



Fall 2012

From the Heart

Your Newsletter from Saint Luke's Cardiovascular Consultants

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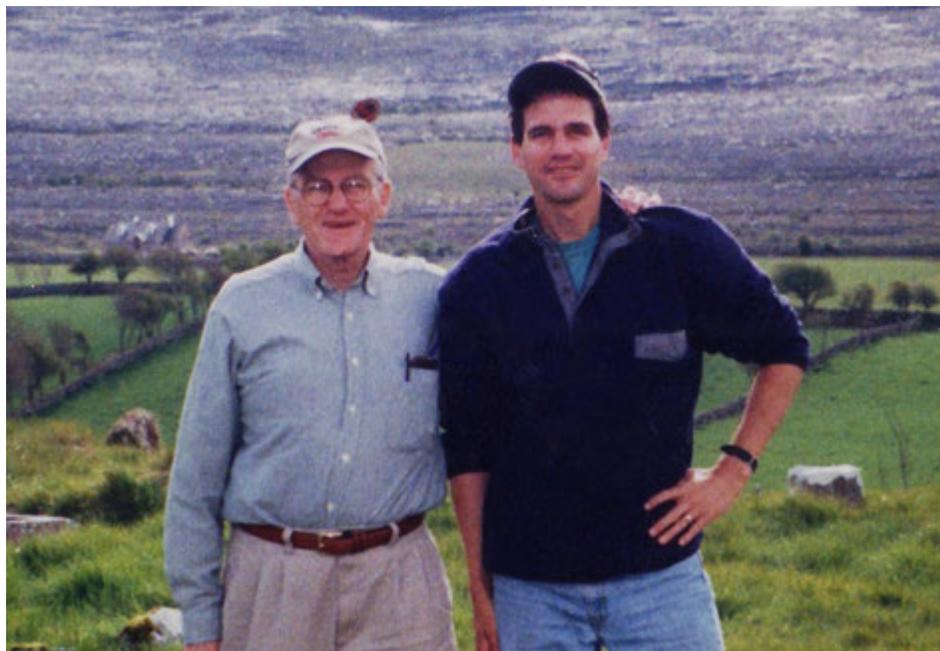
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We All Need Each Other

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

I am proud of the man for whom I was named. My father was better at connecting with people than anyone I've ever known. Born and raised in North Dakota, he came to view the entire state's population as his "tribe." He was a judge for the State District Court and later the State Supreme Court. Whenever he met someone new, after just a few minutes of friendly conversation he would be able to find a shared acquaintance or interest. Nothing pleased him more than being able to weave someone into the tapestry of life that binds us all together and gives us a sense of shared identity and support.

With the lowest per capita crime rate in U.S., the state motto of North Dakota could be "40 below zero keeps the riff-raff out." Indeed, about the only homeless person in our hometown, Grafton, was an unfortunate man named Louie, who as insensitive kids, we nicknamed Screwed Louie. He was a gentle but tormented soul who suffered from paranoid schizophrenia. Louie lived in his jalopy of a car, fearing that if he moved into an apartment the state authorities would be able to track him down and lock him away in a mental ward. My father took Louie under his wing and found a heated bus barn where Louie could park and live in his car and still stay



warm during the frigid winters. For decades my parents paid Louie to shovel the snow from their sidewalks or mow the lawn. They treated him like family, and the two of them were the only people he trusted.

About 10 years ago, when my father suddenly fell ill, and was diagnosed with metastatic and terminal pancreatic cancer, Louie parked his car outside the small, local hospital and wouldn't leave. For weeks, Louie, in his ragged, oil-stained parka, paced up and down the hospital's snowy sidewalks, muttering despondently under his breath. Late one night I happened upon Louie, cowering in a corner of the dimly lit, deserted hospital waiting room. In a frightened tone

he pleaded, "You can't let your father die, I don't know what will become of me." Through tear-filled eyes I said, "Louie, we are all in this together; you will be okay." I hugged him and in that embrace I felt a bond of brotherhood that made a desperate time feel just a little more bearable for both of us.

What Really Matters

Since 1937, the Harvard Study of Adult Development has closely followed one entire class of Harvard students for more than 70 years, through college, careers, marriages, divorces, illnesses, and

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We All Need Each Other

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for many participants, even death. The study focused on how different behaviors are linked with various outcomes in terms of health, happiness and longevity.

When the physician director of the Harvard Study was asked what this unique and comprehensive database revealed he replied, "The only thing that really matters in life are your relationships to other people." Truly, our interpersonal relationships dwarf every other factor in our lives for predicting the quality and quantity of our life. In other words, family and friends are much, much more important to our physical and emotional well being than money or anything else. For instance, recent studies show that belonging to a social group that meets even just once a month, has the same positive effect on your sense of well-being as doubling your income.

Ubuntu

In his brilliant new book "Stresscraft" (an e-book available on amazon.com), my good friend Frank Forenich writes about how today's focus on the individual, rather than family, community, and tribe is unprecedented in human history. During the vast majority of human existence on Earth, people identified powerfully with their "group." Ubuntu (pronounced oo-Boon´-too) is a traditional philosophy of the Bantu tribe from southern Africa that believes a connection exists between people, and it is through this bond that we discover our identity and our purpose in life. Ubuntu holds that, "I am what I am because of who we all are." The worldview of ubuntu speaks about belonging, about compassion, about being a valuable part of something bigger than each of us. In this way of life,



Frank Forenich learning fire starting from !Kung bushmen.

when someone is degraded or humiliated, we are all diminished. According to Frank, "Ubuntu is not just idealistic Afro-hippie talk. It's solidly supported by the latest findings in social neuroscience and interpersonal neurobiology. The philosophy of ubuntu is practical, intelligent, and functional." This attitude that we all need each other gives us resilience, strength and assurance to persevere in the face of daunting hardships.

Oxytocin: the Goodness We Seek

Paul Zak is a renowned researcher who has spent his career studying the hormone oxytocin. In his new book, "The Moral Molecule," Zak explains that empathic human connection stimulates oxytocin release in the brain, which in turn engenders trust and affection, forges interpersonal bonds, inspires altruism and generosity, and is the hormonal basis for love and prosperity. Each of us has the capacity to be both good and bad, depending on the circumstances and influences in our lives. In stable and safe surroundings, oxytocin, makes us generally good, and leads to loyalty, generosity and cooperation.

He calls testosterone oxytocin's evil twin; high levels of testosterone cause a hell of a lot of trouble, and not just for interpersonal relationships. For instance, most violent crimes are committed by young men, generally between the ages of 18 and 25, when testosterone levels tend to be through the ceiling.

On the other hand high oxytocin levels are all good—for example nursing an infant stimulates sky-high oxytocin levels which instill the intense, fierce maternal love that one could argue might be the most powerful force in nature, for without it mammalian life would not flourish or even survive. In response to all varieties of stimuli, women typically make significantly more of this hormone than men, which I believe probably goes a long ways towards explaining why women tend to outlive men by about five years. Studies show that higher oxytocin levels inspire us to be not only generous and kind, but also have a greater sense security and more satisfaction with life, better resilience to setbacks, higher quality relationships, closer family ties, and more friends.

Rx: Eight Hugs Daily

So why can't we just take an oxytocin pill every morning to make our lives wonderful? If only it were that simple—this hormone lasts only a few minutes in the bloodstream, so if you want high levels, you need to earn them the old-fashioned way—by stimulating your pituitary gland to make more of the good stuff.

Zak, who has been dubbed "Dr. Love," writes that his prescription for increasing one's oxytocin levels is to play with your kids, have more fun, emotionally bond with your friends, hold hands, give and get massages, kiss, and have more sex with your significant other, join social groups, get a dog, and follow the "Golden Rule"—treat others as you would want to be treated. In addition, one more practical tip: each day try to give at least eight hugs (all to one person or to eight different people, whatever works for you).

