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Dear Friend.

Earlier this year, I was back in Africa...my home away from home.

If you've been following me for a while, you know how much I love spending time there. I love visiting with my family, friends, and colleagues. And exploring the area's natural beauty and wildlife.

But while I was there, I once again made an incredible — but difficult — observation.

As someone who is interested in improving your health span, I'm sure you've noticed it too...

If you travel anywhere in the world, you can easily pick out the people who come from undeveloped countries compared to those that come from Western civilization.

They look different. And they act differently. They have trouble walking...they move slowly...they lack energy and need sodas and snacks to provide a quick burst of energy so they can keep going.

And sadly, many are overweight or obese.

From the beginning, Western civilization put us on a path toward poor health. The first change started about 12,000 years ago with the development of agriculture. Before agriculture, the bulk of our diet consisted of healthy protein and fat — with disease-causing starches making up just 30%.

Today, of course, this has been turned completely upside down. The standard Western diet diet mostly contains high amounts of processed and pre-packaged foods, starches and grains, chemical additives, and highly refined sugars.

And then there's the assault on the air we breathe. There is strong evidence that the dangerous levels of pollution in our atmosphere have a direct link to the chronic conditions we associate with aging.

But these "diseases of Western civilization" go far beyond eating an unnatural Western diet and living in a toxic world.

Today, a major contribution to the assault on our health is a direct result of the wrong advice we're given from the so-called "experts" in charge of overseeing our health and wellness.

It turns out the recommendations from these "experts" are actually causing the health problems I see in patients every day in my practice!

And this bad advice has succeeded in altering the way we age in a noticeable way.

Failing to correct the assault on our environment has led to what I call today "civilization diseases." They include cancer, heart disease, diabetes, and Alzheimer's. And they're the major causes of mortality in the 21st century.

That's the theme of your August 2023 issue of **Confidential Cures**.

To Your Good Health,

Al Sears, MD, CNS

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Western Civilization Developed The Diet That Causes Arthritis, Bone Loss, And Other Diseases Of Aging

But You Can Fight Back And Win With This Inuit Secret

Our environment is under assault from all directions...from the air we breathe and the food we eat to the chemical attack we face every time we buy something from the store!

But one of the biggest attacks we face is the *bad advice* we're bombarded with from the very agencies that promised to protect our health.

Let me give you a few examples of some bad advice dished out by the USDA, the CDC, and The American Heart Association. It's recommendations like this that caused our civilization to become so sick in the first place. I'm talking about things like:

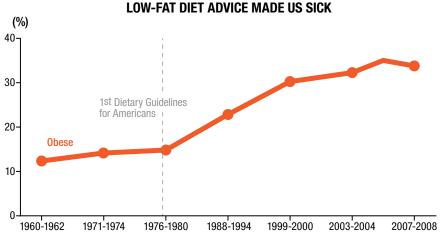
- Strip red meat from the menu...
- And replace it with grain-heavy cereals, starches, and other processed carbage
- Make cholesterol public enemy number one...
- Replace real foods like butter and lard with cheap manmade products...

I consider these recommendations to be a direct assault on your healthy aging.

But perhaps the worst advice we ever got was the Big Fat Lie. This lie was designed to scare us into drastically changing the way we eat. As a result, we're fatter and sicker than ever before.

But we're also in a lot more physical pain. Let me explain...

If you Google "best diet for arthritis" the first search result to show up comes from the Arthritis Foundation.



When you don't eat enough fat, you develop diet-induced hormone dysfunction. This is the root cause of almost every chronic disease we face today.

Their advice is listed under the heading "The Ultimate Arthritis Diet." In bold letters you see the organization's recommendation to "Eat [whole-grain] foods made with the entire grain kernel, like whole-wheat flour, oatmeal, bulgur, brown rice, and quinoa."

The second Google recommendation you see — also from the Arthritis Foundation — is to eat foods made with soybeans like tofu or edamame.

They advise eating these foods because they're low in fat...

But this is 100% the WRONG advice.

Too little fat inflames arthritis pain, while a high-fat diet can actually diminish joint discomfort.

In a recent study, Swedish researchers had arthritic patients consume 90% of their daily calories from fat. This type of eating plan is similar to what many native tribes around the world have eaten for thousands of years.

Within just one week, 100% of study participants reported a dramatic reduction in joint pain and stiffness.¹

Conventional doctors continue to be surprised by results like this... But I'm not.

In fact, this study reminded me of two important researchers who chose to follow a traditional native diet while living with the Eskimos. The first lived almost a hundred years ago. The second — a best-selling author who wrote *Primal Body*, *Primal Mind: Beyond the Paleo Diet for Total Health and A Longer Life* — is a world-renowned expert on ancestrally based paleo nutrition.

Her name is Nora Gedgaudas and she was a featured speaker at my Confidential Cures Health Summit a few years ago. I'll introduce you to her in a moment. First, let me tell you about a Canadian-American explorer whose research was truly revolutionary...

In 1906, anthropologist Vilhjalmur Stefansson traveled to the Arctic and lived among the Inuits of the Mackenzie River region. In an essay he wrote for *Harper's Monthly* in 1935, Stefansson said that when he arrived, he had the typical "food tastes and beliefs of the average American."

Beliefs like...that in order to be healthy you had to eat lots of fruits, vegetables, and grains. And the less meat and fat you ate the healthier you were.

But during his decade-long Arctic expeditions, Stefansson tossed his preconceived ideas out the window

While living among the natives, he ate what the Inuits ate.

Following in the footsteps of these skilled hunters, he tracked sea mammals like walrus, whale, and seals across the frozen tundra. The most important of these animals was the Ringed Seal.

Stefansson and the other hunters would wait, sometimes for hours, at the seal's breathing hole in the ice, waiting for the animal to come up for a breath. Every part of the seal, including the skin and blubber, were important for their survival.

To his surprise Stefansson discovered that following this native diet left him healthier and more energized than ever.

When Stefansson returned to New York City, a committee from Harvard, Cornell, and Johns Hopkins universities studied him and his diet. For a year he ate a no-carb diet — getting 75% of calories from fat and the rest from protein.

Some of the experts predicted he would suffer dire health problems in just 15 days. Yet at the end of the year, tests revealed Stefansson was in outstanding physical health.

Just recently, I saw a study blaming high-fat diets for osteoarthritis (OA). With OA your joints start to disintegrate. Cartilage begins to wear away. Without that cushioning around the bones every movement is torture.

Researchers recently studied the effects of a diet rich in saturated fats found in butter, coconut oil, palm oil, and animal fat. They blamed the fats for weakening cartilage and increasing inflammation.²

But they missed the real culprit...

You see, the diet they studied was only 20% saturated fat. The rest consisted of simple carbs like those found in junk food. A high-carb diet like that spikes insulin. It causes inflammation that leads to OA.

At the same time, we don't get enough of the basic nutrients that build strong joints and bones. Our ancestors ate a primal diet similar to the Eskimos. It was full of game, organ meats and fatty fish. And their bones and joints were as strong as steel.

Studies show that a diet high in fat and very low in carbs can relieve joint pain because it is anti-inflammatory.³ In one clinical trial, 13 arthritis patients were put on a high-fat eating plan.

