replacement not only helps you feel younger, but may truly keep your cells younger too.

Don't try this at home. The key is balance and medical supervision. Hormone therapy should never be undertaken casually or in anti-aging clinics that use unregulated or excessive doses. The safest and most effective approach is to work with a knowledgeable clinician who uses evidence-based protocols, appropriate lab testing, regular follow-up, and FDA-approved preparations.

Bottom Line: When done thoughtfully and monitored closely, HRT can be a safe and effective tool for maintaining youthful vigor—helping you stay strong, sharp, and fully engaged in life through your 50s, 60s, 70s, and beyond.

Thoughts, Emotions, and Motivation

You really do become what you think. Be aware of which thoughts you allow yourself to spend time with. If you feed your mind trash, you're going to feel like trash.

Emotions aren't problems; they're signals. Fear shows you what really matters. Anger tells you what boundaries were crossed. Anxiety means that you're stuck in the future and is a reminder that you need to come back to the present.

Motivation won't change your life; habits will. When you change your habits, everything shifts. Your past is a chapter, not your whole story. Learn from it but stop living there. When someone triggers you, pause, because the resulting emotions are a mirror showing you what's still unhealed inside of you. Control is an illusion. The only real power that you have in this life is you and your choices.

At the end of the day, it's simple: Your thoughts shape you; your habits build you; and your choices define you.



From the Heart: 23-Time Winner of the National Healthcare Advertising Awards, including a 2023 Gold Medal Award!

Blood Donation—Good for Others, Good for You

We know donating blood can potentially save others' lives. But did you know it can also be good for your own health?



Potential Health Benefits of Blood Donation

1. Reduced Iron Stores

- High iron levels have been linked to oxidative stress and inflammation, both of which can contribute to cardiovascular disease. Ask your doctor to check your ferritin level, a blood test that tells you how much iron you have stored in your body.

- Regular blood donation may reduce excess iron and potentially lower the risk of heart attacks and stroke—particularly in men.

2. Reduced Cancer Risk

A study in the *Journal of the National Cancer Institute* found that people who reduced iron through phlebotomy (donating blood) had lower cancer risk—though the evidence here is still limited and mixed.

3. Improved Cardiovascular Health

Some small studies suggest that regular donors have lower blood pressure and better cardiovascular health.

4. Caloric Burn

One blood donation can burn up to 650 calories due to the energy it takes your body to make new blood cells. It's not a major factor in weight loss, but it's a fun fact.

5. Psychological Benefits

Helping others boosts your mood, reduces stress, and can enhance your sense of purpose—all of which are linked to better mental wellbeing and more robust physical health.

Donating blood regularly can lead to a longer, healthier life for both you and those you help. So next time you see a blood donation drive, remember that it's more than just an act of kindness—it's an investment in your own health, too.

Check These Sites for Local Blood Drives



Community
Blood Center
SaveALifeNow.org



Red Cross
RedCross.org/
give-blood