Dr. Marlene's
NATURAL HEALTH CONNECTIONS

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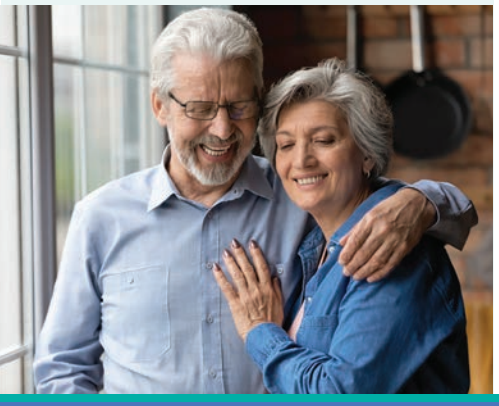

How To Keep Your Bones Healthy and Strong

Learn about vital nutrients that are overlooked in today's healthcare system but are essential for strong bones — and a bone test that isn't widely used but should be.

In today's healthcare system, "prevention" is mostly screening for health risks by checking blood pressure, blood sugar, and other markers that indicate higher odds of heart disease, diabetes, and other ills. While this isn't true prevention, at least it's a type of warning system. But all too often, this isn't the case when it comes to the state of your bones.

Sadly, many people have no idea that something is wrong until they break a bone from what seems like a minor impact, or even no impact. Examples include fractures in the spine, wrist, arm, or hip.

But wait, you may be thinking, what about bone density scans? Don't they provide warning signs? Maybe, if you get one soon enough.

When a bone scan shows low bone density, it's an indicator that a problem has existed for some time. And bone has deteriorated.

Here's an analogy: In a car, the fuel gauge shows how much gas is left in the tank. Depending on the make and model, a display may also show how many miles you can drive on the remaining gas. It's an estimate, but it's really useful.

A bone density scan doesn't always work that way. If your bones are healthy, it can confirm that fact, and if your bone density is somewhat low, it can alert you to the need to change your habits. But if bone density is very low and osteoporosis has already developed, it's more like a gas gauge that only shows "empty" after your engine stalls.

Bone scans aren't generally done on women until age 65 or later. By then, more than one in four women already has osteoporosis: weak bones that are the major cause of bone fractures in this age group.

For men, there are no official

IN THE NEXT ISSUE:
Food Sensitivities: Are They Hurting You?

guidelines for doing bone scans. However, rates of osteoporosis are increasing among older men, and some doctors recommend the scans at age 70 or later. (There are exceptions to these rules, such as having had a recent fracture, a history of fractures, or being at high risk for bone loss; see *Bone Risk Factors* on page 3.)

This doesn't mean that bone density scans aren't necessary. They are — no question. But it's important to understand what they represent.

Dr. Marlene's
NATURAL HEALTH CONNECTIONS

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What Bone Scans Show

Loss of bone density is a silent process without any symptoms — until a fracture occurs. The scans show different degrees of bone density: normal; somewhat low, which is osteopenia (bones that are weaker than normal but not weak enough to cause fractures); or very low, which is osteoporosis. Scan results are helpful if you use them to improve or maintain dietary and exercise habits that lead to strong bones (which I'll explain in a moment).

The scans are actually bone *mineral* density scans. They measure calcium and other minerals in bones. Bones are stronger and less likely to break when minerals are denser, but they become less dense with age.

Bone density changes slowly; changes can take a year or more to show up on a scan. And when density has decreased to a significant degree, it's probably taken years. So, when a scan is done, it's showing the effect of age, nutrition, and lifestyle from the past.

Sometimes, there can be situations that caused bone loss but no longer exist. For example, I had a patient who had recently retired. While working on Wall Street, his diet was poor, he didn't get any regular exercise, he was constantly under a lot of stress, and he continually took antacids for indigestion. All these can contribute to loss of bone, and did in this case.

But now, this patient's life was completely different and much healthier. Another test (which I'll explain in a moment) showed that he was no longer losing bone. He could now take steps to restore some of the lost bone, rather than unnecessarily worrying about losing bone.

The test I used — the NTx test — is not widely used in today's healthcare system, but it should be. Before I explain how that test works, it's important to understand what goes on in our bones.

How Our Bones Work

Unlike other tissues in our bodies, our bones are solid and hard, because they're made of minerals. But this doesn't mean they are static. Our bones are constantly being rebuilt. This is why broken bones heal.

Human bones contain two key types of cells: osteoblasts, which build new bone, and osteoclasts, which destroy old bone. Bone mass increases during the earlier stages of life, usually reaching its peak in an individual's early 20s.

After that, the human body starts a maintenance stage that lasts 20 to 30 years, and then bone starts to deteriorate. To maintain healthy bone mass, there needs to be a balance between the bone-building action of osteoblasts and the destructive action of osteoclasts.

The continual rebuilding process — "remodeling" is the technical term — is a slow one. It takes about ten years for most of the human skeleton to be replaced with new bone.[1] However, when there's a fracture, it takes only a few months for the bone in that specific area to remodel, thereby healing the break.