After just one week they had dramatically reduced morning stiffness.⁴

Fats build strong bones by increasing calcium absorption from your gut. They also reduce the excretion of calcium in your urine. And they increase the amount of calcium that gets deposited in your bones.

Fats are also essential components in cartilage and bone. They improve bone strength by helping make collagen. And they transport and absorb bone-building vitamins like K, D, and A.

Omega-3 fats are particularly bone-friendly. They've been linked to higher bone mineral density in older adults. They also inhibit the formation of osteoclasts, the cells that break down bone. At the same time they increase formation of osteoblasts, the cells that build bone. And they reduce the inflammation that may break down bone and lead to OA.⁵

In short, your body needs fat...not carbs...to build strong bones and ward off osteoarthritis, osteoporosis — and all the other diseases we associate with aging.

What A Modern Nutritionist Learned Living With The Inuits

Nora Gedgaudas has also been working hard to get this message out. She discovered the benefit of a fat-rich lifestyle in the most fascinating way.

Nora learned the benefits of a high-fat diet while living in a small Inuit village about 500 miles from the North Pole

She spent the summer on the frozen tundra in the Arctic. Her work involved spending a lot of time sitting around observing wolf families. Every



Nora Gedgaudas was a keynote speaker at my Confidential Cures Summit. She discovered the benefits of a high-fat diet while living in a small Inuit village near the North Pole.

few days she made the long trek to the weather station for supplies.

Within a week or two, she started to crave highfat foods. As a traditionally trained scientist, she was used to eating a low-fat diet.

Before long, she was devouring all the high fat foods she could put in her body. It was a meal plan remarkably similar to our ancient ancestors. Not only did Nora's health start to improve — and her life-long depression vanish — but she shed both weight and excess body fat.

It was the start of a lifestyle revolution for the researcher. And helped confirm what I've told my patients for decades... That a high-fat diet keeps you healthy. While a government-recommended low-fat lifestyle makes you sick, overweight, and leads to a condition I call Diet-Induced Hormone Dysfunction.

Let me explain.

When you don't eat enough fat, you develop a condition I call diet-induced hormone dysfunction — which in turn leads to Syndrome Zero. As a regular reader, you know this condition is the root cause of almost every chronic disease we face today — including obesity, heart disease, cancer, Alzheimer's, arthritis, high blood pressure, metabolic syndrome, diabetes, and even hip fractures. It's the biggest health threat our nation has ever faced.

And the hormone it upsets most is insulin.

You see, your body wasn't built for the calories that come from our modern Western diet. Corn, grains, and insane amounts of sugar have overwhelmed our culture. And low-fat foods are loaded with these ingredients — even when their calorie count is low.

That means even though you're eating fewer total calories, you still gain fat.

What's more, if you develop Diet Induced Hormone Dysfunction and gain fat, the traditional calorie-restriction diets make things even worse. It reduces how much energy you can get from food, how much you can burn — and that makes you hungrier.

This is a serious problem, because it's a vicious cycle: Gain more, eat more.

Every time you eat these starchy, carbohydratedense "health" foods, your body secretes waves of insulin.

Most doctors think insulin's only purpose is to control blood sugar by carrying glucose to your cells for energy — but there's a lot more to it.

Insulin is also your body's "starvation hormone" and is a key catalyst in the storage of fat inside fat cells.

Eating processed carbs causes your body to produce too much insulin. And this make your body act as though it were literally starving. It starts to convert all of those carbs into triglycerides.

In other words, too much insulin makes your body make more fat.

High insulin also inhibits lipolysis — the breakdown of fats — which essentially blocks fat from leaving your body. This leads to greater fat storage and weight gain, causing oxidation, inflammation, obesity, heart disease, and a host of other chronic ailments.

Doctors and diet dictocrats blame dietary fat for weight gain — but the truth is, fat produces zero insulin in your body.

Reducing your fat intake is also dangerous — because your body needs it. You need fat to give you energy, maintain your body temperature, transport nutrients, and to build a faster brain.

Without fat, our ancestors' brains would never have developed. Without fat, you wouldn't be alive.

And today, we know eating fat:

- Reduces inflammation
- Lowers heart disease risk
- Lowers diabetes risk
- Improves your mood
- Boosts bone strength and reduces osteoporosis

- Lowers your risk of certain kinds of cancer
- Strengthens the immune system
- Protects your skin and eyes
- And even helps you lose weight

Eat A High-Fat Diet To Build Strong Bones And Improve Health

Following a high-fat nutrition plan is simple. The most important thing is to limit carbs to 5% or 10% of total calories. The rest of your calories — 90% to 95% — should come from healthy fats and protein.

A very low-carb diet is safe. Removing sugar and carbs will cause your body to burn fat for energy instead.

In the beginning you may notice a little fatigue, brain fog, weakness, low libido, or bad breath. That should clear up in a week or two as your body adjusts. Soon your energy and mental sharpness will surge.

Just make sure you choose the best quality foods you can find.

Fats. Get at least 50% of your fat from saturated fats. Replace corn and canola oils with lard. Bring back the butter and coconut. Always choose whole-fat dairy foods. Look for a particular kind of saturated fat called stearic acid. You'll find it in pasture-raised beef and pork, olive oil, chicken skin and chocolate.

Stay away from man-made fats or trans fats. Trans fat is the result of "hydrogenation." When a hydrogen molecule is added to vegetable oils, it turns them to fatty solids. These fatty solids replace animal fats. Your body doesn't recognize them as food, and when you eat this kind of fat you never feel full.

A study in the journal *Lancet* analyzed fat found in clogged arteries in people. Almost 75% of the fat turned out to be so-called "heart healthy" fats found in margarine and canola oil.⁶ Instead, choose fats like olive oil, coconut oil, avocado, butter, ghee, and heavy cream.

Protein. Beef, organ meats, fish, and eggs are your best sources of protein. If possible, eat grassfed beef and wild-caught fish. Choose eggs from pastured chicken. Other good sources of protein include chicken, turkey, wild-caught salmon, and other cold-water fish.

Carbs. When it comes to carbs avoid all processed foods. Choose non-starchy vegetables like leafy greens. Also limit fruit to mostly berries which are lower in sugar than other fruits.

4 More Ways To Add Fat To Your Meal Plan

Here are four more ways to add fat to your meal plan.

1. Balance your omega-3 to omega-6 ratio.

Today, most people eat too few omega-3s and too many omega-6s. Omega-3s are the fatty acids found in cold-water fish and grass-fed meats. Omega-6s are commonly found in the manufactured, unsaturated fats in vegetable oils.

Today's omega-6 to omega-3 ratio is about 16:1, which can trigger inflammation and lead to premature aging, heart disease, arthritis, diabetes, Alzheimer's, and other diseases.⁷

You can balance the omega-6 to omega-3 ratio in your diet by reducing or eliminating the use of corn oil, canola oil, soy oil and margarine. Instead, cook with high-quality extra virgin olive oil, coconut and avocado oil, or organic butter from grass-fed cows.

Good sources of omega-3s are wild-caught salmon, avocado, walnuts, olives, and olive oil. Studies show that the omega 6 gamma linolenic acid found in hempseed stabilizes the omega-6/omega-3 balance in your body.⁸

I also recommend supplementing with the two most potent omega-3s — EPA and DHA. Based on my experience, you need at least 500 mg of DHA and about 60 mg of EPA daily.