Zak and his colleagues have shown that if you give eight hugs daily, you will be happier. This kind of behavior can create a "virtuous cycle" whereby altruism and caring for others stimulates oxytocin, and higher levels of this hormone inspire us and the people with whom we are interacting to be more trusting, loyal and loving. This positive feedback loop sends ripples of trust and affection out into your world, making it a kinder and gentler place in which to live.

My instincts tell me hugging your dog or cat works just as well as hugging a person, but hugging a tree...maybe not so much. I must admit, when I was younger, I used to be a bit embarrassed when a patient would hug me; but these days a hug never fails to warm my heart and make me smile.

*Strength through joy.
German Proverb*

Reverse To-Do List

By Frank Forencich

In the frenzied, high-pressure world of productivity, business and time management, everyone takes it as a given that we've got to have something called a "to-do list." To-do lists have been around for a few decades now and people are more stressed out than ever before. Our to-do lists are now digitized and capable of handling gigabytes of tasks, but our cortisol levels continue to skyrocket as do stress-related diseases such as heart disease, depression, neurological disorders and general unhappiness.

The very fact that we need a to-do list suggests that maybe, just maybe, we're biting off more than we can chew. In this sense, the list isn't a solution, it's a symptom of a larger problem. Reliance on a to-do list means we've exceeded our natural cognitive capacity. The list may serve as a short-term, stop-gap measure to help manage a temporary surge in our work loads, but it doesn't address the fundamental problem of an over-active ambition. Maybe we just need to do less in the first place.

So how about if we turn the whole enterprise around and see what it does for our stress levels? I propose a "Things I Don't Have To Do List." Such a list might look like this:



Reverse To-Do List

THINGS I DON'T HAVE TO DO . . .

- ✓ *Become Rich and Famous*
- ✓ *Know Everything*
- ✓ *Fix Everything*
- ✓ *Live Forever*
- ✓ *Win a Nobel Prize*
- ✓ *Win a Gold Medal*
- ✓ *Save the World*
- ✓ *Be Perfect*

Are Electronic Cigarettes a Safer Nicotine Addiction?

When a person lights up a cigarette, and takes the first drag on it, how long do you suppose it takes for the tobacco smoke to start “lighting up” the nicotine receptors in the brain? About seven to 10 seconds—faster even than if one would have injected the nicotine into an arm vein! The immediate rush of euphoria and relaxation caused by stimulating the nicotine receptors in the brain is part of the intensely addictive nature of smoking, and why it can be such an impossibly difficult habit to break. It is also why electronic cigarettes can be very helpful in weaning smokers away from their tobacco habit.

After decades of unsuccessfully trying to convince my patient Dennis to stop smoking cigarettes, I was nearly speechless when he announced during an office visit about two years ago that he was done with tobacco once and for all. Despite my impassioned pleas through the years, and various experiments with Chantix, welbutrin, nicotine patches, acupuncture and hypnosis, this otherwise intelligent and successful, diabetic man who suffered a sizable heart attack 16 years ago, had previously been unable to stop smoking. He finally discovered e-cigarettes and has been using them ever since without ever feeling the need to go back to real cigarettes. Dennis is looking and feeling remarkably healthier, and now even runs a side business selling e-cigarettes to his tobacco-using acquaintances.

It turns out that the chemical that makes tobacco so dangerously addictive, is on



its own, pretty harmless to one’s health. Nicotine is a compound that our body naturally synthesizes for use in fundamental functions in the cells and brain. It is the combined noxious effects of the other 4,000 toxic chemicals created by burning tobacco that, when inhaled, pollute our system and predispose to cancer, heart disease and premature aging.

A new study just presented at the European Society of Cardiology showed that e-cigarettes do not seem to be harmful to the heart. A second study, this one published in the journal *Chest*, reported that e-cigarettes are also safe for the lungs, at least in the short term.

The electronic nicotine-delivery device, commonly referred to as the e-cigarette, was invented in 2003 by a Chinese pharmacist as an alternative to smoking, and has been used by millions of individuals already. E-cigarettes are about the size and shape of a real cigarette and consist of a cartridge containing liquid nicotine dissolved in a flavored fluid, with a battery and a

heating element that warms and evaporates the liquid to a vapor.

Typically, smoking one tobacco cigarette infuses about 1 to 1.5 mg of nicotine into the bloodstream; an e-cigarette is designed to deliver about this same amount per “smoking session.” Whereas smoking a real cigarette causes a sudden rise in blood pressure, pulse, with worsening of inflammation and increased tendency for dangerous blood clots, using an e-cigarette appears to cause no major adverse immediate effects on the heart, lungs or blood vessels.

E-Cigarettes Alleviate Both Chemical and Behavioral Addiction

The effectiveness of e-cigarettes relates to their ability to address both sides of a smoker’s addiction: the brain’s craving for a rush of nicotine-receptor stimulation, and the psychological/behavioral habit that goes along with having something in your hand, that when you inhale through, stimulates an immediate sense of pleasure and relaxation.

Take home message: if you or someone you care about is a smoker, get him or her to try to change over to an e-cigarette. Just as the addiction to caffeine can be a harmless pleasure when it’s done in the form of dependence on coffee or tea (rather than sweetened soft drinks like colas), the addiction to nicotine appears to be largely harmless when it is accomplished without having to inhale smoke from burning tobacco.

News about Omega-3

A recent controversial study published in the journal, *JAMA*, suggested omega-3 was not healthful. My good friend, William Harris, Ph.D., the internationally recognized “cod-father” of the omega-3 story, wrote to me, “The *USA Today* headline “Fish Oil Pills with Omega-3 Don’t Help Against Heart Disease” was a far cry from the truth.

In that study, there was indeed a significant benefit of omega-3 on reducing the risk of cardiac death and a trend toward decreasing total mortality, sudden death and heart attack. Dr. Harris also suggested that using a dose higher than one gram of EPA+DHA and a longer duration of therapy might provide even more benefit.

Another recent study from scientists at Gettysburg College in Pennsylvania reported that by taking 4,000 mg of concentrated fish oil per day, you can reduce your excess body fat while at the same time increasing muscle mass. The researchers also reported that the high dose of omega-3 lowered levels of the stress hormone cortisol, and also reduced inflammation.

Other recent studies show that people who are exercising regularly can be much more successful in losing excess weight if they add high-dose omega-3 to their daily regimen. A high intake of omega-3 may help to build and maintain strong bones too.

Eggs: Healthy or Harmful?

By James H. O’Keefe, M.D.

Could eating eggs regularly be as harmful to your health as smoking?! A Canadian study published online July 31, 2012 in the journal *Atherosclerosis* reported this finding, though I have real doubts about the validity of their conclusions. These researchers sent questionnaires to 1,200 men and women (average age about 61) who were followed regularly in a preventive heart clinic. The study showed that regular egg yolk consumption was linked with plaque progression in the carotid (neck) arteries.

Surprisingly, eating as few as three egg yolks per week seemed to predispose to an increase in plaque development. A larger and more impressive analysis of the egg dilemma came from the Physicians Health Study, which has been following 21,300 male doctors for 20 years. This study found that men who ate seven or more eggs per week were about 25 percent more likely to die from any cause compared to men who ate fewer than seven eggs weekly. Importantly, six or fewer eggs per week was not linked with increased risk of heart trouble or death. The cardiovascular risk of eating eggs seems to be higher in diabetics, probably because they are at such high risk for arterial plaque development, and thus are very sensitive to excess cholesterol in their diet.