Nature invented continual bone remodeling for good reasons. Aside from obvious fractures, bones can develop small cracks or less severe damage from various stresses in our daily lives. Remodeling enables repair of these as a matter

of course, even though we may not be aware of it. Remodeling also prevents accumulation of old bone that would become brittle and more likely to crack.

Another role serves our overall health. Remodeling enables our bones to be a reservoir of calcium, which is essential for regulating heart rhythms, nerve functions, blood clotting, and muscle contractions. When there is a deficiency, calcium from bones is dissolved to maintain those vital, life-preserving functions. When more calcium is available from diet, the reservoir in the bones is replenished — that's how things are supposed to work.

Bones become weak when there is an imbalance in the remodeling process: when there is too little building of new bone, too much destruction of old bone, or a combination of the two. This type of imbalance generally starts to occur in middle age, which is why bones become weak in later life. And there's a test that can show what's happening.

NTx: A Different Type of Bone Test

The NTx test doesn't replace bone density scans, but it can give you a valuable snapshot of your ongoing bone remodeling — now, rather than in the past. More specifically, it indicates whether there is a good balance between bone rebuilding and bone destruction.

The full name of the NTx test is a mouthful: "N-Telopeptide Cross-links (NTx)" or "Collagen Cross-Linked N-Telopeptide (NTx)." Different labs use different names.

As bone is being remodeled, a unique type of collagen is released, and it can be measured in urine. The NTx test is a urine test that indicates levels of this collagen. High levels mean that bone is being lost, and low levels correlate with bone density increasing or being maintained.

If you make changes to improve the state of your bones, with supplements and exercise, for example, the NTx test can show changes in as little as a month. It's an effective way to see, pretty quickly, if what you're doing is working or if you need to make other changes.

Bone density scans are also necessary. But since the results of changes can take a year or more to show up on scans, they can indicate the longer-term effects of nutritional and lifestyle changes.

The NTx Test in Action

I've used NTx tests with my patients for some time, and they've been super helpful in tracking what's happening. After seeing test results, my patients have been able to adjust their habits to develop healthier bones.

When my mother was taking steps to improve her bone density, I was giving her an NTx test every month or two to monitor progress. Her NTx results were consistently improving, but then, suddenly, they started to go in the wrong direction. So, as I routinely do with all my patients, I put on my detective hat.

When we started my mother's bone program, she had been staying with me in New Mexico, getting ample sleep each night

Bone Risk Factors

Each of these increases risk for osteoporosis and bone fractures:

- A recent fracture or a history of fractures.
- For women, declining estrogen levels, starting a few years before menopause, with risk escalating more rapidly after menopause.
- Being a slender, thin-boned woman or man.
- Being a man age 70 or older.
- Having a parent who suffered from osteoporosis or a hip fracture.
- Eating a diet with insufficient calcium, vitamin D, or protein at any stage of life.
- Excessive dieting.
- Being physically inactive.
- Having been bedridden or unable to walk for a period of time.
- Smoking.
- Heavy drinking.
- Rheumatoid arthritis.
- Digestive diseases.
- Some types of cancer.
- Overactive thyroid or other hormonal diseases.

Long-term use of these drugs increases risk for bone loss:

- Steroid drugs to treat conditions such as rheumatoid arthritis or asthma.
- Heartburn drugs: proton pump inhibitors that lower stomach acid and reduce nutrient absorption, such as Prilosec, Nexium, and Prevacid.
- Type 2 diabetes drugs in one class: thiazolidinediones, such as Actos and Avandia.
- SSRIs (selective serotonin reuptake inhibitors) for depression and anxiety, such as Prozac, Zoloft, and Paxil.
- Antiseizure drugs for epilepsy or other neurological disorders.
- Cancer drugs that use hormones to treat prostate or breast cancers.

and doing plenty of exercise. She regularly went on hikes with me and my husband and trained with weights a few times per week.

Things changed when she went home to New York. Instead of hiking, she was taking the train into the city, and she wasn't keeping up with her weight training. On top of that, she was staying up late each night and trying to make up for lost sleep by taking a nap during the day, which wasn't working.

Where to Get Bone Tests

Bone density scans are accepted as a usual test for older adults in the healthcare system, so you can get one from your doctor. NTx tests are not as common but you can ask for one. If you can't get an NTx test through your doctor, these are some sites where you can directly order one:

www.ultalabtests.com
www.directlabs.com

To find the test on these sites, use the search feature and search for "NTx". Prices vary, so it makes sense to comparison shop.

Research shows that insufficient sleep disrupts the balance of bone remodeling, leading to loss of bone.[2] The NTx test showed that this was happening to my mother, in addition to her lack of physical activity. Naturally, I helped her to correct the situation and retested to verify that she was back on track.