2. Don't forget to include coconut. For years, coconut fat was demonized as the enemy of heart health because of its rich saturated fat content. Numerous studies reveal that coconut oil improves your levels of heart-healthy HDL cholesterol, brain function and energy metabolism. It's also

an immune system booster, and a healthy, safe weight-loss aid.

The key to the coconut health benefits is that it contains a unique kind of fat called medium-chain triglycerides, or MCTs. The two MCTs in coconut oil — *capric* and *lauric acid* — are among the most heart-healthy fats from any food.

I cook with coconut oil because it has a very stable chemical structure. That means it doesn't break down when it hits high heat. Other cooking oils can produce harmful trans-fats when heated or reused. Eggs and shrimp are delicious cooked in coconut oil. And fresh coconut shavings are delicious as a dessert topping.

3. Add the next new fat. There's a fairly unknown class of omega fatty acids called omega-7s.

However, a newly discovered kind of omega-7 fat is being hailed as a potential treatment for metabolic syndrome, the condition that leads to diabetes.

Even a small amount of this omega-7 fatty acid — called palmitoleic acid — gives your body the ability to improve its response to insulin, to resist the formation of new fat cells and use energy more efficiently.

Omega-7s are called "signal callers" and they improve communication between fat and muscle. And the major benefits of omega-7s all serve to reverse prevent diabetes and lower your risk of obesity and heart disease.

In general, omega-7s:

- Lower your blood sugar and improve insulin resistance.
- Limit the production and accumulation of new fat cells.
- Reduce your appetite and fight obesity.
- Boost your good cholesterol (HDL) and lower your risk of heart disease
- Lower inflammation

In one study, researchers discovered that mice with diabetes had all their symptoms reversed when given an omega-7 fatty acid called palmitoleic acid.⁹

There are food sources of omega-7s, including the specific palmitoleic acid I mentioned above. Macadamia nuts are the best and easiest source. Sea buckthorn—a Chinese shrub with a golden, orange fruit—is another source.

But here's the problem. Both options also contain palmitic acid, which is a thick, sticky palm oil. And palmitic acid tends to cancel out many of the omega-7 benefits.

For now, your best option is taking a supplement of the purified palmitoleic acid. Look for one that contains around 50% palmitoleic acid, with levels of palmitic acid down around 1%. I recommend taking 200 mg a day.

4. Include the missing food group. There is a "missing" food group that helped humans evolve into who we are today.

I'm talking about the nutrients that derive from every part of an animal. When your primal ancestors went hunting for a wooly mammoth or big cat, nothing they caught was wasted. They ate everything... including organ meat, skin, and bone marrow.

All of it is extremely high in the healthy fat that helped us to develop. Today, we're starving for this missing food group. And our health has been suffering big time because of it.

Bringing bone marrow back to the dinner table will help us get our Primal health back on track.

A University of Michigan-led study found that the fat tissue in bone marrow is a significant source of the hormone adiponectin, which helps maintain insulin sensitivity, break down fat, and has been linked to decreased risk of cardiovascular disease, diabetes, and obesityassociated cancers.10

Another study found that the fat and peptides in bone marrow can block heart-disease related enzymes and reduce high blood pressure.11

References

- 1. Kłak A., et al. "Current nutritional status of patients with rheumatic diseases in the population of Poland." Reumatologia. 2015;53(1): 26-33.
- 2. Chang-Yin Li, et al. "Urinary metabolomics reveals the therapeutic effect of HuangQi Injections in cisplatin-induced nephrotoxic rats." Sci Rep. 2017;7(1).
- 3. Masino SA, Ruskin DN. "Ketogenic diets and pain." J Child Neurol. 2013 Aug;28(8):993-1001.
- 4. Fraser DA, et al. "Reduction in serum leptin and IGF-1 but preserved T-lymphocyte numbers and activation after a ketogenic diet in rheumatoid arthritis patients." Clin Exp Rheumatol. 2000
- 5. Olson MV, et al. "Docosahexaenoic acid reduces inflammation and joint destruction in mice with collagen-induced arthritis." Inflamm Res. 2013 Dec;62(12):1003-13.
- 6. Felton CV, et al. "Dietary polyunsaturated fatty acids and composition of human aortic plaques." Lancet. 1994;344(8931):1195-1196.
- 7. Simopoulos A. "The importance of the ratio of omega-6/omega-3 essential fatty acids." Biomed Pharmacother. 2002 Oct;56(8):365-79.
- 8. Singh A, et al. "Antioxidants help favorably regulate the kinetics of lipid peroxidation, polyunsaturated fatty acids degradation and acidic cannabinoids decarboxylation in hempseed oil." Sci Rep. 2020; 10: 10567.
- 9. Bermudez M, et al. "Roles of palmitoleic acid and its positional isomers, hypogeic and sapienic acids, in inflammation, metabolic diseases and cancer." Cells. 2022 Jul; 11(14): 2146.
- 10. Cawthorn W, et al. "Bone marrow adipose tissue is an endocrine organ that contributes to increased circulating adiponectin during caloric restriction." Cell Metab. 2014 Aug 5;20(2):368-
- 11. Steinhoff G, et al. "Cardiac function improvement and bone marrow response Outcome analysis of the randomized PERFECT Phase III clinical trial of intramyocardial cd133+ application after myocardial infarction." EBioMedicine. 2017 Aug; 22: 208-224.

Decreasing Oxygen In The Environment Leads To Lower Lung Capacity

But You Can Rebuild Your Shrinking Lungs And Enjoy The Energy You Had In Your Youth

Today I want to tell you about a problem you have that very few know about — including most traditionally trained doctors:

As we age, our lungs shrink.

If you've been reading my letters, you've heard me say that before. But today I have something new to add

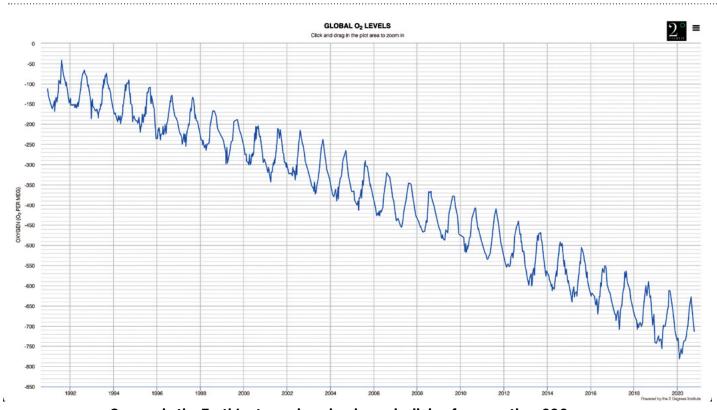
Our Western world has had a dramatic drop in oxygen. You hear a lot about CO2 going up. But no one really talks about how this leads to decreasing oxygen levels.

But this drop in oxygen has been going on for almost 200 years. And it's getting worse.

Your microenvironment, that's the immediate surroundings you put yourself in, is a big factor. You see, we've evolved over millions of years in an atmosphere with a set amount of oxygen that was constant. But in our modern world, it's not always possible to get enough.

We've cut down trees, cities have fewer parks, and there are fewer plants to produce oxygen.

Environmental researchers conclude that the level of oxygen in the earth's atmosphere has declined by over a third since ancient times, and in polluted cities by more than 50%.



