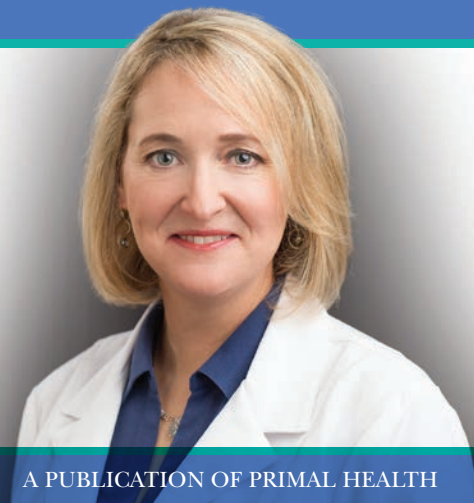


# Dr. Marlene's NATURAL HEALTH CONNECTIONS

VOLUME 4 | ISSUE 3

A PUBLICATION OF PRIMAL HEALTH



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## Supplements for Prediabetics and Diabetics



**How to choose and use supplements to restore healthy levels of blood sugar and prevent or help reverse type 2 diabetes.**

When I see new patients, I typically talk about diet before supplements. But once the subject of supplements comes up, they often sit up and start listening more intently, hoping to hear about a magic bullet.

Here's the thing: Those bullets are "magic" because they defy logic and the way things actually work. Supplements aren't magic, but with the right diet the results can seem miraculous.

I've had many patients with diabetes who had been using insulin and taking other medications for years. By changing their diets and consistently taking the right supplements, their health improved dramatically, to where they no longer required insulin and as many — or any — oral medications.

In such situations, a casual observer might well conclude that magic had intervened. After all, many health professionals consider that type 2 diabetes can only be "managed," and lifelong medications are inevitable. So, let me clarify what

you can realistically expect. Diabetes takes years to develop, and along the way it damages your body. By the time it's diagnosed, some degree of damage has already been done. If it was diagnosed years ago, more damage has occurred.

Can the condition be reversed? The answer partially depends upon the degree of damage done. But in all cases, eliminating dietary triggers and using supplements for additional support can bring about dramatic improvements in health.

The other key factor in how much diabetes can be reversed comes down to individual actions: how diligent someone is in making necessary changes in their life. The greatest degree of reversal comes from following a healthy low-carb diet and consistently taking the right supplements. (See *Related to*

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**IN THE NEXT ISSUE:**  
**How to Calm Harmful Inflammation**

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*This Topic* on page 5 for earlier newsletter issues about diet.)

The same approach works for both prevention and reversal of type 2 diabetes. However, there is a difference between the two situations: The worse the condition, the stricter you need to be to regain good health.

If you continually eat foods that drive up blood sugar, taking even the most effective supplements is like trying to walk down an escalator that's going up. The

supplements are helping blood sugar go down while the foods are making it go up.

## Two Types of Supplements

There are two types of helpful supplements: the first is a combination of essential vitamins and minerals to prevent nutritional deficiencies. These are vital for normal metabolism of sugar. Depletion of these is common in healthy people and even more likely when blood sugar is elevated or where diabetes exists.

The second type is a group of supplements that help reverse the mechanisms underlying diabetes and its complications. I recommend both types.

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## Did You Know?

Before type 2 diabetes develops, there are 105 genetic changes in the cells of the pancreas, which secretes insulin. These changes are controlled by your diet and lifestyle.<sup>1</sup>

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## Essential Vitamins and Minerals

Some — but not all — multivitamins contain the essential vitamins and minerals that I describe below. You may also find these in some protein powders that are designed to be a meal replacement. (Check product Supplements Facts.)

I suggest looking for a multivitamin with a variety of vitamins and other minerals and 200 mcg of chromium — an amount that's been proven to be effective and safe. This amount of chromium in a multivitamin is a common sign of a good-quality product.

Here's why chromium and some other key nutrients are important:

## Chromium

This is a trace mineral that is vital for healthy levels of blood sugar. Chromium increases insulin sensitivity. By doing so, it helps to reverse the basic driver of high blood sugar and diabetes.

