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America's favorite brew offers significant health benefits

Five reasons to toast the end of summer with a cold one

Nothing's more American than drinking a beer at the ballpark. But this tasty beverage had an important impact on our country's independence *long before* the New York Nine defeated the Knickerbockers in 1864 in the first official baseball game played in the U.S.

In fact, much of the brainstorming for the Declaration of Independence occurred in a tavern in Philadelphia, lubricated by tankards of beer.

And while our forefathers didn't have access to today's copious research on the health benefits of beer, they may have instinctually known it helps boost brain power—ultimately fueling the creativity needed to birth a nation.

Of course, studies show that beer also offers protection against Alzheimer's disease (AD) and dementia, improves cardiovascular health, fights cancer, boosts the health of your gastrointestinal (GI) microbiome, and helps improves sleep.

Plus, it's a key component in women's health. New research shows a brew or two can boost bone health in postmenopausal women *and* may even be a viable alternative to conventional hormone replacement therapy (HRT).

So how can one simple beverage have so many health benefits?

Well, it has to do with beer's composition…

Natural components pack a powerful punch

Beer is a simple—and natural—beverage. It consists of water, yeast, barley malt, and hops. Its main nutrients are carbohydrates (which provide fuel and energy), amino acids (which make protein in the body), minerals (mainly calcium, magnesium, potassium, and sodium), and B vitamins.

The water in beer is important for hydration (as I also discuss on page 4), which our bodies and brains need to carry out every basic function. The yeast interacts with the barley malt to create the alcohol and bubbles. And the barley malt is a key source of the vitamins and minerals found in beer.

Hops grow as a vine, and have a bitter flavor (which they impart to beer). They also have powerful antioxidant effects—mainly due to plant compounds called polyphenols.

In fact, one new study reports that a type of polyphenol in beer, known as prenylated flavonoids, has estrogenic, anti-cancer, neuropreventive, anti-inflammatory, and antimicrobial properties.[1]

But that's not all. Together or separately, each ingredient in beer offers the following important health benefits…

Keeps your brain and liver hopping. I've written before about how the antioxidants in hops help protect against Alzheimer's and dementia. Now, two recent studies show how a hops flavonoid called xanthohumol not only gives beer its distinctive amber color, but specifically supports the brain *and* helps protect the liver.

Researchers found that xanthohumol neutralized damaging, oxidant chemical compounds in brain cells. It also helped "turn on" genes in the cells that shield them against oxidative stress-related diseases such as cancer, dementia, and chronic inflammation.[2]

Plus, in a recent mouse study, another group of researchers found that xanthohumol and its counterpart tetrahydroxanthohumol helped keep weight and blood sugar levels in check—ultimately reducing fat build-up in the liver. [3]

In this issue:

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Keeps your heart steady. Beer's antioxidants also help protect the heart. There's plenty of research showing that moderate beer consumption can help lower your risk of heart attacks, strokes, and other cardiovascular diseases.

In fact, a new review of six studies and five research papers found that one beer a day for women and one to two beers a day for men decreased incidences of cardiovascular disease—and even lowered overall mortality risk.[4]

And two other new studies show *how* beer may do this...

In the first study, researchers conducted lab analyses and discovered that the flavonoids in beer interact with key parts of the metabolic proteins in our bodies, helping to regulate them.[5]

One of those proteins is C-reactive protein (CRP). Based on this study, the researchers believe moderate beer consumption can help protect against coronary artery disease and other cardiovascular issues. (This finding makes a lot of sense, as high levels of CRP are a key measure of the inflammation that's a major risk factor for cardiovascular disease.)

In the other study, nine men in their 20s (a prime beer-drinking age, as I remember from my grad school days) drank either alcohol-free beers or beers with alcohol.[6] The researchers then measured arterial stiffnessstiffness—a key factor in blood pressure (and, of course, high blood pressure is a leading cause of cardiovascular disease).

The group that drank the non-alcoholic beers had no differences in their arterial stiffness. But the group that drank between about 2 to 7 ounces of beer *with* alcohol had substantial reductions in their arterial stiffness, just 30 to 60 minutes afterward.