Oxygen in the Earth's atmosphere has been declining for more than 200 years.

But even if you live in the country, you may not be taking in enough oxygen. You see, most people are deconditioned and don't have enough lungpower. The less we use our lungs, the more they shrink.

All of that can add up to an oxygen deficit.

And once again, the recommendations we hear from the so-called "experts" have often made things worse.

We went through a couple years where people were sold the advice that they'd actually be healthier if they stayed inside. That was terrible advice and everyone should know better. You need fresh air for your lungs to thrive.

Most doctors don't put much importance on lungpower. They'll tell you it's impossible to increase your lung capacity anyways. It's a part of aging.

But that's not true.

It may be accepted as "fact," but the truth is...your lungs are not helpless. On the contrary, they have a great ability to adapt and increase their capacity.

In the same way you can build real heart strength, you can also build healthy, robust lungs. I've seen the proof in my own clinic. I've helped hundreds of patients successfully boost their lungpower.

That's because I don't think about lungs as either "normal" or "diseased" like most of my peers.

I see health as a continuum of performance and capacity. You fall somewhere on that continuum today, but as your lungs respond to the right challenges, you can move along the continuum toward more vibrant health.

And today it's never been more important to protect your lungs from our modern world...

Shield Your Lungs From Constant Attack

You are born with a much higher lung capacity...

Your lungs shrank because the alveoli — tiny and fragile air sacs found in clusters at the end

"Our modern polluted environment causes 'irreversible' damage to the airways in your lungs, causing them to become narrower and restricting the oxygen supply that's needed by every cell in your body."

of the bronchial tubes deep inside the lungs — died off and have to be replaced. And in today's toxic environment, we replace them less aggressively.

Alveoli are critical to the breathing process. As you take in air, your alveoli

stretch to draw in oxygen and transport it into your blood. But when you exhale, your alveoli shrink and this forces carbon dioxide out of your body.

Progressive lung conditions slowly rob you of the ability to draw life-sustaining breath.

Our modern polluted environment causes "irreversible" damage to the airways in your lungs, causing them to become narrower and restricting the oxygen supply that's needed by every cell in your body. Both outdoor and indoor air pollution have been shown repeatedly to have strong links to lung issues.¹

The network of tubes that carries the air you breathe into your lungs becomes inflamed. This in turn produces a lot of mucus, which narrows your airways even further. This causes coughing, as well as difficulty breathing.

This means less oxygen is getting into your bloodstream.

You need oxygen to survive. Low oxygen in your blood (hypoxia) leads to low oxygen in your tissues (hypoxemia). Organs and entire organ systems are now beginning to malfunction.

Today, rising numbers of patients who have never smoked are being struck by chronic bronchitis and emphysema. And according to the American Lung Association, nearly half of these patients currently living with Chronic Obstructive Pulmonary Disease (COPD) don't even know they have it.²

If you have COPD, air pollution can make your symptoms worse and trigger flare-ups — sometimes called "exacerbations." And studies show that pollution can cause the problem.

You see, polluted air contains tiny particles of irritants that damage your lungs.

The most dangerous pollution comes in the form of particulate matter — tiny nanoparticles of industrial heavy metal toxins like mercury, lead, and cadmium, as well as arsenic — which enter your body and penetrate deep in your lungs. These same toxins are also found in cigarette smoke.

After following more than 114,000 patients, researchers found that those over 70 are especially vulnerable to the health-damaging effects of fine particulate pollution, especially from coal-fired power plants and traffic congestion.³

At the same time, chronic exposure to indoor irritants can be just as harmful. "Second-hand" smoke from cigarettes, smoke from burning wood or coal inside, along with chemical fumes from paint and cleaning products, have all been linked to COPD.

The good news is that extraordinary scientific breakthroughs are now available — the results, pardon the pun, have been breathtaking.

At the Sears Institute for Anti-Aging Medicine, I've been using a combination of two proven therapies with my patients to improve lung function and get back the energy of a 30-year-old — stem cell therapy and my proven PACE program.

Mainstream medicine has no cure. It can only offer bronchial dilators, steroids, and oxygen masks to help alleviate symptoms.

But don't expect to hear about this proven treatment from your doctor. Most physicians aren't trained in stem cell medicine. And they continue to give you bad advice about exercise and your lungs.

Stem Cells Reverse "Irreversible" Damage To Your Lungs

By now, you know that stem cells are the master cells of almost every other kind of cell in your body — those that make up your tissues, organs, bones, skin, blood, and everything else, including your lungs.

Stem cells have the extraordinary ability to renew themselves through cell division and then transform into any kind of human cell. This is the way your body repairs itself. It uses stem cells to replace old or damaged cells with new cells, regenerating whichever tissues are affected.

The problem is that you lose stem cell activity as you age, and your body loses its ability to repair itself. Injuries don't heal as fast. Illnesses linger. Chronic problems develop.

But scientists now know that your inactive stem cells are not dead. They're in a state of senescence, a kind of cellular deep sleep.

Studies show that the senescence of alveolar stem cells in the lungs is accelerated in patients with COPD.⁴

That's where stem cell therapy comes into its own.

Once stem cells enter your bloodstream, they flood areas of tissue damage and inflammation and begin the healing and repair process.

Lung tissue is known to be slow to regenerate. But the scientists from the University of Pennsylvania revealed in a 2018 study that damaged human alveoli cells can be regenerated in three months.⁵

According to a Lung Institute survey, 85% of COPD patients reported an increase in quality of life within three months of stem cell treatment.⁶

In another small study, late-stage COPD patients treated with umbilical cord stem cells showed significant improvement in CAT and mMRC scores (these are tests designed to measure the health status of COPD patients). They also reported improved quality of life and a dramatic reduction of acute exacerbation.⁷

I recently used stem cell therapy with a COPD patient at my clinic — and after a few weeks of treatment, she could breathe again!

Grow Your Lungs With PACE

Whether you've been diagnosed with a lung disease or not, by the time you're 30, your lungs start to decline. Slowly, most people unconsciously alter their activities so their lungs can keep up.

By 50, you've lost 40% of your breathing capacity. And the decline continues for life. If you get the flu at age 35 or 40, you can shrug it off. But if you're 65 or 70 and you get the flu or pneumonia, you won't have the reserve lung capacity to sustain you.

Exercise "gurus," and even most doctors, will tell you to do cardio workouts to increase lung function. But too many long, drawn-out cardio sessions will make you lose even more lung capacity.

I proved this myself early on in my career. As far back as college I was working on the problem of lost lung volume. I put patients with low lung volume into running programs.

To my surprise, their lungs shrank.

The problem is that cardio and running were not how we evolved to move. Fortunately, with my simple PACE exercise program, you can improve your lung capacity and minimize the consequences of losing lung volume.

PACE stands for Progressively Accelerating Cardiopulmonary Exertion and it uses brief but vigorous routines of increasing intensity to help expand the capacity of your lungs.

Studies show PACE works up to 18 times better than light exercise, like the kind of walking your doctor might suggest.8

After only a few weeks of doing PACE, even my older patients soon develop the lungpower of much younger people. PACE builds up your lungpower so you get more life-giving oxygen flowing throughout your body, especially your lungs.