Egg whites are a wonderfully healthy, cholesterol-free and lean source of high-quality animal protein. Eating an egg white omelet with vegetables like tomatoes, spinach, mushrooms and onions is about as nutritious as food gets. The USDA recommends limiting cholesterol intake from diet to less than 300 mg daily. A single yolk contains about 200 mg of cholesterol. I personally don’t miss the yolks at all, but if you do, try to limit yourself to not more than three yolks per week, and look for organic eggs that are high in omega-3 fats.

Father Jim is a friend and patient who raises chickens for eggs. I buy these organic free-range brown eggs from him every chance I get. He treats his chickens as if they were his children. Just before dark, he goes outside and checks to see that they are all safely nestled into their roosts for the night. He worries about owls and other predators getting his beloved hens if they are left outside when darkness falls. If any of the birds have been chased up into the tree branches, Jim (a spry 75-year-old) props a tall ladder against the tree, and climbs up to rescue the stranded birds. He gently scoops up the chicken and shoos it into the safety of its coop for the night. To my vegan friends who shun all animal products because they cannot condone eating animals raised in inhumane conditions, I direct them to an egg producer like Father Jim.

These eggs come from hens who are nurtured with tender loving care, have the run of acres of chicken paradise, and wander about during the day feeding on bugs, seeds and other natural food sources. His chickens are about as happy and healthy as birds can be, and their eggs are loaded with wholesome protein that is ideal for rebuilding the tissue that is constantly being torn down in the course of day-to-day living. By adding ideal, clean protein, like organic fresh egg whites to your diet, you improve your health in many ways.



Kansas Rancher Doesn't Miss a Beat with LVAD

With 1,500 acres and 500 head of cattle, Duane Walker's vision of retirement never included a rocking chair. "I ran the local grain elevator for most of my career," says the Canton, Kan., man. "When I retired, I wanted to do some light ranching and spend time with my family." But a heart attack in 1997 and two subsequent bypass surgeries added up to a heart that just couldn't keep up with Walker's active lifestyle.

"In 2006, I started having problems with congestive heart failure," Walker says. His doctor prescribed medications to improve his heart's pumping action, but eventually they no longer were effective.

By the summer of 2010, he began a cycle common for many advanced heart failure patients.

"I couldn't do my job," Walker says. "I would take on fluid, retain it, go to the hospital to have the fluid removed, feel better, go back to work, and the cycle would start again."

Then his cardiologist told him about a Left Ventricular Assist Device (LVAD). "I was interested from the moment he told me about it," Walker says. "He said it might help me get my energy level back so that I could work and enjoy life again."

Walker's cardiologist referred him to Saint Luke's Cardiovascular Consultants. There he underwent four days of medical tests to determine if he was a good candidate for



Duane Walker, third from left, and his wife, Jo, far left, along with their children, grandchildren, and great grandchildren, have worked hard to enjoy life on their Kansas ranch. Walker, an advanced heart failure patient, received an LVAD at Saint Luke's Mid America Heart Institute.

the device. "They told me I was in pretty good shape for my age, except for my heart," says the 76-year-old rancher.

As an advanced heart failure patient, Walker's prospects for survival were poor without the LVAD. But studies have shown that patients with significant functional limitations, despite good medical therapy, who are candidates for device therapy live longer and enjoy a much improved quality of life when treated with an LVAD, compared with those being treated with drug therapy alone.

There have been over 10,000 patients implanted with the HeartMate II, which is the device currently FDA approved for long-term support in those patients not eligible for transplant due to age or other medical conditions. It is estimated that there are tens of thousands of additional advanced heart failure patients who could benefit from an LVAD in the United States.

"An LVAD is a mechanical device that helps circulate blood throughout the body when the

heart is too weak to move the blood forward efficiently on its own," explains Bethany Austin, M.D., one of the heart failure cardiologists with Saint Luke's Cardiovascular Consultants who cares for Walker. "The LVAD is designed to augment the pumping function of the heart, with the goal of improving blood flow throughout the body and allowing the patient to breathe more easily and feel less fatigued."

Knowing that he was a good candidate for the device, Walker scheduled surgery on Oct. 25, 2010. During the operation, Sanjeev Aggarwal, M.D., a cardiothoracic surgeon with Saint Luke's Mid America Heart and Lung Surgeons, implanted the LVAD just below Walker's diaphragm in his abdomen. He attached it to the left ventricle and the aorta, the main artery that carries oxygenated blood from the left ventricle to the entire body.

Walker also has an external, wearable system that includes a small controller and two batteries attached by a driveline extending through the skin.

Immediately after surgery, Walker noticed a change in his energy level and appetite. "I was able to do things I couldn't do before I got the LVAD. I started doing light ranch work again, building fence, feeding cattle and riding horses."

In fact, Walker says his biggest limitation now is the weather. "Extreme heat or cold bothers me," he admits. "But I have a lot of help to get my work done."

That help includes Walker's four children, five grandchildren and seven great grandchildren who all live within one-half mile of his home. However, it's his wife of 58 years, Jo Walker, who has been his biggest supporter.

"There's no question the LVAD has helped, but it requires two people," Walker says. "I am fortunate to have best support person in my life you could possibly have. Jo schedules all my appointments, dresses the open wound where the LVAD connects to my body and keeps my batteries charged. She has the lead role. Without her to help me, this would be a load."

With her, Walker is successfully enjoying life on his Kansas ranch. "My biggest fear was that I would spend my final years in a wheelchair with a bottle of oxygen at my side, and that did not fit with my plans," Walker says. "Instead, the LVAD has not only helped extend my life, but has given me a much better quality of life, and for that I am very grateful."

Saint Luke's is the only hospital in the region to offer LVADs as both bridge to transplant and destination therapy. For more information, visit www.saintlukeshealthsystem.org.

Leafy Greens are the Healthiest Food on the Planet

If you wanted to be blessed with remarkably good health and exceptional longevity, what one change would you make to your daily diet? The answer is to include a generous daily intake of raw or steamed leafy green vegetables.

When I was a kid, the only lettuce we had in our household was iceberg lettuce. When Joan and I were first married we ate romaine lettuce, then we moved to red leaf lettuce. But for the past 20 years, we have been huge fans of the real stars of health and longevity—leafy greens like baby spinach, kale, broccoli and arugula. These are the most nutrient-dense foods on the planet. Kale, a cross between cruciferous vegetables and a leafy green, may be the best of best!

A large meta-analysis of more than 200 long-term observational studies concluded that raw vegetables showed a stronger protective effect against cancer than any other type of food. Leafy greens in particular also provide potent protection against macular degeneration—the leading cause of blindness in adults.

A low level of carotenoids in the macula of the eye (the highly sensitive center of your field of vision where your visual acuity is the best) predisposes to macular degeneration and blindness.

If you can make sure you are eating leafy greens like kale and spinach at least five times weekly, your risk of developing macular degeneration falls by 86 percent! Joel Fuhrman M.D., advises his patients to tape a sign on their refrigerator door that says: "The SALAD is the MAIN dish!"

The base of your salad should be hearty greens like spinach or kale, not iceberg lettuce. Then add two more colors—your choice; red, green, or orange bell peppers, or broccoli, or carrots, or onions, or celery, or mushrooms or snap peas, or better yet—all of the above. Be creative, indulge your vegetable passions, and dress it with extra-virgin olive oil and wine vinegar or fresh lemon juice to enhance your body's ability to absorb the cornucopia of potent nutrients present in these vegetables.

Now just add a modest serving of protein, like boiled peel-and-eat shrimp, or a chicken breast, and perhaps add a bowl of raspberries for dessert. Now you have a perfect meal!



Your Habits Will Carry You to Your Destiny

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

"We become what we do; excellence is therefore more of a habit than a virtue." Aristotle

Charles Duhigg, in his fascinating and insightful book, "The Power of Habit," tells the story of a pair of young fish who were swimming along one day, when an older fish swims by them and remarks: "Good morning; hope you boys are enjoying the lovely water today?" The two younger fish swim along for short while before one of them looks over at the other and asks in a puzzled tone, "What the hell is water?"