Studies have tested chromium supplements on more than a thousand people who either had type 2 diabetes or were at high risk for the disease. Blood tests showed that the supplements helped to lower blood-sugar spikes after meals, lowered fasting blood sugar (the test taken on an empty stomach in the morning), and lowered A1c, which shows average levels of blood sugar during the previous two to three months.<sup>2</sup>

Tests also showed lower levels of insulin. When cells are more sensitive to insulin, your body doesn't need as much to metabolize the blood sugar, and so insulin levels are lower.

This is important because elevated insulin promotes inflammation and fat storage. Since excess weight helps to drive diabetes, high insulin makes it impossible to lose weight, and a vicious cycle continues.

## Zinc

A review of research looked at 32 zinc studies with a total of 1,700 people who either had diabetes or were at high risk for the disease. It found that zinc supplements improve insulin sensitivity, lower elevated blood sugar, and reduce inflammation — which contributes to the development and progression of diabetes.<sup>3</sup>

Zinc is essential for healthy function of more than 300 different enzymes in the human body.

### Dr. Marlene's NATURAL HEALTH CONNECTIONS

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Immune function and wound healing (diabetes impairs both) are two areas where zinc is important.

## Magnesium

Magnesium is critical for healthy blood sugar and prevention or reversal of type 2 diabetes. Most Americans don't get enough magnesium in their diets because we eat too many processed foods. And even when we eat whole foods, these come from mineral-deprived soils and contain significantly less magnesium than in decades past. But magnesium deficiency is even more prevalent and dangerous for anyone with diabetes or at high risk for the disease.

Many studies have found that diabetics have lower-than-average levels of the mineral, not only because of a poor diet. Diabetes affects the kidneys and this, in turn, leads to increased excretion of magnesium. In people without the disease, low magnesium increases diabetes risk.

Magnesium is essential for the normal function of more than 300 different enzyme reactions in the human body. And it's critical for healthy insulin sensitivity, insulin action, and control of blood sugar.

Magnesium also helps to control inflammation. Low levels of the mineral contribute to a pro-inflammatory environment that raises risk for diabetes, perpetuates the disease, and leads to complications such as nerve, kidney, and vision damage.

Does this sound like a lot of doom and gloom? I'm not exaggerating. A recent study that analyzed all the available data about magnesium and diabetes noted that low magnesium "is

strongly associated with the progression of type 2 diabetes."<sup>4</sup>

Here's the bright side: Getting enough magnesium reverses the harmful effects of a deficiency. Multivitamins contain some magnesium but not enough.

One word of caution if you take heartburn drugs: Magnesium deficiency can be a side effect, because the drugs can interfere with absorption of the mineral.

The basic daily magnesium requirements for healthy people are 420 mg daily for men and 320 mg daily for women, but you may need more. Taking more than your body can absorb causes loose stools. If that happens, cut back a bit or use a topical magnesium gel or oil on your skin. You can also absorb magnesium through your skin by taking baths with epsom salts.

I suggest splitting your total daily magnesium into two or three doses and taking it with meals. If you don't like pills, powdered

magnesium can be added to water that you sip during the day.

## Bs and Other Vitamins

B vitamins play an essential role in breaking down carbohydrates. Because they work together, I recommend taking them in a multivitamin or B complex supplement. Certain B vitamins have been studied specifically in relation to diabetes.

Metformin, the most common drug prescribed for diabetes and sometimes for prediabetes, is known to deplete folate (vitamin B9, also called folic acid) and vitamin B12. And diabetics tend to have low levels of vitamins B1 (thiamin), B6 (pyridoxine), and biotin (which is part of the B vitamin family but has not been assigned a number).<sup>5</sup>

In addition to being used for carbohydrate breakdown, vitamin B12 is essential for healthy nerves, and a deficiency increases risk