Keeps your gut happy. Anyone who's ever consumed a few too many beers knows all too well how beer affects the GI system. But *moderate* consumption of beer can actually benefit your GI microbiome, according to a new study.[7]

Researchers divided 78 healthy adults into two groups: people who drank little or no beer, and people who drank 6 to 20 ounces of beer daily. The researchers then analyzed the gut microbiota composition of all the participants.

They discovered that the beer drinkers had higher levels of two key probiotics (good bacteria) compared with the non-beer drinkers. The beer drinkers also had more butyric acid in their GI microbiome—which some research links to improved gut health.

Keeps your head on the pillow. There's debate about whether a few drinks before bed can help you sleep better. But, as I discuss on page 6, one thing we know for sure is how important melatonin (the "sleep hormone") is for healthy sleep. And it turns out that fermented beverages like beer (and wine) contain melatonin.

In fact, a new study reports that beer naturally has enough melatonin that people who drink it can "reach significant plasma concentrations of melatonin"— which can have beneficial effects on their sleep.[8] The researchers also note that the melatonin in beer has anti-cancer, neuroprotective, and immunomodulatory actions.

Keeps your bones strong. A new review found that postmenopausal women who drank at least one brew a day had significantly higher bone mineral density than non-beer drinkers.[9] The review also cited a study that found that older men and women who drank beer had the lowest risk of hip fractures.

The analysis notes that much of beer's bone benefits are attributable to the polyphenols it contains, along with bone-boosting minerals like silicon. The researchers also cite studies showing that the hops in beer contain phytoestrogens that help prevent bone loss.

It's well known that estrogen has significant effects on bone metabolism. That's why postmenopausal women are more susceptible to osteoporosis (after the loss of estrogens). And the review cited animal and lab studies showing that the phytoestrogens in beer can reduce bone loss by regulating the activities of osteoblast and osteoclast bone cells.

Plus, as I mentioned earlier, it notes that due to its phytoestrogens, beer has been suggested as an alternative to conventional HRT. Imagine the benefits of going through menopause *without* dangerous drugs—and with the pleasures of beer!

How much should you drink?

All of the studies I've referenced above have one thing in common: They rely on *moderate* beer consumption.

That breaks down to one or two beers a day, which also happens to be the perfect amount for nine innings of baseball. Or for a lively (and seditious) meeting at a tavern among our nation's forefathers, or their philosophical descendants.

After all, as Benjamin Franklin put it: "Beer is living proof that God loves us and wants us to be happy."

You can find such aphorisms in Franklin's popular handbook of home remedies, "Poor Richard's Almanac." In French, poor Richard was translated as "*Bonhomme Richard.*" (The name John Paul Jones, a U.S. naval commander, took for his flagship.) That name translates back to English more like the "jolly good fellow" of old England.

And considering how much Ben Franklin and his associates enjoyed beer, we can certainly extrapolate that the amber brew had a hand in making Richard jolly… not to mention, "healthy, wealthy, and wise." IC

The social (and societal) aspects of beer

Beer drinking goes beyond just having fun with friends or family at a ballgame. Anthropologists (like my friend and colleague, Dr. Solomon Katz) propose that drinking moderately actually helped humans *create* modern civilizations.

In fact, one study concluded that at the dawn of human history, "brewing of beer was an important aspect of feasting and society" in the Middle Eastern and Mediterranean "cradle of civilization."[10]

How? Well, in ancient times, foragers occasionally ran across naturally fermented fruits and grains…and they sampled these delicacies. Naturally, they enjoyed the experience.

Of course, fermented fruit has been around since Adam and Eve. But humans only started to grow *grain*—a main component of beer—about 10,000 years ago. This required people to settle down in one place to plant and harvest it, which led to the development of complex societies and communities.

Early civilizations used cultivated grains to make bread—the "staff of life"—and to provide more calories to growing populations. But anthropologists have also found evidence that humans grew grains specifically to ferment them and make beer….even *before* they grew them to make bread. Plus, archaeologists have concluded that the corn originally grown in the Americas was much better suited for brewing beer than for making bread, too.[10]

Anthropologists believe these early civilizations used beer to quell angst, overcome shyness, and speak their minds. As a result, they became more expansive, collaborative, and creative—which helped their societies grow and flourish.