Like the fish oblivious to the water in which they had always been immersed, each of us is unthinkingly embedded in the powerful but largely unnoticed routine of our day-to-day habits. By nature, the human brain is hard-wired to develop habits, which are analogous to the grooves and channels that are created in the ground by flowing water. Over time, the water will come to predictably and effortlessly flow through those ruts, which become deeper with time.

The way we habitually think of ourselves, view our surroundings, and treat the people in our lives, eventually creates the world in which each of us dwell. Unthinkingly, we de-

velop automatic choices, habits, which dominate our daily existence.

Where do you want to go? Who do you want to be? Your habits will carry you to your destiny. Every day, each of us "sleepwalks" through repeated patterns of choices and unconscious actions, yet because we take them for granted as immutable, they are invisible to us. Still, by simply looking for them, the habits become visible again. And once we can see our habits, and become aware of their consequences, it is within our power to bring them under our control.

"If you do what you've always done, you'll get what you've always gotten. It's not what we do once in a while that shapes our lives, but what we do consistently."

Tony Robbins

Some things need to be first believed, if you want to see them crystallize in to reality. A willingness to believe that change is possible is one of the essential first steps toward making meaningful and lasting changes. When you believe that change is possible, and if you then begin to make that change a habit, one step at a time, day-by-day, soon the change starts to become a reality.

Another step towards harnessing the tremendous power of habit is the realization that our habits are what we choose them to be. Once we make the decision to trade off an old and self-destructive habit for an empowering one, and begin the new habit, it increasingly becomes an automatic

routine. And once that new pattern emerges, change seems not just possible, it starts to feel inevitable.

Keep in mind that to develop a habit, good or bad, requires that you create a groove in your life so that the action becomes automatic, and this usually involves about four to six weeks of consistent practice. Truly, our habits are the force, which more so than anything else, carries us irresistibly towards our destiny. By harnessing the power of habits you can change almost anything—you just can't change everything, so you need to pick you battles wisely.

"Forget about what you used to do. This is the moment you've been waiting for."

Jack LaLanne

Oftentimes a major disruption or serious threat proves to be a pivotal event, a teachable moment, that motivates one to make a change. When the next crisis arises, don't waste the opportunity to harness the moment to change your life.

Amy, a previously healthy 22-year-old college student, out of the blue came down with Type 1 diabetes. She was started on high-dose insulin injections and was advised to eat significant amounts of carbohydrates with each meal to avoid hypoglycemia. By the time she first met with Joan, Amy had gained 20 pounds, and was "a wreck" physically and emotionally. Joan had her focus on eating only lean protein, vegetables (except potatoes), low-glycemic fruits like berries, nuts and avoid all processed foods. She exercised daily, and made it a priority to get at least 8 hours of sleep each night. This strategy was designed to maximize the nutritional value of every calo-



rie she consumed, keep her insulin sensitivity high, and reduce the inflammation in her system. She followed the program to the letter, and the results were dramatic. Amy went from injecting herself with insulin four times per day, with total daily insulin doses of over 100 units, and wildly fluctuating glucose levels, to not injecting any insulin during the day, with only one injection of five units of insulin before bed. She has lost her 20 pounds of excess weight, and is looking and feeling better than ever.

Keystone Habits

Cultivate healthy habits.

Nothing else will so reliably create vitality, happiness, and longevity. What is it you really want or need to do: eat healthier, be more active, lose weight, trim your waistline, have a more positive and upbeat attitude, kick a tobacco habit, cut down on your drinking, die suddenly on your 100th birthday while making love to your significant other? When you harness the power of habit, all of these goals are attainable (though admittedly that last one is a bit of a long-shot).

A keystone habit, according to Charles Duhigg, is a fundamental routine that is crucially important because it has the power to start a chain reaction, which can shift other patterns and eventually transform our lives. Keystone habits influence how we eat, think, play, work, and live. A keystone habit can trigger a process that, with time, can transform everything. So, pick one of these five keystone habits that is not yet in your daily routine and focus on making it a priority to do this regularly until it becomes automatic. Eventually if you can ultimately establish most or all of these five keystone habits in your day-to-day routine, your health and your life will be radically altered for the better.

Five Keystone Habits

1. Sleep seven to eight hours nightly.
2. Exercise at least 20 to 30 minutes daily.
3. Eat two colors and one healthy protein at each meal.
4. Floss and brush your teeth daily.
5. Think of three blessings for which you are grateful each night before dosing off.



Food Journaling

If you are trying to lose excess weight, another keystone habit that can be highly effective is keeping a food diary. Most people and physicians assume that the best way for overweight or obese people to drop unwanted pounds is to radically alter their lives: join a gym, workout hours daily and closely follow an extreme diet. Conventional wisdom holds that only by completely restructuring a person's daily routine can one's bad habits be reformed.

However, when scientists looked at the long-term effectiveness of this strategy, they discovered that this approach was generally a dismal failure. Individuals would begin radical diets and strenuous daily workouts, but after the early burst of willpower wore off, they regressed back into their old routines of overeating and prolonged sitting. Trying to make so many disruptive changes all at once made it virtually impossible for the program to succeed.

Then in 2009 a prestigious group of scientists sponsored by the National Institutes of Health evaluated a novel approach to weight loss. They enrolled a group of 1600 obese individuals and instructed them to simply write down everything they ate during one day, at least once per week.

This proved difficult in the beginning—they did not remember to bring their food journals to work, or would forget to record snacks. But with time and reminders, they started recording everything they ate during one day a week. Many people started keeping a daily food log more than one day per week. Eventually, after the food journaling became a habit, something surprising happened. The study subjects started examining their own journal entries and noting patterns that astonished them. Maybe they were prone to snack on a doughnut mid-morning, so they started bringing an apple or nuts to work to satisfy their cravings without blowing their diets. Others utilized their journals to alter their meals, so when it was time for dinner they had a healthy menu in mind rather than mindlessly driving through a fast food joint.

The NIH scientists who conducted the study did not suggest any of these strategies, they only requested that the participants write down everything they ate one day a week. Yet this keystone habit—food journaling—provided a structure that helped other habits to flourish. Six months into the study, the individuals who kept a daily journal had lost two times as much weight as those who didn't keep a food log.



Run for Your Life...at a Comfortable Pace and Not too Far

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

A Amby Burfoot, winner of the Boston Marathon in 1968 and editor-at-large for *Runner's World* in a recent interview for that magazine asked me, "So even if there are possible risks associated with marathons and other excessive endurance exercise; lots of bad things might happen to us when we get out of bed in the morning. Is this any different?"

Here is my response: Firstly, regarding the host of bad things that can happen when one gets out of bed in the morning, they are nothing compared to the dreadful things that tend to happen to the person who stays in bed. My friend and colleague Dr. Mike Main tells his hospitalized patients, "Nearly everyone who dies in the hospital, dies while lying in bed. Don't let this happen to you. Be active, to the extent that you are able." The typical American sits at a desk or behind a wheel for the vast majority of his or her workday and then goes home and watches, on average, four to five hours of TV daily! Sitting and lying around are very dangerous activities.

Of all the risk factors for premature death, perhaps the most malignant is low cardio-respiratory fitness—being "out of shape." Conversely, a daily exercise habit is the single most powerful therapy for improving both the quality and quantity of your life (that is something that adds years to your life and life to your years). Getting just 30 minutes daily of moderate or vigorous physical activity per day can cut your risk almost in about half for premature death, diabetes, Alzheimer's disease, depression, and heart attack. People who regularly engage in physical exercise have markedly lower rates



Photo by Joe Glynn

of disability, and an average life expectancy that is about seven years longer than sedentary people.