Studies show that PACE-like exercise also activates bone marrow stem cells, and gets them circulating in the blood.9

The great thing about PACE is you only need 12 minutes a day. And you don't need expensive equipment or a gym membership to do it.

You can choose any exercise that will make you pant for breath.

All you have to do is increase the challenge to your lungs and heart little by little, and then accelerate it. By increasing the intensity of your workouts, your lungs respond and adapt by getting stronger and increasing their capacity.

I have 70-year-old patients in Cincinnati who live near a hill. They practice PACE by walking up the hill as fast as they can. And by now they can run up the hill. Here's how it works:

- Start by walking up a hill or a flight of stairs. Measure your heart rate when you get to the top after walking.
- Next, give yourself more of a challenge. If you walked the first time, then "power walk" this time. Get your arms out in front of you and move your hips when you walk.
- Take your heart rate again, stop and relax. Get a drink of water
- On your third time up the hill, try jogging.

You'll start to notice that it takes more effort for each set. You'll be winded and panting. This is what we call "oxygen debt."

When your body realizes that you are demanding more oxygen, it triggers the adaptive response of increasing your lung size.

Aim for three sets. To make it a true PACE workout, increase the challenge when you're ready.

For more information about PACE, go to my YouTube channel: www.youtube.com/user/ AlSearsMD/videos. I have more than 30 different exercises and a complete workout to help you get started.



After doing PACE for only a few weeks, even my older patients develop the lungpower of much younger people.

Increase Your Lungpower With 3 Natural Oxygen Boosters

PACE gets 400% more oxygen into your lungs.¹⁰ But there are additional steps you can take at home to boost your oxygen levels... Here's what I recommend to my patients:

1. First, boost blood flow with beets. Beets boost your body's production of nitric oxide — thanks to large amount of nitrates in the root vegetable. This is one of the best dietary ways to increase oxygen intake.

Nitric acid sends "blood flow signals" that relax arterial walls, dilate the blood vessels, and improve the flow of blood and oxygen everywhere in your body.

Beets are the best dietary way to increase oxygen intake. For maximum effect, add hawthorn extract, a member of the rose family that's been used by herbal healers for centuries as a remedy for chest pain.

Take one glass (250 ml) of fresh beet juice along with 15 drops of liquid Hawthorn extract daily to boost nitric oxide levels.

You can also take a supplement, but make sure to choose an activated beet extract at no less than 2,500 mg of fresh beet powder. Open two capsules into water or juice and then add the liquid hawthorn. Swish it around your mouth, so it mixes with your saliva to activate the nitric oxide.

2. Then, widen your airways with Indian frankincense (Boswellia serrata). This natural painkiller and powerful anti-inflammatory inhibits the formation of compounds called leukotrienes, which cause the narrowing of the airways. It's known to alleviate chronic bronchitis and bronchial asthma, which have similar symptoms. Your airways become inflamed with both asthma and bronchitis

In a double-blind, placebo-controlled study, 40 people with bronchial asthma were treated with a boswellia extract three times a day for six weeks. At the end of this time, 70% had improved breathing, fewer flareups, and a number of laboratory measurements had also improved.¹¹

Look for a Boswellia serrata supplement standardized to at least 65% boswellic acids. I recommend taking 400 mg three times a day.



In an important study, 70% of asthmatic patients had improved breathing after taking boswellia for six weeks.

3. Finally, boost your lungpower with Qi Gong breathing. Remember when we were all told to stay inside during Covid because that would keep you healthy? That was just about the worst advice I've ever heard. Everyone needs to be outside in the fresh air if you want your lungs to thrive.

A study from the University of Arizona proved it. The researchers were looking for holistic treatments for COVID-19 patients. They had 20 subjects practice Qi Gong, a 2,000-year-old breathing ritual that combines breathing and mindfulness with slow, graceful movements. In the study, participants practiced Qi Gong for 20 minutes a day.

Researchers reported Qi Gong triggered a "significant increase" in lung capacity.

After just 10 days, their lungs had become 20% better at taking in oxygen and exhaling carbon dioxide.¹²

I've practiced it for many years now, and it gives me a sense of serene wellness. Long before COVID-19, I was sharing it with my patients.

The good news is anyone at any age can learn Qi Gong.

- Begin by placing the tip of your tongue on the roof of your mouth. This "completes the circuit" so your energy can flow freely.
- Next, stand comfortably with a slight bend in the knees. Your chin is slightly tucked. Rotate your pelvis slightly forward.
- Hold your hands out in front of you as if you're holding a ball. The palms face each other about 12 to 18 inches apart.
- As you inhale through your nose, slowly move your hands apart like the ball is expanding. As you exhale, bring your hands back to the starting point.
- Focus on your breathing. Repeat the movement four times, and remember to synchronize your breathing. Over time, build up to six or seven repetitions.
- Next, turn your palms face up at about the level of your navel. As you breathe in, gradually raise your hands up to your pectoral muscles. Then rotate your palms down and softly exhale as you lower your hands back down to where you started.

Gradually build up to 10 to 20 minutes of Qi Gong daily.

I recommend doing Qi Gong outside. But even if you choose not to do this particular breathing exercise, get yourself a regular outdoor activity. Do a sport or just walk for 20 minutes a day... You'll be amazed at how good you'll feel.



Practicing Qi Gong improves lung function in as little as 10 days. I recommend doing it outside for 20 minutes every day.

References

- 1. Jiang XQ, et al. "Air pollution and chronic airway diseases: What should people know and do?" J Thorac Dis. 2016:8:E31-E40.
- 2. "Learn about COPD." https://www.lung.org/lung-health-diseases/lung-disease-lookup/copd/learn-about-copd. Accessed on August 12, 2023.
- 3. Albert CM, et al. "Effect modification of long-term air pollution exposures and the risk of incident cardiovascular disease..." $JAm\ Heart\ Assoc.\ 2015:25;4(12).$
- 4. Tuder RM, et al. "Senescence in chronic obstructive pulmonary disease." Proc Am Thorac. Soc. 2012;9(2):62-63.
- 5. Zacharias WJ, et al. "Regeneration of the lung alveolus by an evolutionarily conserved epithelial progenitor." *Nature*. 2018 Mar 8;555(7695):251-255.
- 6. Lung Institute. "COPD." Available at https://lunginstitute.com/lung-diseases/copd/ Accessed
- 7. Le P, et al. "Umbilical cord derived stem cell (Modulatist TM) transplantation for severe chronic obstructive pulmonary disease." Biomed Res Ther. 2016;3(10):902-909
- 8. Von Ardenne, M. "Oxygen Multistep Therapy." Thieme. 1990. p. 144
- 9. Marycz K, et al. "Endurance exercise mobilizes developmentally early stem cells into peripheral blood and increases their number in bone marrow: Implications for tissue regeneration." Stem Cells Int. 2016:5756901.
- 10. Adapted from: von Ardenne, M. Oxygen Multistep Therapy. Thieme. 1990.
- 11. Gupta I, et al. "Effects of Boswellia serrata gum resin in patients with bronchial asthma: Results of a double-blind, placebo-controlled, 6-week clinical study." Eur J Med Res. 1998;3(11):511-514.
- 12. Lim YA, et al. "Effects of qigong on cardiorespiratory changes: a preliminary study." Am JChinese Med. 1993;21(1):1-6. doi:10.1142/S0192415X93000029

There Is An Environmental Assault On Your Brain's Immunity

But A Brand-New Field Of Regenerative Medicine Protects Your Memories By Taking Out Cellular "Trash"

The out-of-control assault on our environment is taking a dangerous toll on your brain. And it starts with your immune system.