### About Dr. Marlene

Dr. Marlene Merritt's passion for natural medicine is fueled by her drive to help others, and her own experience of overcoming a debilitating heart condition, diagnosed at the age of 20. A competitive cross-country cyclist at the time, she suddenly began experiencing severe chest pains. Forced to quit the sport, she suffered from extreme fatigue and constant 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 in Nutrition, and is an Applied Clinical Nutritionist. She is Board Certified in Bariatric Counseling, and certified in the Bredesen MEND Protocol,<sup>™</sup> a groundbreaking method of reversing Alzheimer's disease. She sees patients at the Merritt Wellness Centers in Austin, Texas, and Santa Fe, New Mexico, trains health practitioners nationwide, and is the author of *Smart Blood Sugar* and *The Blood Pressure Solution*.



for nerve diseases in general. In diabetics, insufficient B12 contributes to painful diabetic neuropathy, which can lead to diabetic ulcers, loss of sensation and inability to heal in the extremities, and amputations.

Vitamin B12 can also help to relieve diabetic neuropathy. One study tested the vitamin against a placebo for one year among diabetics suffering from the complication. It found that 1,000 mcg daily improved nerve function and significantly reduced pain.<sup>6</sup>

Folate is needed to compensate for depletion by metformin. And, adequate levels of this B vitamin in healthy people help to prevent diabetes. One study tracked diabetes risk and folate levels in 4,704 American adults for 30 years. It found that those who developed type 2 diabetes had the lowest levels of the vitamin.<sup>7</sup>

Vitamins A, C, D, and E — other essential ones — have also been found to be depleted in diabetics. This is likely because the disease puts extra nutritional demands on the human body, so requirements for nutrients are greater.

**Coenzyme Q10 (CoQ10) and Diabetes**

CoQ10 is a vitamin-like substance that is found chiefly in organ meats, so we don't get much from our diets. It's also made internally by our bodies, but levels decline as we get older. CoQ10 isn't included in multivitamins, so you have to take it separately. And I recommend that you do take it.

CoQ10 is an antioxidant and an essential nutrient for energy production in every cell's mitochondria — components of cells that gen-

erate most of the energy needed to survive. And it can help to improve blood-sugar levels. Studies with more than 700 people found that CoQ10 helps to lower fasting blood sugar and A1c levels.<sup>8</sup>

CoQ10 is also a critical nutrient for a healthy heart, especially after middle age when levels typically drop. It can also help to protect your heart from damage due to elevated blood sugar or diabetes.

Cholesterol-lowering statin drugs deplete CoQ10, but supplements can correct this. I recommend taking 100 mg of CoQ10 daily and 200 mg if you take statins.

**Targeted Anti-Diabetic Supplements**

The four supplements I'm going to describe next help to prevent diabetes and may help to reverse

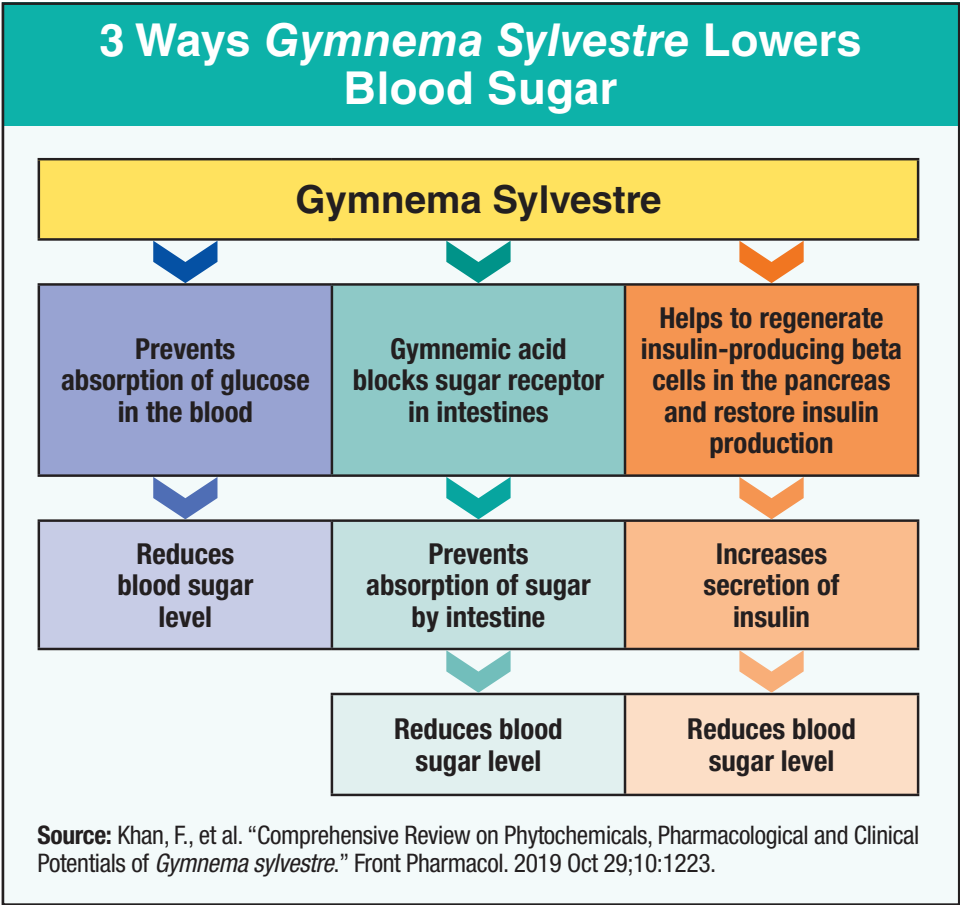
the disease and reduce risk of complications. Each one works differently, so a combination can provide a broader set of benefits.