Another patient of mine lived half the year in Hawaii and the other half in Austin, Texas, for family reasons. Her NTx test showed completely healthy bone remodeling when she was in Hawaii. But when she was in Texas, the test showed that she was losing bone.

Again, it was time to wear my detective hat. It turned out that her diet, exercise, and sleep habits were very healthy in Hawaii but not so in Austin.

We started working on how she could replicate her healthy Hawaii routines while she was in Texas. It took a few months, but it worked. And her NTx test once again showed that her bone remodeling was in good shape — she was no longer losing bone.

The NTx test has also been used to test a supplement — milk basic protein or MBP — that is not widely known but helps to preserve and increase bone density by restoring balance to the bone remodeling process.

Milk Basic Protein (MBP)

As its name suggests, MBP is a protein found in milk, but only in trace amounts. Supplements can provide concentrated, beneficial doses that slow or reverse drops in bone mineral density. If you haven't heard of it, you aren't alone. MBP is a relatively new supplement ingredient in this country.

Studies of more than 200 women of different ages have found that MBP is effective in improving the health of bones. These are some highlights:

In menopausal women:

Before I tell you the results of a study of MBP, I want you to have some context. Women experience the most dramatic bone loss as estrogen levels drop, during the years leading up to menopause through their early 50s.

A Canadian study of more than 9,000 people found that the greatest loss of bone in women occurred between the ages of 40 and 55. During those 15 years, bone density dropped by an average of 6.8 percent.[3]

A smaller study, which followed 108 Swedish women for 15 years, found even greater bone loss during and after menopause. In this group, loss of bone density was more than 2 percent per year in some cases.[4]

MBP supplements can reverse this trend. In a study of 32 healthy menopausal women, the effects of the supplement and a placebo were compared during a 6-month period. Bone density scans and NTx tests were done at the beginning and end of the study.

Among women taking a placebo, bone density in the spine dropped by an average of 0.66 percent. But among those taking 40 mg of MBP daily, bone density increased by an average of 1.21 percent — in just 6 months. And NTx tests showed that MBP significantly enhanced the balance of bone remodeling, increasing bone building and decreasing bone destruction.[5]

In women age 65 and older:

Loss of bone does not occur as quickly after the early-to-mid-50s, but it speeds up again around age 65 or 70. Another study tested MBP against a placebo in a group of 79 women between the ages of 65 and 86.

NTx tests were done after 6 and 12 months. These showed that compared to the placebo, 40 mg of MBP daily improved the balance of bone remodeling. And bone density was maintained in the supplement group, but not in the placebo group.[6]

The study also found that MBP was most effective when combined with physical activity.

In men: Compared to women, men lose bone more gradually, starting in their 30s. By the time they reach their mid-60s or 70s, bone loss speeds up. As in women, research shows that MBP improves bone health in men by increasing bone formation and reducing bone destruction.[7]

Calcium and Other Minerals

Bones are made of minerals and collagen that holds the minerals together. Calcium is the main mineral in our bones, but it doesn't work alone.

Magnesium is necessary for optimal bone rebuilding and to help prevent bones from becoming fragile. The mineral also helps to maintain and improve bone density, whereas a shortfall can speed up bone loss in women after menopause.[8]

Boron is a mineral that prevents loss of calcium and other minerals, helping to regenerate and preserve bone tissue, according to studies with nearly 600 people. Supplementation with about 3 milligrams daily can improve bone health.[9]

Silicon is a natural substance found in the earth, in plant foods, and in supplements. It is an important nutrient for healthy formation of bones, especially their collagen component. Studies with more than 10,000 people show that around 25 milligrams of silicon daily can enhance bone health.[10]

Trace minerals such as zinc, copper, and selenium are also necessary for healthy bones, as they work together.[11] These can be found in many multivitamins and in mineral formulas.

To determine how much calcium you need in supplements, see *How Much Calcium Do You Need?* on page 8 of this issue.

Vitamin K2 Is Essential

You probably know that vitamin D, in addition to being essential to overall health, enhances absorption of calcium. And most people need extra vitamin D in supplements. What is often overlooked is that supplementing with extra vitamin D and calcium can lead to some of the calcium ending up in the wrong place — in arteries instead of bones.

Vitamin K2 prevents this from happening by acting as a traffic cop that directs calcium to bones. Research shows that K2 enhances the health of bones, the heart, and overall function of the human body.[12] There are different forms of vitamin K2; take a daily serving.

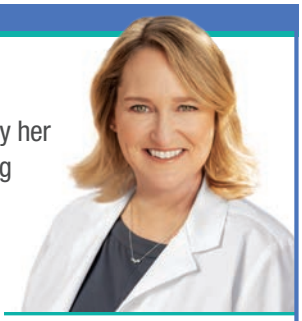
Nutrient Absorption

I've had patients tell me that they get plenty of calcium because they chew antacids every day for their indigestion. But this habit means the opposite is happening.