Dr. Chip Lavie, my close friend and research collaborator, and I ran together in Minnesota in rain, sleet or snow while we were training to be cardiologists at the Mayo Clinic 25 years ago. Both of us have been passionately interested in exercise, personally and professionally, ever since. I continue to do a wide variety of physical activities for about an hour daily; this includes running not more than two to three miles with my two canine running partners three or four times weekly. I also swim, bike, lift weights, do yoga, skate, snowboard, hike, etc.

Research shows that the potential health benefits are not the main motivation for most regular exercisers and fitness buffs; rather, it is the mental benefits and improvement in their perceived quality of life. For me, vigorous exercise bestows a state of focused relaxation, stress reduction, joy and gratitude for life—which wears off in about a day; which is why I work out at least once every 24 hours.

The last thing we want to do is give the average American another lame excuse to continue his or her favorite exercise—couch surfing while watching television. Our paper on the potential dangers of excessive endurance exercise is meant to shed light on a largely underappreciated risk of extreme exercise such as marathons, and ultra-marathons. Over years to decades, this type of prolonged strenuous running can take a toll on cardiovascular health, in essence causing premature aging, scarring, stiffening, thickening of the heart and blood vessels.

The benefits of exercise are analogous to a powerful drug; indeed, if we had a pill that does everything that exercise does, most cardiologists would go out of business. Still, like any potent drug, an ideal dose exists: enough to get the full benefit but not so much as to cause dangerous side effects. The latest data from our studies and others strongly suggests that the ideal dose of daily vigorous exercise is about 30 to 60 minutes. Heck you can get the majority of improvements in cardiovascular risk and longevity with a

mere 20 to 30 minutes of walking per day. Indeed, if you do more than 60 minutes of strenuous exercise daily you start to lose some of the health benefits seen with lesser amounts of physical activity. So ask yourself; why am I running marathons? If you are doing it for your health, you can do better by not overdoing it. I tell people who ask me about the advisability of running a marathon,

“If you really want to do a marathon, go ahead and train up for it and do one...then cross it off your bucket list and get into exercise patterns that are more ideal for promoting overall health and longevity.”

If you listen closely to your body, you may feel some ill effects (such as palpitations, irregular heartbeats, chronic fatigue, and slower recovery) after overdoing exercise,

especially as you get into middle age. Honestly, our own personal insights regarding this issue were part of the impetus that stimulated Chip and me to investigate the potential downsides of chronic excessive strenuous exercise. Neither of us is any less enthusiastic about our love of daily exercise—we are just trying to be smart about doing everything we can to cross the finish line of life with a strong heart. . .at age 100.

Time to Up Your Game!

“Walking is the best possible exercise. Habituate yourself to walking far.” ~Thomas Jefferson

Lester Reed has always been active, but when he turned the big 1-0-0, he decided he needed to up his game, so he extended his daily walk from three to four miles. Now he is 103 and still going strong, though this year he was forced to make one concession to the sweltering heat during the dog days of summer. He had to leave his two dachshund canine walking partners at home—they dug their heels in when the temperature soared into triple digits.

“Lester the Walker” is a beloved character to many of his South Overland Park neighbors. Like a postman—neither snow, nor rain, nor heat, nor gloomy weather stays him from the swift completion of his appointed rounds. He typically covers the four-mile route in about 90 to 100 minutes, not including time spent during stops to chat along the way.

A few months ago a fraud investigator from Social Security checked in to confirm that Lester was still living. After all, how impossibly unlikely would it be that a person born when Theodore Roosevelt was President, in an age when the Spanish American War was still going on, is still cashing his Social Security checks? Lester confirmed that he was indeed, still very much alive and kicking, and advised the investigator to check back again...in another 100 years or so.

Lester has a remarkably fit body, a sharp mind and a delightful sense of humor. He only takes one medication, losartan, for high blood pressure, along with two supplements, omega-3 and vitamin D. He drinks one glass of red wine with his evening meal, eats sensibly, sleeps eight hours nightly, and considers his two dogs his best friends. When I pressed him to tell me his secret, he said that he watched his father, a stressed-out smoker who was always upset and angry, suffer poor health and die young. Lester decided that he would instead strive to keep a calm demeanor, and that a long walk is a great cure for a short temper. To Lester, we live in warp-speed world—walking slows it back down to a comfortable pace.

Lester lives with his youngest daughter, Ardith, and her husband. When she asked me what she could do to get rid of a few excess pounds, I advised her to try to keep up with her Dad on his morning walk. The most ancient human exercise, walking, is also among modern medicine’s best therapies for both mind and body.



“An early-morning walk is a blessing for the whole day.” ~Henry David Thoreau

Is Heart Disease Hiding in Your Family Tree?

You've no doubt heard the old adage, "The apple never falls far from the tree." That's definitely true when it comes to your heart health.

Did your father have heart failure? Did your mother have a heart attack? Did any of your grandparents have heart disease?

Those are important questions when it comes to understanding your risk for heart disease; and they're questions we'll ask you when you come to see us.

That's because if you have a history of heart disease in your family, you're more likely to have it too. If you don't know your family's full health history, start with your immediate family. Find out if your brothers, sisters, parents or grandparents had heart disease and how old they were when they developed it.

In the meantime, you can reduce your risk of cardiovascular death, in spite of your family history, by reaching seven specific goals from the American Heart Association including:

- Don't smoke.
- Achieve and maintain normal weight (BMI less than 25 kg/m²).
- Exercise at least 30 minutes most days of the week (or a total of 150 minutes per week).
- Eat fruits and vegetables with each of your three meals.
- Maintain a total cholesterol less than 200 mg/dL.
- Maintain a blood pressure less than 120/80.
- Achieve glucose levels less than 100 mg/dL.



Quotes "From the Heart"

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

"Around here we don't look backwards for very long. We keep moving forward, opening new doors and doing new things, because we're curious...and curiosity keeps leading us down new paths."

Walt Disney

Two wolves are fighting for your heart. One is full of anger and hatred; the other is full of love, forgiveness and peace. Which one will win? The one you feed.

Native American Parable

"The great man is he who has not lost his child-heart."

Confucius

"How old would you be, if you didn't know how old you was?"

Satchel Paige

"That which does not kill us makes us stronger."

Friedrich Nietzsche

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change."

Charles Darwin

Dr. O'Keefe: "Your sugar today is 119, which is in the pre-diabetic range. Did you eat anything this morning?"

Darren: "Not much, just my typical breakfast: two doughnuts, a Dr. Pepper, and a few jellybeans. I'm sure that wouldn't raise my blood sugar, right?"

"He who has a 'why' to live, can bear almost any 'how.'"

Friedrich Nietzsche

"The meeting of two personalities is like the contact of two chemical substances; if there is any reaction, both are transformed."

Carl Jung

"My priorities are changing. For instance, I used to workout to keep my butt in shape, but now I exercise to keep my brain in shape."

Karen

Gabrielle: "I love energy bars, which are the healthiest?"

Dr. O'Keefe: "None. They are about the worst thing since sliced bread. Instead eat nuts and fruit for handy and healthy snacks."

"We are the hills that we have climbed."

Charles Duboc

Just Say “No” to Dangerous, Addictive Prescription Drugs

By James H. O’Keefe, M.D.

Although America’s “war on drugs” is aimed at the illegal street drugs like cocaine, marijuana and methamphetamine, legal prescription drugs today kill many more people. The latest data from U.S. Centers for Disease Control and Prevention (CDC) showed that for the first time in history, Americans are now more likely to die from prescription drugs than motor vehicle accidents.

A great number of inexpensive deeply discounted prescription drugs are now widely available, made by generic pharmaceutical manufacturing companies, many of which are based in India. This is a double-edged sword. For a few dollars a month we can purchase life-saving medicines like atorvastatin, carvedilol, and lisinopril; but we also have ready access to many other highly addictive, mind-altering, potentially dangerous drugs like oxycodone, hydrocodone, alprazolam, and diazepam.