When it's performing optimally, your immune defense system can prevent ANY disease from taking root in your body. This is what I call your native immunity.

I'm talking about the original immune power that existed before it was compromised by the threats of our modern world. Your native immunity is the disease-stopping strength nature intended you to have.

Today, however, our immune systems are under constant assault from the toxic world we live in.

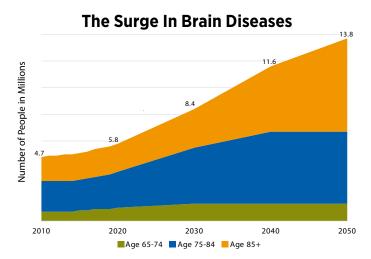
In a single generation, we've seen a very significant deterioration of immune capacity across the entire population of the Western world.

If you doubt what I'm saying, talk to anyone with a young child in school. Parents today are hyper alert about allergies — and with good reason.

Peanut and other food-borne allergies were never a concern when you and I were in school. If someone had one, it was a rare case. And even then, it wasn't deadly.

Another indication of a runaway immune system is the onslaught of asthma cases. If you take your child to the doctor, they'll ask you if allergies run in the family. But this isn't a problem with your genes.

Neither allergies nor asthma are a biological mistake. They are your immune system's way of defending itself against an unnatural assault.



A toxic assault on the Western world is contributing to a dramatic spike in neurodegenerative diseases like Alzheimer's and Parkinson's.

Source: Hebert LE, et al. "Alzheimer disease in the United States (2010–2050) estimated using the 2010 Census." Neurology. 2013;80(19):1778–1783.

In other words, your immune system is off running a wild goose chase. And it can't do its real job – which includes taking out the cellular trash in your brain. But there is an exciting new field in regenerative medicine that helps your immune system combat cellular senescent brain aging.

Let me explain...

If you or a loved one have been touched by a neurodegenerative disease like Alzheimer's or Parkinson's, you know they are the cruelest and most debilitating conditions imaginable.

You'll also know that no matter how much you hope, the drugs that doctors prescribe for these mind-wasting diseases are an epic failure.

But while pharma companies continue to develop more drugs that offer no hope, scientists at Wake Forest University School of Medicine in North Carolina have opened up a new field of regenerative medicine called senolytics.

"Research shows that in a group of 7,000 healthy cells, iust one zombie cell can start a degenerative cascade that can accelerate your entire aging process."

to become their next blockbuster money maker.

Given that Alzheimer's and Parkinson's have now reached epidemic levels in America, Europe, and Asia, business intelligence suggests

the senolytics market could soon be worth a staggering \$127 billion.⁵

In this Confidential Cures article, I'm going to show how you can protect yourself from the buildup of zombie cells in your brain and protect vourself from Alzheimer's and Parkinson's before they strike or get worse — without the use of risky chemo drugs.

This now offers the best hope yet for the prevention and cure of these awful conditions.

You see, the focus of senolytics is not on symptoms, like amyloid plaques and tau tangles — but on a class of dysfunctional cells that accumulate in your body and brain as you age.

These are senescent cells — now better known as "zombie cells." That's because they aren't dead. But, like zombies, they're not alive either. They simply linger.

Instead of dying off to make room for new cells, they've gone into a kind of cellular deep slumber. living on in this sleep-like state for years as they accumulate throughout your body.

Researchers have known for a while that the buildup of senescent cells is a byproduct and a driver of aging. But now Wake Forest scientists are convinced "zombie cells" in the brain are also the powerful cause of cognitive-impairment disorders, like Alzheimer's and Parkinson's.

Studies show zombie cells secrete proteins that cause chronic inflammation. And worse, when senescent cells accumulate in other parts of the body, they send signals that can zombify brain cells, transforming them into near-immortal senescent cells that impair your cognitive ability and trigger the cellular dysfunction behind neurodegeneration.^{3,4}

It makes sense that if you can destroy these zombies, you can also greatly reduce the risk of developing these dreadful conditions.

The good news is we already know how to coax these accumulating zombie cells to self-destruct.

The bad news is that Big Pharma is now getting into the senotherapeutics market. Multiple pharma companies are already trialing a range of expensive and risky drugs normally reserved for chemotherapy treatments to cater to what's likely

Where Do Zombie Cells **Come From?**

The human body comprises around 37 trillion individual cells that form every part of you from your eyes, bones, and skin to your organs and the blood flowing through them.

As part of its life cycle, each cell grows and divides to produce two new cells that are copies of the original. This helps maintain the health of a particular part of your body. Stem cells, which are your master cells, also produce new cells to repair damage and regenerate organs as well as other body parts.

At the end of their life, cells become senescent. This is their zombie phase, in which the cell stops dividing and no longer participates in the natural life of your body. Many senescent cells die off but some just sit around sending confused signals to other cells and making them dysfunctional.

Research shows that in a group of 7,000 healthy cells, just one zombie cell can start a degenerative cascade that can accelerate your entire aging process — in the small way that one rotten apple can spoil a whole barrel.

In certain cases, senescent cells can be useful. For example, they play a role in wound healing. And when you're young, senescence has an anti-cancer role. You see, cancer is a disease of uncontrolled cell division and senescent cells block cells from dividing.

But then later in life, as zombie cells continue to accumulate, they cause other problems. They degrade organ function and secrete proteins that send signals that cause inflammation and organ dysfunction in distant parts of your body.

But where do zombie cells come from in the first place, and how do they accumulate to the point where they tip the balance of your health? The answer is our modern-day world — poor diet (particularly excess processed and ultra-processed products and carbohydrates), industrial pollution, and the chronic stress caused by our modern 24/7 world.^{6,7}

Studies now reveal these dysfunctional zombie cells can trigger a range of degenerative disorders, such as heart, kidney and liver diseases, diabetes, and cancer, as well as neurogenerative conditions, like Parkinson's and Alzheimer's.⁸

How Zombie Cells Age Your Brain

Your brain is home to many different cell types that are all dependent on each other to carry out its many important functions.

For example, neurons are the main nerve cells in your brain, and they are all wired into a nexus of web-like synaptic circuits. Other cells, including astrocytes, microglia, and oligodendrocytes, have equally important roles, such as maintaining the synaptic environment, operating the brain's immune system, and generating the brain's protective myelin sheath.

These cells also work in cooperation to send neurotransmitters — like serotonin, dopamine, acetylcholine, norepinephrine, and gamma-aminobutyric acid (GABA) — around your brain and body, processing and storing information, and allowing your body to function. 9,10

But when these cells approach the end of their life cycles and begin to pile up as zombie brain cells, the result is accelerated brain aging, cognitive decline, and a higher risk of neurogenerative conditions.

Several recent studies have demonstrated that cellular senescence is a major culprit in brain aging. 11,12,13

Researchers have already connected the dots between poor nutrition, cellular senescence, brain inflammation, and Alzheimer's disease. And studies also link exposure to modern pollutants — especially pesticide use — with zombie cell buildup and Parkinson's. 14,15

When you age, the function of your brain cells slowly diminishes anyway — but when you add modern-day cellular stressors, the result is vast zombie cell accumulation, deteriorating brain function, and the onset of neurological disorders.^{16,17}

Big Trouble With Big Pharma's Senolytics

As Senolytics has emerged as a new field of regenerative medicine, dozens of Big Pharma companies are now working on a new class of expensive drugs called "senoblockers."