The form of calcium in antacids — calcium carbonate — is not well absorbed. It reduces stomach acid, and lack of stomach acid reduces absorption of minerals. So, chewing antacids actually works against your bones. Calcium citrate and the hydroxyapatite form of calcium are well absorbed and are the best forms to take for bone health.

To further increase mineral absorption, most older people need to increase their stomach acid. Doing so will also enhance your overall digestion and can eliminate heartburn. The best way to do this is to take a supplement of betaine hydrochloride with pepsin, per product directions. If this seems counterintuitive, I explain the

About Dr. Marlene



Dr. Marlene Merritt's passion for natural medicine is fueled by her drive to help others and by her own experience of overcoming a debilitating heart condition, diagnosed at the age of 20. A competitive cyclist at the time, she suddenly began experiencing severe chest pains. Forced to quit the sport, she suffered from fatigue and chest pain for another 15 years, despite doing everything that conventional, Western medical doctors told her to do.

And then, the tide turned. A physician trained in naturopathic healing recommended a whole-food vitamin E supplement. A week after starting the supplement regimen, her energy began to return, and the pain began to disappear.

Dr. Marlene is a Doctor of Oriental Medicine, has a Master's degree and is board-certified in Nutrition, and is board-certified in Functional Medicine. She is certified in the Bredesen MEND Protocol™, a groundbreaking method of addressing Alzheimer's disease, and is a Proficiency Diplomate in the Shoemaker CIRS protocol for treatment of mold-related illness. She is the author of *Smart Blood Sugar* and *The Blood Pressure Solution*, and co-author of *The Perfect Sleep Solution*. After 31 years in private clinical practice, she now focuses on writing and educating health professionals and consumers to reach more people and positively impact their health.

role of stomach acid in detail in an earlier issue of this newsletter about heartburn, listed below in *Related to This Topic*.

Foods To Eat and To Avoid

There's an old myth that eating meat makes you excrete calcium and is bad for your bones. This came from faulty interpretation of research data and was later corrected. It isn't true. In fact, people who eat meat have been found to have better bone health than those who eat no animal foods.[13]

Foods that are high in oxalates, such as spinach, other leafy greens, and soy foods, reduce calcium absorption if eaten in large quantities. Don't eat these at the same time that you're taking calcium supplements.

Ample protein, from animal and plant sources, and collagen, from bone broth or collagen powder supplements, are essential for healthy bones. And fat in the diet is needed to absorb vitamin D. If you have difficulty digesting fats, take a supplement of bile salts at the start of a meal that contains fat.

The Magic of Exercise

Exercise is a proven way to increase bone mineral density and strength of bones. More specifically, you need to do weight-bearing exercise — weightlifting, walking, marching, dancing, pickleball, and such — and activity that includes impact — such as jumping or running.[14]

Simple exercises you can do every day include marching on the spot and heel drops. To do heel drops, stand on your toes and let your weight drop to your heels. Years ago, a study of healthy postmenopausal women found that doing this about 50 times a day helped to improve bone health.[15] I suggest starting with a dozen heel drops; aim to do this several times a day.

A Final Word

As we live longer, bone loss poses a very real danger. But it isn't inevitable. The right nutrients and exercise can restore the balance and make bones stronger at any age. In addition, make sure you're getting enough restful sleep, manage stress, and if you have any chronic infections, get these treated to prevent harmful inflammation. And if you take any medications that can cause bone loss, work with your doctor to see if there are better alternatives.

Related to This Topic

These are some earlier issues of this newsletter that address related topics:

Related Topic	Volume	Issue	Title
Heartburn	1	6	The 6-Minute Heartburn Remedy
Magnesium	1	5	Magnesium: 30 Reasons You May Be Deficient (page 7)
Vitamin K2	5	4	Vitamin K2 for a Healthy Heart and Strong Bones (page 8)
Vitamin D	3	8	Vitamin D: Fight Diabetes, Osteoporosis, Infections, and More
Collagen	4	5	Collagen: How It Helps You Stay Young, Strong, and Pain-Free
Sleep	5	4	Restful Sleep: How to Get Enough
Stress	4	6	How to Conquer Hidden Stress (page 8)
Infections	6	8	Bacterial Infections: How to Treat and Prevent Them

Access these online by logging in to www.NaturalHealthConnections.com.

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5 WAYS DUOMEGA 3&7 FISH OIL MAY SAVE YOUR LIFE.

Harvard College and Cleveland Clinic confirm it.

#1 Provides missing Omega for a healthier heart

In the 1970s, Danish researcher Dr. Jorn Dyerberg discovered Alaskan Eskimos' hearts were 7 times healthier than his fellow Danes, in spite of mainly eating oily fish. This discovery led to the billion dollar Omega 3 fish oil industry. But what was lost in the original research was Eskimo blood was rich in Omega 3 *and* Omega 7. And yet, 99% of fish oils sold today don't have Omega 7. **DuOmega 3&7** corrects this error and provides the missing Omega 7 for heart health!