Closer to home, beer once served as a substitute for water. In early American cities, it was extremely difficult to find clean, safe drinking water, so people routinely added alcohol (which killed the bacteria) to it. Or they skipped the water altogether and went straight to antiseptic beer, wine, and hard liquors.

Many communities and families even brewed their own beers. In fact, brewmasters held important societal roles in early American cities like Boston, where Samuel Adams was a leading figure.

In addition to beer, cider also became popular in early America. In fact, most of the apple orchards planted in the 1700s and early 1800s provided the makings of hard cider—perhaps allowing a new interpretation of Johnny Appleseed's persistently positive outlook during his legendary travels across the new land.

And now, apple ciders are popular again. That's why, next month, I'll tell you more about the health benefits of apples…and apple ciders.

This summertime accessory will never go out of style (and it's a key to good health)

Drinking fluids (like water) is a key to good health. Your body needs water to function properly.

And the electrolytes in water help distribute and control fluid throughout your body, regulate your blood pressure, and help your muscles contract (especially the heart).

That's why staying hydrated is crucial year-round. And especially during the dog days of summer, where overheating can quickly lead to dehydration.

But what you may not know is that the older you get, the harder it may be to stay properly hydrated. Let's take a closer look at why, and what you can do about it…

Conquer dehydration as you age

Reduced thirst. Your thirst is normally a good guide to drinking enough for adequate hydration. But as you age, you may experience a diminished sensation of thirst. Researchers don't know exactly why, but it's a well-reported phenomenon.

The solution: Remind yourself to drink water throughout the day. (For the best drinking water sources, see the sidebar below.)

The U.S. National Academies of Sciences, Engineering, and Medicine recommends that men drink about 125 ounces of fluid a day, and women drink about 91 ounces.[1] But I often suggest you aim to enjoy four to six cups of liquids per day. (This amount should cause you to urinate somewhere between five and seven times daily—an ideal amount, biologically.)

And remember, these recommendations are for *fluids*—not just water. You can also get healthy fluids from fresh fruits (like in refreshing fruit smoothies) and from fresh vegetables (as in cold soups like gazpacho). A beer or two daily can also do the trick, as I write on page 3. So can moderate amounts of coffee and organic, full-fat milk.

You can even "spice up" a glass of water with 400 to 500 mg daily of rooibos ("red bush") powder, which can be combined with other healthy (and tasty) food powders like blueberry, rose hips, and dandelion.

(Even professional athletes enjoy these drink combinations. In one case, Paul Lessard—the head trainer of my old home team, the Boston Red Sox—offered rooibos to the entire team during the 2007 post-season… and they unexpectedly went on to win the World Series!)

Whatever you do, just stay away from soft drinks, which studies show disrupt your normal thirst mechanism.

Poor fluid storage. As you get older, research shows your body becomes less able to store fluids.

In particular, higher blood sugar can lead to more fluid loss in the urine—because excess sugar is filtered out of the body by the kidneys through more frequent urination.

Gastrointestinal (GI) upsets can also cause fluid loss. Aside from recognized medical conditions, I find the most common cause of GI fluid loss is a disruption or imbalance of the probiotics (good bacteria) in the gut.

The solution: You can help reduce

A guide to safe and healthy drinking water

In his classic 1798 poem, "The Rime of the Ancient Mariner," Samuel Taylor Coleridge wrote: "Water, water everywhere, and not a drop to drink."

That famous line could well describe the public water supply in many parts of the U.S. Because in addition to aging, toxic, infrastructure for municipal water sources, intentional (like chlorine) and unintentional (outlined below) contaminants pose a major challenge to the safety of our water. That's why you should avoid drinking tap water, whenever possible.

For instance, tens of millions of Americans take prescription drugs every day and then excrete them in their urine—sending drug residues into our water system. People also intentionally flush unused medications down the toilet.