A number of first-generation senoblockers have already been tested on animals, and have shown their ability to clear senescent cells from tissues, and spur rejuvenation. Scientists at King's College, in London, used senolytic therapy on the aged hearts of mice and rejuvenated their hearts' capacity to regenerate and self-repair.^{18,19}

On the surface of it, the idea of repurposing chemo drugs to clear dysfunctional zombie cells in your brain seems like a good one... until you factor in the high risk of these drugs also destroying healthy cells along the way.

Big Pharma research has primarily focused on combining the cancer drug dasatinib with the plant compound quercetin to eliminate senescent cells in Alzheimer's patients.²⁰

Animal studies have already shown early promise and human trials are currently underway — although the problem of off-target side effects, including shortness of breath, stomach pains, and fluid build-up around your lungs, as well as the destruction of healthy cells, remains a major concern.

Studies of leukemia patients who have taken dasatinib reveal many long-term risks, including severe low blood cell counts, weakened immune system as a result of collateral damage to white blood cells, as well as damage to organs like the heart and eyes.²¹

But the good news is that you can clear out zombie cells in your body naturally, without taking risky and expensive chemo drugs...

Destroy Zombie Cells The Natural Way

Here at the Sears Institute of Anti-Aging Medicine, I encourage patients to clear out senescent cells with a number of natural senolytic methods...

Here's what I recommend:

1. Kill Zombies With The Right Workout. The right kind of exercise is a powerful eliminator of senescent cells

Recent studies at the Mayo Clinic, among others, prove it. Researchers there found that exercise significantly reduces the number of senescent cells in the body.²²

Mayo scientists also found that exercise activates the immune cells responsible for zombie cell clearance.

And Chinese researchers conducted a study on mice that were fed an ultra-processed, high-fructose diet, which produced a large buildup of senescent cells in the hippocampus area of their brains. They found that exercise reduced cell senescence and boosted neuroprotection against neuroinflammation and oxidative stress, which causes the further accumulation of zombie cells.²³

I've documented the effects in my own clinic, and it's clear that the type of exercise you do matters. Studies demonstrate that high-intensity interval exercise has the most powerful effect of all on the buildup of senescent cells. The key is to gradually increase the progressive level of your exertion to make your body adapt.24

I recommend My PACE (Progressively Accelerating Cardiopulmonary Exertion) program, which shifts the focus of your workout from "how long" you work to "how intensely" you exert yourself.

To learn some good PACE exercises, go to my YouTube channel: www.voutube.com/user/ AlSearsMD/videos. I have more than 30 different exercises and a complete workout to help you get started.

2. Fasting Restores Primal Metabolism. You were NOT designed to eat three meals a day...and certainly not the six small meals some doctors and dieticians recommend.

For hundreds of thousands of years, humans had no regular or reliable food sources. Our primal ancestors feasted when hunting was good. Then they had to survive periods of famine.

Over hundreds of thousands of years, these cycles of food and famine became ingrained in your genetic code, as a matter of human survival.

So, it's hardly surprising that scientists have now discovered that intermittent fasting and restricting your calorie intake works at the cellular level. Fasting boosts the efficiency of your mitochondria, the little power packs in each of your cells, and also triggers the death of zombie cells, sending them into a death spiral called apoptosis.

A study published in the journal *Nature* revealed that fasting and calorie restriction also stop the spread of toxic secretions from zombie cells that "infect" healthy cells, and accelerate the aging process.25

I'm not talking about starving yourself. Simply cycling between periods of eating and fasting on a daily or weekly schedule gives you the same benefits our primal ancestors had with their feast and famine cycles.

I recommend easing into it. Start by closing the kitchen after dinner. If you eat nothing between 8 p.m. and 8 a.m. you're already fasting 12 hours a day.

Next, I recommend that my patients move to a safe, simple regimen that calls for an 8-hour eating window each day, followed by a 16-hour fast.

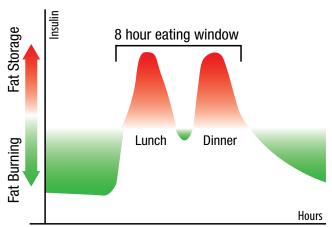
Here's how it works:

- Start your day with a 10 a.m. breakfast
- Lunch at your regular time
- Finish your dinner by 6 p.m.
- Your body gets no additional food from 6 p.m. until 10 a.m. the next morning

If you prefer to eat a later dinner, simply skip breakfast and eat lunch 16 hours after your last meal. It's important to cut out all snacking between meals.

16:8 fasting is generally considered safe for almost everyone. But if you're concerned, consult with a doctor before starting.

INTERMITTENT FASTING GIVES YOU A FULL 8-HOUR EATING BLOCK EVERY DAY



Red peaks reflect 10 a.m., 2.p.m. and 6 p.m. with green fields reflecting fasting times.

Once your body is accustomed to tasting for 16 hours, you can fast for a full day once a month.

3. **Use The Power Of Oxygen.** When I deliver high-pressure oxygen treatments to my patients, they tell me their bodies feel as though they have suddenly come alive. This makes complete sense because oxygen is the source of life itself.

Not only does this treatment — known as hyperbaric oxygen therapy (or HBOT) — replenish all your organs and organ systems with its most vital nutrient, it also significantly reduces the number of zombie cells in your body.

Studies show that the delivery of pressurized pure oxygen cuts the number of senescent cells by up to 37%, making way for healthy brain cells to regrow, and promoting the formation of new blood vessels.²⁶

Other studies reveal that HBOT improves cerebral blood flow, brain metabolism, and brain microstructure, leading to vastly improved cognitive functions.

At the same time, it clears out dysfunctional senescent immune cells, powering up your body's ability to fight disease and repair damage.

Here at the Sears Institute for Anti-Aging Medicine, I treat patients with 100% oxygen at 1.5 times normal atmospheric pressure.

You see, HBOT works because it infuses your body with this supercharged oxygen.

The combination of pressure and oxygen, physically dissolves more oxygen into your red blood cells, boosting oxygen levels and encouraging healing and regeneration.

4. Supplement With Natural Senolytics.

I'm talking about a flavonoid called fisetin. A cell study published in the journal *Aging* showed that fisetin eliminated about 70% of senescent cells — while causing no harm to healthy, normal human cells.²⁷

There are a number of human trials of fisetin currently in progress.²⁸ But an animal study has already shown striking results.

When old mice — equivalent to 75 years in human age — were given fisetin, they lived an average of 2.5 months longer.

That's a 10% increase in lifespan.²⁹

Fisetin can be found in small amounts in many fruits and vegetables, including strawberries, apples, persimmons, grapes, and onions.

But it's almost impossible to get what you need from food. I recommend you supplement with 100 mg of fisetin once a day.

And to increase the bioavailability by as much as 25 times, look for a supplement that also includes fenugreek. This helps protect the fisetin during digestion.

Then, add in apigenin: This is another potent phytonutrient and flavonoid with documented senolytic properties.