In 2009, 36,300 people died in traffic accidents compared with 37,500 people who died from prescription drugs, predominantly due to overdoses of medications for pain and anxiety such as OxyContin, Vicodin, Xanax and Soma. Additionally, in 2009, adverse reactions to drugs accounted for approximately 4.6 million visits to hospital emergency departments.

The death rate is highest among individuals in their 40s, but everyone from teenagers to the elderly are falling victim to these dangerous and highly addictive drugs. Indeed, studies show that prescription drugs are now the preferred “high” for many individuals, especially teenagers, because drugs are often readily available in the medicine cabinets of most homes these days.

Many people start off using these pain relievers, anti-anxiety drugs, or sleep aids for legitimate problems like headaches, depression, or back pain, but soon become addicted. These prescription medicines are particularly lethal when used in combination with alcoholic beverages.

Stress and pain are unavoidable in life. Rather than resorting to mind-altering prescription drugs for stress reduction, sleeplessness, and pain relief, it is important to develop healthy coping strategies such as outdoor walking or other forms of exercise that you find fun and relaxing, playing with friends and family, prayer, meditation, social support groups, yoga, getting enough sleep, etc. It is essential that you have several options that work for diffusing stress in constructive and healthy ways.



Healing Power of Some Religious Rituals

For thousands of years, before we had effective medicines to treat common ailments such as stress, high blood pressure, anxiety and infections, people often relied on their faith to bolster both mental health and physical well being.



Indeed, faith can sometimes be potent medicine. The world’s great religions are infused with cultural wisdom passed down through the ages, from one generation to the next. Some of the rituals prescribed for spiritual reasons are also proving to be powerful forces in self-healing.

For example, prudence and moderation were central tenets in ancient religions, just as they are in modern preventive medicine. Chanting prayers for 15 minutes twice a day works as well as a potent prescription drug for lowering blood pressure and reducing anxiety.

Eating fish rather than meat every Friday, as recommended for two thousand years by the Catholic creed, provides benefits to the brain and body, as proven by state-of-the-art science.

Fasting, generally for 12 to 24 hours, is a time-honored commandment of Buddhist, Hindu, Jewish, Muslim, and Mormon religions. Traditionally, fasting has been prescribed to purify the mind and body, strengthen resistance, and improve concentration. Emerging science indicates that fasting for 12 hours each night, from 7:30 p.m. to 7:30 a.m., for example, might improve health and decrease the risk of diabetes and obesity.

Sitting is the New Smoking: Kick This Habit Too!

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

In the future, when you buy a new couch, office chair or TV it may carry this warning: "Caution: According to the Surgeon General, prolonged use of this device can cause potentially lethal diseases and may shorten your life expectancy."

Sad but true, some of the most dangerous threats to your life are disguised as comfy furniture and electronics for passive entertainment. Even if you are good about getting daily exercise, and don't smoke, a habit of prolonged sitting every day can be expected to shave about two years from your life expectancy, according to a study in the *British Medical Journal* in July 2012, which followed 167,000 people for about a decade.

Both Joan and I have always had a difficult time sitting still for more than a few minutes. Slouching in a chair in front of a computer and keyboard, or sitting and staring at a TV screen for a prolonged period of time makes us both miserable. So maybe that qualifies us as ADHD, but seated inactivity just feels uncomfortable to us. For Joan, it's hard to even sit down to dinner for more than a few minutes at a time.

Just several hours of physical inactivity can cause an immediate drop in the levels of an enzyme that clears fat from the bloodstream, which causes the blood levels of triglycerides (fats) to rise, in turn triggering a surge in free radicals that cause inflammation and dysfunction in the brain, heart, blood vessels, and liver. In essence, too much sitting results in inflammation throughout your system, and eventually increases risks for obesity, depression, diabetes, high blood pressure, heart attack, stroke and Alzheimer's dementia.

More TV = Less Life

A landmark study of Austrians showed every hour of TV viewing could be expected to shorten a person's life by about 22 minutes. This means that if the average adult person watched no TV, he or she would probably live about 1.5 to two years longer.

According to this large study, watching TV for more than four hours a day (compared to watching less than two hours of TV daily) increased chances of dying from any cause during the follow-up period by 50 percent, and increased the risk of dying from cardiovascular disease by 80 percent. And this doesn't even take into account the fact that all those extra hours freed

up that might be better spent in activities that bring meaning and vitality to life, such as time spent cultivating relationships with family

and friends, pursuing hobbies, being active outdoors, traveling, etc.

And sitting too much can also predispose to cancer. Shockingly, the numbers of Americans developing malignancies linked to obesity and physical inactivity, such as cancers of the pancreas, esophagus, kidney, and uterus, have risen every year from 1999 through 2008. One recent study reported that individuals who have worked 10 years or more in jobs that required them to be physically inactive had twice the risk of colon cancer compared with people who had never worked sedentary jobs.

Benefits of Standing or Strolling

Prolonged sitting causes problems even for those who exercise regularly. An eight-year study that followed a quarter-million American adults correlated daily activity levels with their long-term general health. One of the best predictors of survival and overall health was the amount of physical activity they did on a daily basis: the more the better.

Although regular physical workouts somewhat diminished the health and mortality risks caused by prolonged sitting, even those who exercised for seven hours or more a week but spent at least seven hours a day in front of the television were more likely to die prematurely than the people who exercised at least seven hours weekly and watched less than an hour of television daily. In other words, it's not enough to just get your 30 minutes of physical activity during the day. You should





Photo by Perry Ralph

try to be on your feet at least, and moving, even if at a slow pace, as often as you can. Admittedly it can be difficult for many people to stand while they do their job, especially if they have a desk, work on a computer, or drive a vehicle.

According to interesting new research, if you are generally sitting for hours at a time, simply getting off one's duff and standing or strolling for a couple of minutes every 20 minutes will burn hundreds of extra calories over the course of a day, lower your levels of blood sugar and insulin, and reduce inflammation in your system.

Mobile Meetings

It is becoming increasingly clear that we would all be better off if we make it a point to get out of our chairs more often during the course of each day. Steve Jobs, one of the real creative geniuses of our age, made it a point to routinely invite his colleagues and co-workers to go out for strolls around the campus of Ap-

ple's headquarters while conducting business discussions or meetings.

One of the advantages of mobile phones is that we are no longer tethered to a desk. When you take or make a call you should get in the habit of standing, or better yet, strolling (or even pacing around your office like a caged tiger!) while you speak. Rather than always e-mailing someone in your office, make the effort to walk over to him or her for a brief face-to-face chat. When on conference calls, I will often step outside and saunter through the gardens surrounding our medical center, or climb the office stairs while having phone discussions. Gretchen Reynolds, a fitness writer for the *New York Times* works and studies while standing, by placing her reading materials on a wire stand for music sheets; she also brushes her teeth while standing on one foot to hone her balance.

Let me clarify one point: standing and strolling should not be considered as substitutes for vigorous exercise, but rather an alternative to sitting. Joan and I each exer-

cise for at least 30 minutes on most days, and more on weekends and vacations. But like most Americans, our work often requires us to be sedentary. We do specific workouts such as high intensity interval training, yoga, weight lifting, and stair climbing to reap their unique and powerful health and fitness benefits. Aerobic workouts in particular, have been clearly demonstrated to improve brainpower, and prevent age-related cognitive decline.

So throughout the day, make it a point to move frequently, even if only to stand up for a few minutes at a time. I now try to stand rather than sit as I see my patients either at the office or in the hospital, because I know this helps to maintain normal and steady glucose and insulin levels, and keep the nasty fats out of the bloodstream and off the waistline. Less sitting also will boost your mood, and help ensure that your brain stays sharp for a century. More movement—less TV: and also start saving more money—you are likely to live for a very long time yet.