As a result, one study found evidence of 56 different pharmaceutical agents in "treated" drinking water among municipal systems serving more than 40 million people![2]

Pesticide run-off is another problem.

In fact, according to a new study, *25 different pesticides* have been found in surface water throughout the U.S. The study links these pesticides with chronic health problems like cancer, Parkinson's disease, memory loss, reproductive disorders, and congenital disabilities.[3]

So what can you do instead? Many people opt for bottled water. But you have to be cautious when choosing a supplier. Some brands are actually just overpriced tap water.

Plus, many of the dangerous and wasteful plastic-bottled waters crowding the shelves at supermarkets are put out by soft drink companies as yet another source of big profits. Not to mention the environmental impact of all of those plastic bottles ending up in landfills!

Over the years, I've found that **mineral and spring waters** (bottled at the sources in glass containers) are the best and safest drinking water. But they can be a little expensive for regular use.

So another option is to augment these waters with ***filtered* tap water**. Companies like PUR and Brita® sell faucet filters that have been certified to remove contaminants such as heavy metals, pesticides, and industrial chemicals. They don't produce water as pure as mineral and spring waters, but they're safer than regular tap water… and more environmentally friendly than plastic bottled water.

You can also find out just how contaminated your local water source is by checking out the yearly Consumer Confidence Reports issued by the Centers for Disease Control and Prevention (CDC). For more information, visit cdc.gov and type "Consumer Confidence Reports" into the search bar.

inflammation and support healthy blood sugar through a balanced, Mediterranean-style diet that includes plenty of organic fruits and vegetables, grass-fed and -finished meat like lamb, full-fat dairy (like cheeses and yogurt), and olive oil.

This diet also helps support a healthy GI microbiome, as it's filled with prebiotic foods that "feed" the probiotic bacteria in your gut.

Whatever you do, just avoid probiotic pills. They're ineffective and can even be dangerous.

Drug side effects. Many of the medications routinely prescribed to seniors (especially laxatives and diuretics) can lead to fluid loss and dehydration.

The solution: Ironically, the best laxative of all is water. If you're feeling constipated, drink a glass (or two) of water. You'll be surprised at how quickly and well this works to relieve your symptoms.

The second-best laxative is naturally fibrous foods like whole fruits and vegetables. So if you stay hydrated and eat my recommended five servings of fresh produce each day, you'll most likely get better,safer results than any laxative pill.

Signs of dehydration

Dehydration and electrolyte imbalances can be deadly. That's why it's imperative to watch for the early signs of dehydration:

- Dizziness
- Fatigue
- Weakness
- Confusion
- Disorientation
- Dark yellow urine
- Sweating profusely (which can lead to dehydration)

If you experience any of these symptoms, immediately drink a glass (or more) of water. If the symptoms persist, seek medical attention.

Above all, make a water bottle a summertime accessory, along with a good sun hat. (Just remember to ditch plastic water bottles. Stick with glass or stainless steel instead.)

Because when the heat is on, staying properly hydrated is one of the best things you can do for your health—especially as you get older.

Sleep problems continue to haunt many Americans in the age of coronavirus

Start enjoying natural, sound sleep night-after-night

The coronavirus pandemic changed many of our lives…physically, emotionally, and mentally. Even now, as we're getting back to "normal", there are still remnants and repercussions from a year of lockdowns, economic uncertainty, and extreme stress—and there will be for a long time to come.

Take our sleep habits, for example. Americans didn't sleep particularly well before the pandemic. And now, new research shows we're sleeping *even less*.

According to the Centers for Disease Control and Prevention (CDC), before the pandemic, more than one-third of U.S. adults routinely got less than the seven hours of sleep each night that's considered the minimum amount for optimum health.[1]

Then, in March and April 2020—just as the pandemic panic was getting into full uproar—two new surveys of nearly 3,500 adults in the U.S. and around the world found that *all* respondents had substantial changes to their sleep patterns.[2]

At first, the survey respondents reported they were sleeping more (about 30 minutes extra per night). But there was a 10 percent decrease in *continuous* sleep without interruptions (the healthiest type of sleep).