**Gymnema Sylvestre**

This is an herb with a long history of treating diabetes that began more than 3,000 years ago in the Indian healing system of Ayurveda. In Hindi, the name of the herb means "sugar destroyer."

In recent decades, *Gymnema sylvestre* has been scientifically studied and found to be effective in reducing blood-sugar levels. By doing this, it helps to both prevent and relieve diabetes.

There are three mechanisms by which it does this: It reduces absorption of sugar in the digestive system. It prevents absorption of sugar in the blood. And it helps to



regenerate beta cells in the pancreas that secrete insulin.

Gymnema can block absorption of sugar because it contains molecules that are similar in structure to glucose. These sugar-like molecules attach to sugar receptors and block actual sugar from being absorbed. Consequently, the rise in blood sugar is reduced after a meal.

In studies, gymnema extracts have reduced levels of blood sugar by 12 to 46 percent.<sup>10</sup>

**Banaba Leaf Extract**  
*(Lagerstroemia speciosa)*

This herb’s Latin name — *Lagerstroemia speciosa* — is quite a mouthful, so I’m going to use its more common name: banaba leaf extract. The first study of the herb was published in 1940, but previously it had a long history as a diabetes remedy in folk medicine. Banaba has an insulin-like effect that lowers blood sugar, but it isn’t a hormone or a drug. One active constituent of the plant that lowers blood sugar is corosolin, but it’s believed that it works with other constituents in the herb.

Studies have found that in people with elevated blood sugar or diabetes, banaba lowers blood sugar in the critical two-hour period after a meal — when there’s typically an upswing in blood sugar that may need to be controlled with insulin. And among diabetics, it has also improved symptoms such as thirst, drowsiness, and hunger.

In addition to lower blood sugar, participants in one study lost an average of three pounds after taking the supplement daily for two weeks. However, the main use of banaba leaf extract is lowering blood sugar; some weight loss may or may not occur.<sup>11</sup>

**White Mulberry Leaf Extract**

In Traditional Chinese Medicine, mulberry leaf has a long history of correcting blood-sugar problems. And scientists have tested it on people with type 2 diabetes and on healthy people for prevention.

In studies of diabetics, mulberry leaf extracts, when taken three times daily, effectively reduced upswings in blood sugar

after meals. This occurred even though study participants were already taking one or more oral medications for diabetes.<sup>12</sup>

**Did You Know?**

About 25 percent of modern medicines are derived from a plant source, but only 5 to 15 percent of plants have been investigated for their medicinal use.<sup>9</sup>

In healthy people with no blood-sugar problems, mulberry leaf extract was tested in a different way: Participants were given either a mulberry leaf extract or a placebo, and their blood-sugar levels were checked after they consumed sugar.