#2 Cleveland Clinic finds Omega 7 vital to heart health

Dr. Michael Roizen, chief Wellness Officer at Cleveland Clinic, conducted a study of Omega 7 on adults at risk for cardiovascular events. After 30 days of taking a purified form of Omega 7 called Provinal,® the subjects showed a 44% reduction in inflammation…an 18% reduction in triglycerides… an 8% reduction in LDL (bad) cholesterol… and a 5% increase in HDL (good) cholesterol.

#3 Harvard study shows lower incidence of blood sugar issues

Research at Harvard School of Public Health showed that people with the highest blood levels of Omega 7 had a 60% lower incidence of blood sugar issues. Study subjects had lower body mass index (BMI), healthier triglycerides, and lower inflammation. Omega 7 also improved glucose metabolism and insulin sensitivity. **DuOmega 3&7** contains Provinal,® the purest and best studied of all Omega 7s.

#4 Double Strength Omega 3 promotes normal blood pressure and brain health

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#5 Fish oil benefits with no fishy taste or burps

Most fish oils are contaminated with toxic chemicals like PCBs. They're susceptible to spoilage. And many are oxidized because of sloppy manufacturing and exposure to heat, light and oxygen. Finally, few fish oils actually meet label claims. **DuOmega 3&7** eliminates these problems with Incromega™—the finest and purest Omega 3 available today. You get the benefits of Omega 3 with no fishy odor, taste or burps.

*Here's what users say**

> *"I've been taking **DuOmega 3&7** for a couple of years. My cholesterol and triglycerides are perfect now." — Edward B.*

> *"**DuOmega 3&7** has helped me keep my blood sugar in the normal range." — D. Campbell*

> *"I've been taking **DuOmega 3&7** for a number of month now, and my triglycerides are back to normal." — M.C.*

> *"I love **DuOmega 3&7**. Last time I had blood work they called to ask what I was doing for my cholesterol. They were amazed!" — Wayne G*

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How Much Calcium Do You Need?

Calcium, the most abundant mineral in the human body, is essential for healthy bones, muscles, blood vessels, nerves, and hormones. Studies have shown that adequate calcium is associated with healthier blood pressure and less heart disease.[1] Yet, calcium is still lacking in many American diets.

On the other hand, some studies have found that getting too much calcium from supplements or fortified foods may increase risks for kidney stones, heart disease, colon polyps, or prostate cancer.

So, how do you tell if you're getting the right amount? Check your calcium requirements in the chart below. And then, see how much calcium you're consuming.

2 Types of Food Sources:

Some foods, such as those I've listed in the chart on the right, naturally contain calcium. Other foods are "fortified," meaning calcium is added to them in the manufacturing process, and it's listed on food labels. This added calcium is the same as calcium in supplements. In studies, harmful excess calcium did not come from natural food sources but from supplements or fortified foods.[2]

Supplements: Whether calcium is in pills, powders, liquids, or chewables, in multivitamins, other formulas, or by itself as a single ingredient, it all counts.

Make sure to also take vitamin K2 when taking calcium supplements, to prevent calcium from being deposited in arteries and other tissues where it can cause harm. Some calcium supplements also contain vitamin K2. For more details, see *Vitamin K2 Is Essential* on page 5 of this newsletter.

What to Do

Make a list of your usual foods and beverages, then add up calcium content from all these sources to get your daily total:

- Estimate how much calcium you get from natural food sources.
- On labels of packaged foods and beverages, check the calcium content in the amount you eat.
- Check how much calcium is in each supplement you take daily.
- Add up the total and compare it to your daily requirements.
- Take a supplement to fill any shortfall.

Keep in mind that you need more than calcium for healthy bones, as I've described earlier in this newsletter issue.

Calcium Requirements

Ages	Women	Men
19–50	1,000 mg	1,000 mg
51–70	1,200 mg	1,000 mg
70+	1,200 mg	1,200 mg

Calcium Food Sources

Natural Food Sources

These are some examples of foods that naturally contain calcium:

Food	Serving Size	Approximate Calcium Content
Whole milk	1 cup	280 mg
Yogurt, plain	1 cup	250–450 mg
Mozzarella, part skim	1½ oz	333 mg
Cottage cheese	1 cup	138 mg
Turnip greens, boiled	½ cup	99 mg
Broccoli, cooked	1 cup	90 mg
Kale, raw	1 cup	55 mg
Pinto beans	½ cup	54 mg
Kale, cooked	½ cup	47 mg
Garbanzo beans	½ cup	40 mg
Rarely Eaten Foods		
Canned sardines with bones	3 oz	325 mg
Canned salmon with bones	3 oz	181 mg

Fortified Foods

A serving of calcium-fortified cereals, nondairy milks, or other foods can contain between 100 mg and 1,000 mg of calcium. Check amounts in Nutrition Facts on labels.