But sleep patterns got worse as the pandemic continued. The respondents reported an average 7 percent increase in nights with fewer than seven hours of sleep.

Even worse, a growing number of people turned to sleeping pills for their nighttime woes—even though numerous studies have shown these drugs to be dangerous and ineffective (including a new report that I'll discuss in a moment).

In fact, the researchers concluded that the coronavirus pandemic has increased sleep problems and the use of (useless) sleeping pills most significantly among women, people who have been financially impacted, and healthcare professionals.

This is especially concerning because, as I've written before,

chronic lack of sleep leads to a whole host of health problems…

Poor sleep leads to poor health

Along with attention and memory loss, accidents, and poor work performance, poor sleep is a key factor in chronic diseases like obesity, dementia, type II diabetes, high blood pressure, heart attack, stroke, and more.

Plus, as you would expect, poor sleep is especially damaging for your brain.

A new study, which followed nearly 8,000 men and women for 25 years, found that people in their 50s, 60s, and 70s who routinely slept less than six hours each night had a whopping *30 percent* increase in dementia risk compared with those who slept seven hours each night.[2]

Interestingly, this was even the case for people with other dementia risk factors like lack of exercise, low fruit and vegetable consumption, high blood pressure, diabetes, obesity, cardiovascular disease, or depression.

Meaning that sleep is one of the single biggest determinants of whether you'll get dementia later in life.

The good news is, there are simple, natural, *effective* steps you can take to improve the duration and quality of your sleep…starting TODAY.

My six natural sleep solutions

Here are my top six sleep solutions. You can try them individually, or for optimal success, try combining them…

1.) Skip the dangerous sleep drugs. As I mentioned earlier, more people turned to sleeping pills during the pandemic. But research shows these pills don't help you sleep better over the long-term.

A new study of women with an average age of 50 years measured sleep disturbances over two years.[4] The study included 238 women who used benzodiazepine medications for insomnia and 447 women who didn't take these drugs. (Common benzodiazepines include Valium, Xanax, and Klonopin.)

After one year, there was no difference in the rate of sleep disturbances—which the researchers defined as difficulty falling asleep, frequent awakening, and waking up early—between those who took prescription meds and those who didn't. Even after two years, there were no statistically significant reductions in sleep disturbances among the two groups.

The researchers noted that *9 million* U.S. adults use prescription drugs to help them sleep. But, based on their study, they concluded that the "effectiveness of long-term sleep medication use should be re-examined."

And I agree. Not only are sleep medications ineffective, but they can lead to a dangerous cycle of drug dependency.

Plus, many sleeping pills can interfere with the conversion of short-term memories to long-term memories. So while you may enjoy more sleep…you may not remember it.

Of course, this study applied to women, but I suspect men would see similar results. So, rather than relying on drugs, I suggest adopting five other daily routines to help improve your sleep…

2.) Set the mood for sleep. Think of the evening as your time to relax and destress—both mentally and physically.

As the sun starts to set, I advise dimming the lights. Turn them on only when you're moving about, for safety, or for specific tasks like reading. The lowered light will help prompt your body to start converting serotonin (the "feel-good" neurotransmitter produced when exposed to natural sunlight during the day) into melatonin, which helps you sleep.

You should also turn off all electronic screens—including the television, computer, phone, and e-book reading contraptions. The blue light emitted from these devices actually impairs the release of melatonin. It also keeps your mind running.

Instead, train your mind and body to prepare for sleep with some healthy, restful, low-tech practices. For example, take a bath; listen to music; read a physical book, magazine, or newspaper; practice mindfulness meditation; drink a cup of herbal tea; or just sit out on the porch, listening to the sounds of Nature and allowing your mind to wander for a while.

3.) Be mindful about your exercise regimen. Strenuous exercise (or "excess-ercise," as I call it) puts your body on "high alert" by increasing blood flow, body temperature, and mental stimulation. In effect, it keeps your "engine running" for up to six hours and can interfere with sleep.