We Have Met the Enemy...and He is Us!

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

Prudence Improves Survival

As I look back over the generations of my family, a disturbing trend emerges. My female ancestors generally live well into their 90s (indeed my grandmother Dorothy O'Keefe finally succumbed only a few months shy of her 102nd birthday), but we males...well that is another story, a much shorter one. This is not a difficult pattern to recognize. These women typically were widows for anywhere from two to five decades! Sadly, the men characteristically kicked the bucket from problems that were entirely avoidable: like excess alcohol, smoking, and other risky behaviors.

Traditionally, the females in my family have coped with the inevitable stresses of life by emotionally supporting each other, focusing on their family's well-being, sipping green tea all day, having a single glass of wine before dinner, going to church on Sunday, and chanting prayers such as the "Rosary" whenever they were anxious. Meanwhile, the males were out driving too fast, smoking cigarettes, overworking, binge drinking, and diving head-first off the roof of a houseboat in the dark—and into unexpectedly shallow water. Though they shared many of the same genes with their mothers, grandmothers, sisters, and aunts, the guys' behavior patterns and coping mechanisms made all the difference...between remarkable longevity in the women, and tragically shortened lives in the men.

As one's life unfolds, prudence and moderation play a large role in determining our fate. Paradoxically, alcohol is one of the most

common causes of premature death, yet it can also be a habit that helps to confer longevity and well-being. Alcohol is the proverbial double-edged sword; and no other health factor is capable of cutting so deeply in either direction, depending upon how it is used. Studies that we and others have done clearly indicate that light-to-moderate alcohol consumption (ideally about one drink daily) is associated with lower risk of heart attack and cardiovascular death, and substantially better life expectancy.

***"Americans will always do the right thing—after they have exhausted all of the alternatives."
Winston Churchill***

On the other hand, excessive alcohol intake and/or binge-drinking is toxic to your heart and general health, and is the third leading cause of premature death among Americans, in no small part because it predisposes to accidents of all sorts. As a teenager, after seeing how drinking devastated the lives of my grandfathers, and some of my uncles, I vowed to be very careful with alcohol. So I have always used alcohol like my parents and my Granny O'Keefe (whom I lived with for four years during college and medical school): just one glass of red wine with dinner (maybe a second glass for special occasions), and strictly avoiding driving after any alcohol ingestion.



A cautious and risk-averse attitude will likely yield significant health dividends over a lifetime. Frequently, aging occurs in a "quantum" fashion, whereby a person enjoying good health, suffers a catastrophic accident, and never again recovers his or her prior strength and vitality. In the 3,000-year-old Greek story, The Iliad, songs from the beautiful Sirens compelled the hero

Odysseus to steer his fleet of ships into the rocky shallows where he and his men were driven asunder. Similarly, the thrill of risk-taking is a temptress that lures many males even today into destroying ourselves.

After serving eight years as an American President, Theodore Roosevelt, at age 54 was still a hale and hardy, remarkably vigorous man...until he ventured to the unexplored depths of the Amazon rainforest. During this ill-advised and extremely risky descent down the Brazilian "River of Doubt," one of America's larger-than-life leaders suffered needless injury, infection, and malnutrition all in the name of reckless adventure. Teddy survived, just barely, and when he returned home several months later he was just a shadow of his former self. Roosevelt never fully recovered, and died prematurely just a few years after at age 60.

***"A wise man sees in the misfortune of others what he should avoid."
Marcus Aurelius***



Sometimes I can relate to racecar driver Mario Andretti when he said, "If everything seems under control, you just aren't going fast enough." Those testosterone-fueled urges that fated many of my male ancestors have landed me in trouble too. For example, last year I racked up multiple speeding tickets (I'm embarrassed to admit how many), including one while exceeding the speed limit on a bicycle. Author Tom Vanderbilt, in his book, "Traffic," points out that we physicians as a group, are the second worst drivers on the road, better only than students in our ability to avoid accidents. He speculates doctors' problems behind the wheel (despite our inflated opinions of our driving abilities) arise because we are often speeding from one emergency to another while distracted by urgent phone calls, and fatigued from sleep deprivation and long workdays.

These days I am trying to think, and drive, more like the sensible women in my family. Call me a wimp, but I no longer race on my triathlon bike recklessly through the city streets, and instead I'm doing more walking with Joan through the neighborhood.

I've quit jumping off 60-foot cliffs into the ocean, but I still love swimming in the outdoor pool as the sun comes up. Still snowboarding...but not keeping up with my daredevil sons and nephews as they fly down the mountain. And...you will be relieved to know, that I am definitely driving slower.

Avoid Stupid Mistakes Be Smart and Cautious, Not Dumb and Reckless

Don't be like one of my male patients who during a recent office visit told me, "I drive way too fast to worry about my cholesterol." A few seconds of inattentiveness or recklessness can end or ruin your life. Be smart. Use your common sense, and try to follow these prudent routines.

1. Listen closely to your intuition. If you are feeling fear, your perceptive and prescient subconscious mind is warning you of a lurking danger.
2. Buckle up each and every time you get into an automobile.
3. Never text while driving. Avoid speaking on the phone while driving.
4. Obey the traffic laws: no speeding! I am working hard at complying with this one; not a single ticket in over a year now.
5. Be like a Boy Scout: try to always be prepared, and follow recommended precautions.
6. Don't smoke. Don't drink excessively, even occasionally. Never drink and drive.
7. Be cautious, attentive and even hyper-vigilant when in the presence of potential dangers like a chainsaw, weapon, heavy equipment, fire, or explosives.
8. Wear a helmet, and avoid dangerously high speeds on bikes, motorcycles, etc.
9. Get a checkup with your physician each year; and make sure it includes tests of your cholesterol, blood pressure, blood sugar, and waist circumference.
10. Oh, yeah, one last lesson my daring, adventurous, life-of-the-party, Uncle Jimmy taught me the hard way: Never, ever do a swan dive from heights in the dark into water of unknown depths.



My fun-loving Uncle Jimmy, BEFORE he dove off the roof of the houseboat!

Naked at Noon

Sunshine and Vitamin D

By James H. O’Keefe, M.D. and Joan O’Keefe, R.D.

Unless you are lying naked at midday without sunscreen on your front porch exposing your skin to bright sunlight (and to your nosey neighbors) on a daily basis, you will probably need to take an oral supplement to maintain your vitamin D level in the ideal range.

The average American gets a paltry 150 IU (International Units) daily of vitamin D from foods like tuna, salmon and fortified milk; and the typical multivitamin provides only about 400 IUs of vitamin D.

Important research published in the July 5, 2012 issue of *The New England Journal of Medicine* found that vitamin D, when taken in higher doses—between 800 and 2,000 IUs per day—substantially reduced the likelihood of broken bones in both men and women. This was a meta-analysis of 11 individual randomized controlled trials all of which focused on the effect of vitamin D supplementation in those over age 65. Among the 31,000 seniors who were taking between 800 to 2,000 IU of vitamin D, they found a 30 percent decrease in the risk of hip fractures, with a significant decrease in risk of fractures of other bones as well. However, the researchers found no significant reduction in fracture risk for doses of vitamin D less than 800 IUs daily.

Sunlight Strengthens Immunity

My Grandfather, Dr. Emmet O’Keefe, contracted tuberculosis from one of his patients shortly

after he finished his training. He became gravely ill, underwent an experimental surgery that intentionally collapsed his severely infected lung. Even so, he didn’t fully recover until after he was admitted to a TB sanatorium where he was exposed to “fresh air” each day, typically by rolling the beds out onto an open-air veranda. Although physicians thought it was something about the fresh air that helped to cure their patients’ TB, they were doing the right thing for the wrong reason. The curative factor in the outdoor therapy was the sunshine’s UV light radiating down on the skin of the TB patient—immediately raising his or her vitamin D levels.