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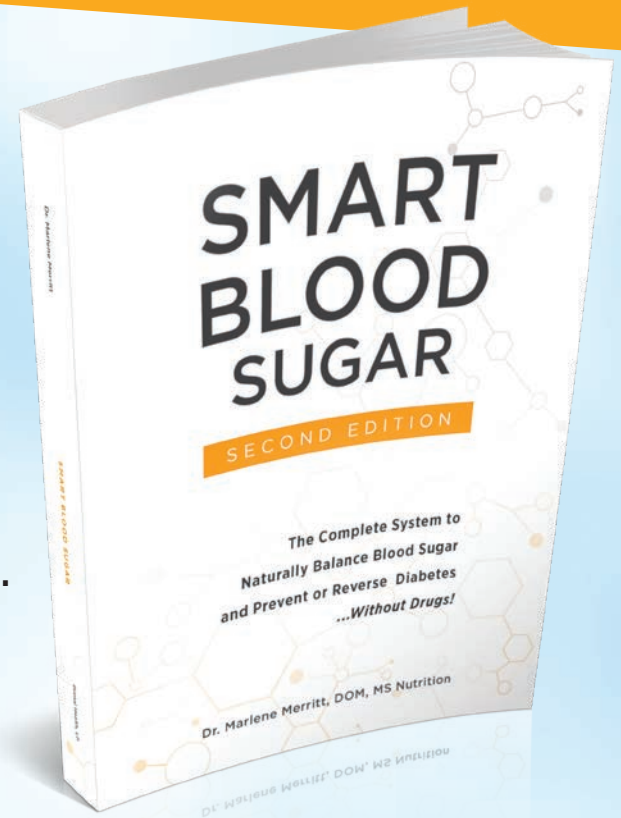
Dr. Marlene Discovers "Insulin Switch" That Stops Blood Sugar Spikes



This blood sugar "switch" is built into every cell of the body and, when it is flipped "ON"…

- **Blood sugar returns to the healthy range**
- **Weight is shed from belly, neck, arms, and thighs**
- **Energy levels return to normal**
- **Sleep becomes easy again**

Dr. Marlene has been helping people repair their blood sugar for the last 15 years.

Just like Arthur Mabee, who was suffering from high blood sugar. His insulin levels were so high, the blood vessels in his eyes began bursting. He was severely overweight and suffering from heart problems. Arthur's doctor wanted to put him on Metformin…

That's when Arthur discovered Dr. Marlene's best-selling book, **Smart Blood Sugar**. "I said, 'Well, I'm going to order this book because this doctor knows exactly what she's talking about,'" Arthur explained.

In just three days of using Dr. Marlene's **Smart Blood Sugar** program, Arthur began to feel changes in his body. He gained more energy, his memory improved, he began sleeping 8 to 12 hours per night—and best of all—he lost 118 pounds since reading the book.

"I've improved my health 190%... I no longer have diabetes. I no longer have a pre-diabetic condition," shared Arthur. "My eyes have even cleared up. This has definitely helped me more than anything I've ever done in my life."

Did you see that? Arthur no longer has diabetes. And so can you! Yes—it is possible to reverse type 2 diabetes and maintain blood sugar in the normal range.

Dr. Marlene's **Smart Blood Sugar** is working for people all across America. And she believes it can work for you, too. Here's how...

This simple plan works by doing a few simple things that bring blood sugar down while stopping a few things that have been pushing blood sugar up. It's a combination of these two actions that make the protocol work so well.

Dr. Marlene's **Smart Blood Sugar** has become a best-selling book because it cuts through all the confusing and contradictory information and zeros in on the exact steps to take right now to heal your blood sugar.

In this easy-to-read, 100-page book, you will find step-by-step guidance, easy tools, and dozens of tips on how to maintain healthy blood sugar levels and repair insulin resistance without wasting a lot of time or money.

"Get this book, sit down, and do the same thing I did. Read it word for word," Arthur shares with others. "**Smart Blood Sugar** will help you greatly."

It's time to bring your blood sugar back in the healthy range. Get your copy of Dr. Marlene's best-selling book, **Smart Blood Sugar**, today for only $27!

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Dementia Dangers

New research has highlighted modifiable risk factors for dementia, and type 2 diabetes ranks near the top. Controlling blood sugar with a wholesome, low-carb diet and some exercise opens the door to preventing, controlling, and reversing type 2 diabetes.

In the new study, researchers studied brain scans of nearly 40,000 adults in the United Kingdom who were between the ages of 44 and 82. The scans showed that various risk factors damage fragile areas of the brain, thereby increasing the odds of dementia, including Alzheimer's and Parkinson's diseases.[1]

Since the data was collected for this British study, another top risk factor for dementia has emerged in this country: exposure to mold in water-damaged buildings. It could be mold in a home or in a workplace. I'll be talking more about this in future issues but wanted you to know.