Science shows you only need to engage in 140 to 150 minutes of *light-to-moderate* activity per week to support your overall health and longevity. And walking, hiking, swimming, housework, and yardwork all count toward your weekly total!

These light, enjoyable activities won't interfere with getting restful sleep at night, so you can engage in them whenever you're feeling up for it.

4.) Limit daily napping or "sleeping in." Establishing a regular pattern of sleeping and waking helps your body adhere to its natural circadian rhythm, which signals when it's time

to sleep, eat, and carry out other key body functions.

But research shows that as you get older, your circadian rhythm becomes less reliable. So it's even more important stick to a regular sleep schedule as you age.

That means reconsidering naps or "sleeping in" on weekends. I know this can be difficult if you have insomnia, but resisting an afternoon nap helps encourage restful sleep—and sleepiness—at nighttime… helping you to restore your natural circadian rhythm.

5.) Practice mind-body approaches. Relaxation and stress-reduction approaches like mindfulness, meditation, and yoga can help you fall asleep at night.

To find the right mind-body techniques that will work best for you, check out my books, *Your Emotional Type* and *Overcoming Acute and Chronic Pain: Keys to Treatment Based on Your Emotional Type*. (Both can be found under the "books" tab of my website, www.DrMicozzi.com.)

6.) Get scent-sational sleep. Science shows many people experience significant improvements in sleep and relaxation by inhaling essential plant oils (the same kinds of oils used to make perfumes). This practice, known as aromatherapy, has been used in traditional medicine for thousands of years to treat various ailments… and it's finally getting the attention it deserves from mainstream medicine.

Studies show the plant compounds in essential oils directly link to the sleep centers in the brain. Consequently, they have significant benefits for relaxation, stress reduction, and sleep—especially among older people and people with chronic medical conditions.

To attain these benefits, simply apply the oils to your skin (around your nose, chin, jaw, earlobes, and inner wrists), where they'll be absorbed, enter your bloodstream, and travel to your brain. You can also inhale them from application on the skin, or through a mist diffuser—where the scents travel into your upper nasal passages, which connect directly into the olfactory centers of your brain.

While many essential oils can be used in aromatherapy, research shows the most effective sleep-inducing essential oils are:

- Chamomile
- Eucalyptus
- Lavender
- Limonene
- Orange
- Peppermint

I like to apply a carefully crafted combination of all of these oils, blended with vitamin E in organic coconut and eucalyptus oil, in one "easy-to-use" roll-on applicator, directly onto my skin shortly before, or right at bedtime. I also apply them later during the day to promote calmness and relaxation.

At the end of the day, we're all struggling to reach a sense of normalcy again after a long, trying year. If you're among the millions of people still experiencing sleep difficulties, you're not alone. But you also don't need to rely on pharmaceutical pills—or even special pillows. Just follow my six steps for safe and healthy sleep… and start to rest easy tonight and, hopefully, every night.

This mighty mineral may boost longevity (and reduce cancer risk!)

From ancient Greek historian Herodotus to Spanish colonizer Ponce de Leon, explorers have searched for the fountain of youth. But what if they were looking for water when they should have been focusing on soil?

That's what an intriguing new study suggests.

In fact, researchers have discovered that a rare mineral found in *soil* may actually help increase longevity.

The study was done in animals, so there's no indication yet that we've indeed found the proverbial fountain of youth. But when you consider that other research shows how effective this mineral is at fighting chronic diseases, it certainly makes sense that it could increase lifespan in humans as well.

So, let's take a closer look at the evidence…

Super selenium

Study after study shows that selenium is a powerful antioxidant that can boost immunity and lower inflammation. So it's no surprise that research shows it can also protect against chronic disease.

One review of 25 studies found that people who increased their blood levels of selenium by 50 percent had a 24 percent lower risk of heart disease.[1]

And a review of 69 studies that included more than 350,000 people found that those who had high blood levels of selenium had a lower risk of breast, colon, lung, and prostate cancers.[2]

Selenium has also been found to protect against Alzheimer's disease—and some research shows it can help improve cognition as well.