A normal vitamin D level endows a person with a much stronger immune system, thus giving him or her a fighting chance against notoriously resistant and virulent tuberculosis infections. I am sure my grandfather was profoundly vitamin D deficient, especially since he lived and worked indoors near the Canadian border in North Dakota. Had he not been moved to the sanatorium in the sunny climate, he would have almost certainly succumbed to the consumption. If you have inadequate vitamin D levels, like my grandfather had, your immune system will be compromised—which will predispose you to everything from colds, influenza, and AIDS, to cancer.

Our skin manufactures vitamin D in response to the UV-B light rays present in sunlight. In the past, humans naturally kept their vitamin D levels in the healthy range just by



being outside in the sunshine, and consuming a diet high in ocean fish.

But these days, even in the non-winter months, with our indoor lifestyles and occupations, and sun-protected clothing and sunscreens when we are outside, many of us are vitamin D deficient. Approximately 50 percent of Americans have dangerously low levels of this important vitamin, especially during the cold and dark winter months.

My colleague, John Spertus, and I published a scientific paper in the *American Journal of Cardiology* showing that about 95 percent of people who have a heart attack are vitamin D deficient. If you live north of a line between Atlanta to Phoenix to Los Angeles, you will have a hard time maintaining normal vitamin D levels in the non-summer months, even if you spend a lot of time outside.

Vitamin D for Preventing Common Infections

Joan, like many women, was plagued with recurrent urinary tract infections (UTIs) for years. She was on antibiotics almost every month for a UTI. It was making her miserable and dejected; and it worried us both, because frequent courses of antibiotics can kill off the pathogens (disease-causing microbes), but also eliminate the friendly bacteria that are so essential for healthy gastrointestinal function and an optimal immune system. Chronic antibiotic use predisposes to all sorts of problems, such as yeast infections, GI upset,

and the emergence of “superbugs” in your system that have developed resistance to most or all antibiotics.

Because Joan had her spleen removed when she had cancer during her first pregnancy, any infection can be a potentially life-threatening problem for her. She saw several physicians about the UTIs, and tried various tactics, but nothing seemed to work. Then, as she became aware of the many important benefits of normalizing vitamin D levels, including strengthened immunity, she started to take more of this crucial vitamin. As her vitamin D levels increased, her UTIs vanished.

Our four children and I also take daily vitamin D. During the summer, we take 2,000 IUs of vitamin D and in the winter months (months that have an “r” in their name like December, January and February), we take 4,000 IUs.

These days, we very rarely ever come down with the cold and flu illnesses that used to frequently make us feel miserable several times yearly. The dramatic protection against UTIs and other common infections is just one obvious manifestation of vitamin D’s power to boost the immune system.

Studies show that vitamin D is important for not only improving the vigilance of the immune system (its ability to recognize foreign invaders whether they be cancer cells or dangerous microbes), but also its ability to kill these potentially lethal threats. Indeed, research shows that keeping your vitamin D levels well into the normal levels might possibly reduce risks for developing many of the most common and lethal malignancies, including melanoma, and cancers of the colon, breast, and prostate. Inadequate vitamin D levels also predispose to inflammatory and/or auto-immune diseases such as multiple sclerosis and Alzheimer’s disease.

Vitamin D and Your Heart

This vitamin is really more of a hormone due to its wide-ranging effects throughout the body. We have known for a long time that vitamin D is important for building and maintaining strong bones and muscles. However, vitamin D receptors are not just present in our musculoskeletal system, but also are in the heart and blood vessels, the kidneys, pancreas, white blood cells, and brain.

I collaborated with Dr. Michael Holick, arguably the world’s foremost expert on vitamin D, on a paper published in the *Journal of the American College of Cardiology*, proposing that vitamin D deficiency is a common and easily reversible cardiovascular risk factor. Studies continue to show that low vitamin D levels are strongly linked to high blood pressure, diabetes, inflammation, coronary artery disease and stroke. Large prospective randomized trials are in progress to prove definitively whether vitamin D supplements will reduce heart attack and stroke. The first and predictable symptom of vitamin D deficiency is muscle aching. We have found that the muscle aches that people commonly complain of when they are taking a statin cholesterol-lowering medication are markedly improved or cured by restoring patients’ vitamin D levels back to normal.

How to Take Vitamin D

Dr. Holick and I also recently published recommendations in *JAMA (Journal of the American Medical Association)* that most adults consume at least 2,000 IU of vitamin D3 per day, rather than the 600 to 800 IU currently recommended by the Institute of Medicine. The American Association of Clinical Endocrinology also recently recommended

that most adults take 2,000 IU of vitamin D3 daily. Ask your doctor to check your vitamin D levels. Many individuals will need more than this to keep their blood levels of vitamin D in the ideal range, which are about 40 to 60 ng/mL.

You do not need to worry that 2,000 IU of vitamin D3 will be an excessive dose. When you go outside in a bathing suit and bask in the summer sunlight, your skin will make about 10,000 IU to 20,000 IU of vitamin D in 30 to 60 minutes with no chance of creating vitamin D toxicity. Importantly, getting outside on a daily basis for about 15 to 20 minutes of “sensible sunlight” is a splendid strategy to naturally boost your vitamin D levels.

I strongly recommend that if you take more than 2,000 to 3,000 IU of vitamin D daily. It is also important to work with your health care provider and follow your vitamin D blood levels. One more point: to ensure maximum absorption, try to consume your vitamin D with a meal that contains some healthy fat like olive oil, fish oil, nuts, or avocados.

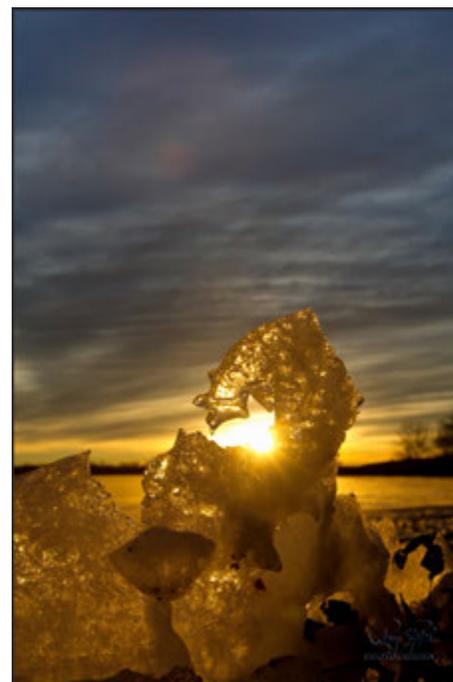


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Funds generously donated to Saint Luke's Foundation by grateful patients enable us to publish *From the Heart* and send it to more than 140,000 homes and offices. All materials are created by our physicians solely for the education of our patients and referring physicians.

James H. O'Keefe, Jr., M.D., Editor-in-Chief

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If you enjoy the common-sense, cutting-edge advice in this *From the Heart* newsletter, be sure to check out Dr. James O'Keefe's blog: *From the Heart*, at <http://cardionutrition.wordpress.com>.



Save the Date!

Free Cardio Wellness Happy Hour

Featuring Dr. James O'Keefe, Dr. Richard Moe, Becky Captain, RN, ARNP, and Shirley Verbenec, RN, ARNP

Wednesday, Nov. 7, 2012

6 to 8 p.m., hors d'oeuvres available

Jewish Community Center of Kansas City
 5801 W. 115th St.
 Overland Park, KS 66211
 RSVP to Vicki Carson

816-751-8388 / vcarson@saint-lukes.org

**Any names of patients used in this newsletter have been changed to protect the privacy of these individuals.*

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