Research reveals apigenin inhibits cell senescence and pro-inflammatory compounds produced by senescent cells. It has also long been known for anti-anxiety properties, and animal studies show it to be protective against Alzheimer's. 30,31

The most abundant sources of apigenin are chamomile tea, parsley, tomatoes, celery, artichokes, peppermint, and the herb basil.

Apigenin is also available in supplement form. It can cause drowsiness, so I recommend taking 100 mg before bedtime.

References

- 1. van Dyck CH, et al. "Lecanemab in early Alzheimer's disease." N Engl J Med. 2023; 388:9-21.
- 2. Reish NJ, et al. "Multiple cerebral hemorrhages in a patient receiving lecanemab and treated with t-PA for stroke." N Engl J Med. 2023;388(5):478-479.
- 3. Coppé JP, et al. "The senescence-associated secretory phenotype: the dark side of tumor suppression." Annu Rev Pathol. 2010;5:99-118.
- 4. Lin YF, et al. "Cellular senescence as a driver of cognitive decline triggered by chronic unpredictable stress." Neurobiol Stress. 2021;15:100341.
- 5. Sullivan D. "Targeting cellular senescence is a potential \$127B market. Longevity Technology. (https://longevity.technology/news/targeting-cellular-senescence-is-a-potential-127b-market/). May
- 6. Maduro AT, et al. "Ageing, cellular senescence and the impact of diet: an overview." Porto Biomed J. 2021;6(1):e120.
- 7. Diwan B, et al. "Nutritional components as mitigators of cellular senescence in organismal aging: a comprehensive review." Food Sci Biotechnol. 2022;31(9):1089-1109.
- 8. Chaib S, et al. "Cellular senescence and senolytics: the path to the clinic." Nat Med. 2022:28(8):1556-68
- 9. De Luca C, et al. "Neurons, glia, extracellular matrix and neurovascular unit: A systems biology approach to the complexity of synaptic plasticity in health and disease." Int J Mol Sci. 2020:21(4):1539.
- 10. Bhat R, et al. "Astrocyte senescence as a component of Alzheimer's disease." PLoS One. 2012;7(9):e45069.
- 11. Guerrero A, et al. "Cellular senescence at the crossroads of inflammation and Alzheimer's disease." Trends Neurosci, 2021:44(9):714-27
- 12. Martínez-Cué C, et al. "Cellular Senescence in Neurodegenerative Diseases." Front Cell Neurosci. 2020;14:16.
- 13. Sikora E, et al. "Cellular Senescence in Brain Aging." Front Aging Neurosci. 2021;13:646924.
- 14. Goldman SM, et al. "Risk of Parkinson disease among service members at Marine Corps Base Camp Lejeune." JAMA Neurol. 2023;80(7):673-681.
- 15. Paul KC, et al. "A pesticide and iPSC dopaminergic neuron screen identifies and classifies Parkinson-relevant pesticides" [published correction appears in Nat Commun. 2023 Jun 23;14(1):3747]. Nat Commun. 2023;14(1):2803.

- 16. Liu RM. "Aging, cellular senescence, and Alzheimer's disease." Int J Mol Sci. 2022;23(4):1989.
- 17. Han X, et al. "Astrocyte senescence and Alzheimer's disease: A review." Front Aging Neurosci. 2020;12:148.
- 18. Marinova M, et al. "Longevity Research Newsletter August 2022" VitaDAO (https://www. vitadao.com/blog-article/longevity-research-newsletter-august-2022). Aug. 11, 2022
- 19. Lewis-McDougall FC, et al. "Aged-senescent cells contribute to impaired heart regeneration." Aging Cell. 2019;18(3):e12931.
- 20. Gonzales MM, et al. "Senolytic therapy to modulate the progression of Alzheimer's disease (SToMP-AD): A pilot clinical trial." J Prev Alzheimers Dis. 2022;9(1):22-29.
- 21. Yurttas NO, et al. "Tyrosine kinase inhibitor-associated platelet dysfunction: Does this need to have a significant clinical impact?." Clin Appl Thromb Hemost. 2019;25:1076029619866925
- 22. Zhang X, et al. "Exercise counters the age-related accumulation of senescent cells." Exerc Sport Sci Rev. 2022;50(4):213-221.
- 23. Jang Y, et al. "Endurance exercise prevents metabolic distress-induced senescence in the hippocampus." Med Sci Sports Exerc. 2019;51(10):2012-2024.
- 24. Jean WH, et al. "Senolytic effect of high intensity interval exercise on human skeletal muscle." Aging (Albany NY). 2023;15(3):765-776.
- 25. Scudellari M. "To stay young, kill zombie cells." Nature. 2017;550(7677):448-450.
- 26. Hachmo Y, et al. "Hyperbaric oxygen therapy increases telomere length and decreases immunosenescence in isolated blood cells: a prospective trial." Aging (Albany NY). 2020;12(22):22445-22456.
- 27. Zhu Y, et al. "New agents that target senescent cells: the flavone, fisetin, and the BCL-X inhibitors, A1331852 and A1155463." Aging (Albany NY). 2017;9(3):955-963.
- 28. Kirkland JL, et al. "Senolytic drugs: from discovery to translation." J Intern Med. 2020;288(5):518-536.
- 29. Yousefzadeh MJ, et al. "Fisetin is a senotherapeutic that extends health and lifespan." EBioMedicine. 2018;36:18-28.
- 30. Liu R, et al. "The flavonoid apigenin protects brain neurovascular coupling against amyloid-βinduced toxicity in mice." J Alzheimers Dis. 2011;24(1):85-100.
- 31. Lim H, et al. "Effects of flavonoids on senescence-associated secretory phenotype formation from bleomycin-induced senescence in BJ fibroblasts." Biochem Pharmacol. 2015;96(4):337-48.

The information provided in this letter is for educational purposes only and any recommendations are not intended to replace the advice of your physician. You are encouraged to seek advice from a medical professional before acting on any recommendations in this publication.

Al Sears, MD

Al Sears, MD, CNS, is a medical doctor and one of the nation's first board-certified anti-aging physicians.

As a board-certified clinical nutritionist, strength coach, ACE-certified fitness trainer and author, Dr. Sears enjoys a worldwide readership and has appeared on more than 50 national radio programs, ABC News, CNN and ESPN.

In 2010, Dr. Sears unveiled his proven anti-aging strategies in *Reset Your Biological Clock*. As the first U.S. doctor licensed to administer a groundbreaking DNA therapy that activates the gene that regulates telomerase, Dr. Sears made history by bringing telomere biology to the general public.

Dr. Sears shocked the fitness world by revealing the dangers of aerobics, "cardio" and long-distance running in his book, *PACE: The 12-Minute Fitness Revolution*.

In 2004, Dr. Sears was one of the first doctors to document the true cause of heart disease and expose the misguided and often fatal drugs-and-surgery approach to heart health.

In The Ageless Heart Manual: Advanced Strategies to Reverse Heart Disease and Restore Your Heart's Pumping

Power, Dr. Sears outlines the easy-to-follow solution that effectively eliminates your risk of heart disease, high blood pressure and stroke.

An avid lecturer, Dr. Sears regularly speaks at conferences sponsored by the American Academy of Anti-Aging Medicine (A4M), the American College for the Advancement of Medicine (ACAM) and the Age Management Medicine Group (AMMG).