Of course, all of these diseases can affect longevity. But the new study I mentioned earlier shows another way selenium may increase lifespan…

How selenium affects diet—and vice versa

A variety of diets can boost longevity. But some are so restrictive that they're extremely difficult to follow. For instance, severe calorie restriction has been found in numerous studies to increase lifespan—but who wants to live longer if it means you'll just be hungry all the time?

Another longevity diet includes restricting your intake of an amino acid in proteins called methionine. (This is traditionally done through a vegan diet.) But, as I've written before, vegan diets are onerous and unpleasant. Plus, they've been shown to be unhealthy in the long run as they don't supply optimal nutrition—and can sometimes contribute to disorderly eating.

That's what ultimately makes the new selenium study so interesting: Researchers looked at whether selenium supplementation offered the same longevity benefits as methionine restriction—*without* having to follow a vegan diet.[3]

The researchers found that supplementing with selenium dramatically protected against weight gain and fat accumulation in lab animals. This led them to suggest that because of its metabolic benefits, selenium could have the "anti-aging" effects associated with dietary restrictions—while still allowing people to eat normally.

Turning to a test tube lab model, the researchers found that selenium supplementation increased chronological lifespan by a whopping 62 percent in yeast cells. Of course, yeast cells aren't human cells. But this opens up the possibility that selenium could have similar longevity effects in humans.

So, why not start taking advantage of its potential benefits?

Selenium is found in protein-rich foods like pork, beef, turkey, chicken, eggs, seafood, beans, peas, lentils, nuts, and seeds.

Eating a balanced diet—like the healthy, Mediterranean diet—should provide you with adequate amounts of this mineral, but just in case, I also recommend supplementing with 100 mcg of selenium daily. It's a simple way to protect against chronic disease—and perhaps even add years to your life.

For additional ways to stay vibrant, youthful, and healthy well into your 70s, 80s, and beyond, check out *the Insider's Guide to Outsmarting "Old Age."* To learn more about this comprehensive, online learning tool, or to enroll today, click here or call 1-866-747-9421 and ask for order code EOV3X800.

Citations for all articles available online at www.DrMicozzi.com

My early research into selenium and cancer

There have been decades of research on selenium. But, as is typically the case with *any* vitamin or mineral, initial medical research and concern focused on selenium's toxic effects rather than its health benefits.

But early research also noted that in areas with low selenium in the soil, there were higher rates of cancer.

This became a topic of interest when the National Cancer Institute (NCI) finally researched nutrition and cancer. In the mid-1980s, I became a principal co-investigator on a grant awarded by the NCI to study the role of selenium supplementation in reducing the risk of cancer in a region of China that was extremely low in selenium.

At the time, there were dramatic differences in rates of chronic diseases among different regions of China. There was also limited food distribution within the country, so most people ate locally raised crops and animals, reflecting the mineral content of local soil and water.

My research team focused on the Yangtze River, which flows from the deep interior of China for thousands of miles east to the Yellow Sea (making it the longest river in Asia). The soil of the deep interior regions drained by the Yangtze is extremely low in selenium. This selenium-poor soil washes down to the delta at the mouth of the Yangtze River, forming an island called Chongming (the "isle of wisdom").

During the "cultural revolution" of Mao Zedong in the 1960s (which was anything but "wise"), I was told educated people in nearby Shanghai were exiled to Chongming. They were made to become peasant farmers and cultivate their own crops (low in selenium content, due to the lack of the mineral in the soil).

Within 20 years, cancer rates in these displaced peoples were skyrocketing, and Nobel Laureate Baruch Blumberg (my faculty advisor at Penn) proposed that supplementing their diets with selenium would reduce their cancer risk.

We negotiated with Chinese researchers and got our project off to a great start in the spring of 1987. Then, two years later, in the middle of our multi-year study, the pro-freedom rebellion in Tiananmen Square occurred in Beijing.

The Chinese Communist Party showed its true colors by brutally suppressing the rebellion with a massacre, and the U.S. cut off all ties with China in protest—meaning our project came to an end. As a result, we lost a real opportunity to establish the benefits of selenium supplementation *decades* ago.