If you suspect that your home or work environment has any water damage, I encourage you to look at an earlier issue of this newsletter: Volume 2, Issue 11, *Mold: The Hidden Trigger of More Than 40 Ailments*.

Dementia Risk Factors

According to the British study, these are risk factors for dementia that can be reduced:

- Diabetes
- Excessive alcohol consumption
- Exposure to air pollution
- Lack of sleep
- Waist size (see below)
- Smoking
- High blood pressure
- Lack of exercise
- Untreated hearing loss
- Inflammation
- Lack of social activities
- Unhealthy cholesterol

Is Your Waist Size Healthy?

Here's one simple way to tell: Your waist measurement should be less than half your height, in inches. For example, for someone who is 5 feet 4 inches tall — 64 inches — the waist should measure under 32 inches. For someone who is 6 feet tall — 72 inches — the waist should be under 36 inches.

Real Meat Beats Fake

Burgers and other "meats" made from plants have been widely promoted as healthier options to real meat, but the latest evidence doesn't back this up. A new study that compared the effects of eating these products and real meat found that the real thing keeps blood sugar more stable, reducing risk for type 2 diabetes.[2]

I've never recommended meat substitutes that claim to have the mouthfeel and texture of real meat but contain highly processed ingredients. These are quite different from traditional, whole-food, vegetarian diets associated with good health. If you choose to eat meat substitutes, look for those made with whole plant foods, not processed ones. I cover more on this topic in Volume 3, Issue 2, of this newsletter: *The Diabetic's Guide to Eating Meat*, and *Meatless Burgers,* on page 10 of the same issue.

Little Fish Pack a Big Nutritional Punch

Farmed salmon is the most popular fish in this country, but there are some smaller, more nutrient-dense fish that most of us aren't eating, such as sardines, herring, and mackerel. These small fish are rich sources of healthy omega-3 fats and other essential nutrients. Yet, most of them are used to make feed for farmed salmon.

At the University of Cambridge in the United Kingdom, a new study found that compared to farmed salmon, the small fish contain four times as much iodine and 1.5 times as much omega-3, iron, and vitamins A and B12. If we ate more of these little fish, it would also be more sustainable for the world's fish supply.[3]

For salmon, wild-caught is the best choice because it contains fewer toxins than farmed salmon. However, I'm not suggesting that you stop eating either kind of salmon. Rather, you could also give some of those little fish a try. Some are canned in tomato or other sauces, spicy, or smoked. You might like them.

1 Manuello, J., et al. "The effects of genetic and modifiable risk factors on brain regions vulnerable to ageing and disease." Nat Commun. 2024 Mar 27;15(1):2576. 2 Kiat Toh, D.W., et al. "Plant-based meat analogues (PBMAs) and their effects on cardiometabolic health: An 8-week randomized controlled trial comparing PBMAs with their corresponding animal-based foods." Am J Clin Nutr. 2024 Apr 8:S0002-9165(24)00396-4. 3 Willer, D.F., et al. "Wild fish consumption can balance nutrient retention in farmed fish." Nat Food. 2024 Mar;5(3):221-229.

Most Important Organic Foods

If you've been reading this newsletter for a while, you know that I recommend eating organic fruits and vegetables as much as possible. Conventionally grown produce is a major source of pesticides and fungicides in our diets. However, I realize that eating organic food isn't always realistic.

Organic produce generally costs more, and it isn't always available. But if you know which foods have the highest levels of toxic residues, you can make it a priority to buy organic versions of these. Shopping this way can enhance your health and save you some money. And there's a simple way to do it.

Thousands of samples of our produce are tested for chemical residues by the Department of Agriculture and the Food and Drug Administration. Each year, the nonprofit Environmental Working Group analyzes the latest test results and compiles a user-friendly Dirty Dozen list: 12 fruits and vegetables with the highest levels of toxic residues.

I'm sharing the latest list, below, to help you make informed choices. However, I'm not saying that you should never eat nonorganic produce. Do the best you can and always aim for a variety of vegetables and fruits in your diet.

The Dirty Dozen

These are the fruits and vegetables that are most important to buy organic, in order of priority:

1. Strawberries
2. Spinach
3. Kale, collard, and mustard greens
4. Grapes
5. Peaches
6. Pears
7. Nectarines
8. Apples
9. Bell and hot peppers
10. Cherries
11. Blueberries
12. Green beans

For pesticide levels of other produce, visit this Environmental Working Group webpage: https://www.ewg.org/foodnews/full-list.php.

Motivation to Exercise

Could you use more motivation to exercise? A new study from the University of Pennsylvania, in Philadelphia, found that small incentives can help.

For 12 months, researchers tracked daily steps of 1,062 adults with an average age of 67. Study participants were divided into four groups:[1]

- A financial incentive group received $14 per week in a virtual account. If they met their step goal each day, they kept the money. But they lost $2 for each day that they didn't meet their goal.
- A game group received 70 points each week. For each day they didn't meet their step goal, they lost 10 points. (There was no financial incentive.)
- Another group had both financial and points incentives.
- For comparison, a fourth group received no incentives.

The groups with financial or points incentives increased their activity more than the no-incentive group, and those with both financial and points incentives increased their activity the most. After the year-long study ended, all participants continued to be more active than they had been at the start.

What To Do

This study tracked only step counts, which don't represent all the types of exercise that we need. Do some exercise that gets you out of breath, ideally spurts of more intense exercise, such as fast walking alternated with intervals of slower walking. Plus, you need weight training.

That said, the study does show that incentives can increase activity. You could play a game with friends or co-workers, to encourage each other to meet a certain activity target — even bet some money on it.

Feeling better is a good incentive, and maybe becoming more fit will enable you to enjoy more activities. Perhaps you'd like to play more active games with grandkids or experience some invigorating outdoor adventures, such as hiking along a nearby picturesque trail or along a mountain path that leads to ancient ruins in an exotic place. Trust me, it's worth it!

1 Fanaroff, A.C., et al. "Effect of Gamification, Financial Incentives, or Both to Increase Physical Activity Among Patients at High Risk of Cardiovascular Events: The BE ACTIVE Randomized Controlled Trial." Circulation. 2024 Apr 7. doi: 10.1161/CIRCULATIONAHA.124.069531.

Q&A

Q: How can I tell if I have adrenal fatigue? What causes it and what can I do about it? *— Claire H.*

A: Adrenal fatigue is extremely common, and its main symptom is feeling tired. It can mean being tired when you wake up in the morning and having a hard time starting your day, or being tired in the afternoon, feeling as though you need a nap.

A small percentage of people with adrenal fatigue feel tired all day, but then get a second wind at night, when they should be winding down. Waking up during the night and not being able to go back to sleep can also be a symptom, and it contributes to tiredness during the day. Sugar or caffeine cravings for a pick-me-up are also common.

One major job of your adrenals is to keep blood sugar stable so that your brain is consistently fed — blood sugar is its fuel. If you have too many peaks and crashes in your blood sugar, from eating a high-carb diet and not eating often enough, your adrenals have to work overtime to try to stabilize levels. Eventually, the adrenals get exhausted. And then, the blood sugar dips, your brain is starved, and you get "hangry," meaning hungry and cranky.

The adrenals produce cortisol. This is the fight-or-flight hormone that rises when we're under stress. If the stress is chronic, the adrenals work overtime and get exhausted. To correct the problem, the source of the stress needs to be recognized and resolved, whether it's work stress, such as working very long hours; a major change such as a birth, death, or move; exercising too long or too intensely; or some other situation.

Cortisol levels also rise if there's inflammation. If the inflammation is ongoing, the adrenals work extra hard to keep up with the inflammation, and that, too, tires them out.

Common causes of chronic inflammation include untreated pain, such as not getting a needed joint replacement. Others I see a lot include food intolerances and untreated infections, most often dental infections, urinary tract infections, or sinus infections.

Other possible symptoms of adrenal fatigue include weight gain around the abdomen, craving salt, anxiety, mood swings, poor memory, low sex drive, food intolerances, and weakened immunity.

Each of us is an individual, so the cause can vary. Whatever it is, that cause needs to be addressed. Blood-sugar imbalances, stress, and inflammation are the ones I would check first.

The keys to stable blood sugar are eating a low-carb diet and eating often enough: every 2 to 3 hours, even if you aren't hungry. You don't have to eat a lot, but every meal and snack should contain protein and healthy fat. Some good snacks include nuts, nut butters, seeds, hard-boiled eggs, and beef jerky.

A multivitamin with 100% of the Daily Value of vitamin C, along with 1 gram per day of fish oil supplements, can be helpful, as can certain herbs. I cover these and more details about dealing with adrenal fatigue in Volume 5, Issue 7, of this newsletter: *How to Tap into Hidden Energy.*

Q: What do you think of supplements with whole fruit and vegetable blends in capsules? *— Donna C.*

A: They can be helpful. There are hundreds of nutrients in small quantities in fruits and vegetables. When the whole fruits and vegetables are freeze-dried or otherwise concentrated in supplements, you can get a small but beneficial amount of many of these nutrients in a capsule.

Studies have shown that concentrates of a combination of fruits and vegetables are beneficial. More specifically, these types of supplements have been found to increase levels of antioxidants in the blood and improve internal functions, as plant foods would do.

That said, these supplements should be taken in addition to eating actual fruits and vegetables, not as a substitute.

Do you have a question for Dr. Marlene?

Send your health-related questions to drmarlene@naturalhealthconnections.com. Please include your first name and the initial of your last name. Although she cannot answer each question directly, Dr. Marlene will select a few in each newsletter and will address other questions and concerns in articles in future issues. Answers are intended for educational purposes only and should not be viewed as medical advice. If you need help with your subscription or have questions about Primal Health supplements, email support@primalhealthlp.com or call 877-300-7849.