The mulberry leaf extract reduced the upswing in blood sugar by up to 33 percent during the 2 hours after ingestion of the sugar. In addition, the herb significantly lowered insulin. Both these effects help to prevent diabetes. The herb works by inhibiting absorption of carbohydrates in the intestine.<sup>13</sup>

**Alpha-Lipoic Acid**

A vitamin-like nutrient, alpha-lipoic acid is found in many foods in small amounts. Organ meats such as liver and kidney are the top sources. In supplements, it can help to prevent and reduce damage from diabetes and its complications, including damage to nerves, kidneys, the heart, and eyes. And it helps to prevent development of diabetes.

Alpha-lipoic acid works in several protective ways. It prevents destruction of beta cells in the pancreas, which secrete insulin. It enhances absorption of blood

### Related to This Topic

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

Related Topic	Volume	Issue	Title
A Healthy Low-Carb Diet	1	8	The Guide to Healthy Eating
Diabetes	2	4	Type 2 Diabetes: The Road to Recovery
The Keto Diet	4	1	The Keto Diet for Weight Loss, Diabetes, Improved Memory, and More
Multivitamins	2	8	Do You Really Need a Multivitamin?

Access these online by logging in to [www.NaturalHealthConnections.com](http://www.NaturalHealthConnections.com).

sugar, enabling it to be used for energy instead of accumulating in the blood. And it works as an antioxidant and helps to regenerate other antioxidants, such as vitamin C and CoQ10.<sup>14</sup>

In addition, alpha-lipoic acid reduces the formation of advanced glycation end products (AGEs). These are harmful substances that form when excess sugar in the blood attaches to proteins and

other molecules in the human body. AGEs play a key role in the development of diabetes, its progression, and its complications. In people with diabetic neuropathy, the supplement has reduced pain.<sup>15</sup>

## Why You Need Two Types of Supplements

The benefits of the four targeted supplements I just described are impressive. But don't underestimate the importance of essential vitamins and minerals, which lay the nutritional foundation for good health.

The essential vitamins and minerals are necessary to efficiently break down carbohydrates and carry on the many processes that keep us alive.

The same nutrients are also vital for insulin sensitivity because they help insulin receptors to work properly. When the cells in your muscles and other tissues become less sensitive to insulin (insulin resistant), that's when blood sugar starts to become elevated. Restoring insulin sensitivity is a critical part of the solution.

Studies show that deficiencies are greater among people with elevated blood sugar and diabetes. This isn't surprising if you think about it. Elevated blood sugar and type 2 diabetes are driven by years of carbohydrate overload. The continual process of breaking down the overabundance of carbs increases demand for essential vitamins and minerals.

The supplements that specifically help to reverse high blood sugar and heal the damage work best when they are taken in addition to the foundational vitamins and minerals.

## A Final Word

If you follow my advice, it's essential to work with a health professional to adjust doses of any diabetes medications you take. Otherwise, your blood sugar could dip too low.

Keep in mind that a low-carb diet is your basic protection against and remedy for diabetes. Supplements speed up the results. In addition, exercise speeds up and enhances the benefits of a healthy low-carb diet and supplements.

I routinely recommend supplements to my patients. But make sure that your supplements really are *supplementing* a good diet — not substituting for one.

## Supplement Snapshot

### To Prevent and Correct Nutritional Deficiencies:

- Take a multivitamin with 200 mcg of chromium. This is a good benchmark for good-quality products. A multivitamin should also contain a variety of other minerals and vitamins.
- In addition to a multivitamin, take CoQ10, extra magnesium, and extra vitamin D. Unless you have been prescribed a vitamin D dose based on blood tests, get a daily total of 5,000 IU (125 mcg), and take 90 to 120 mg of vitamin K2 for proper utilization of vitamin D.

### To Prevent or Help Reverse Type 2 Diabetes:

These are the key supplements that help to restore healthy blood-sugar function and reduce damage from diabetes:

- *Gymnema Sylvestre*
- Banaba (*Lagerstroemia speciosa*) Leaf Extract
- White Mulberry Leaf Extract
- Alpha-Lipoic Acid

To keep things simple, I suggest looking for a formula with some or all these ingredients and following product directions, as formulations vary.

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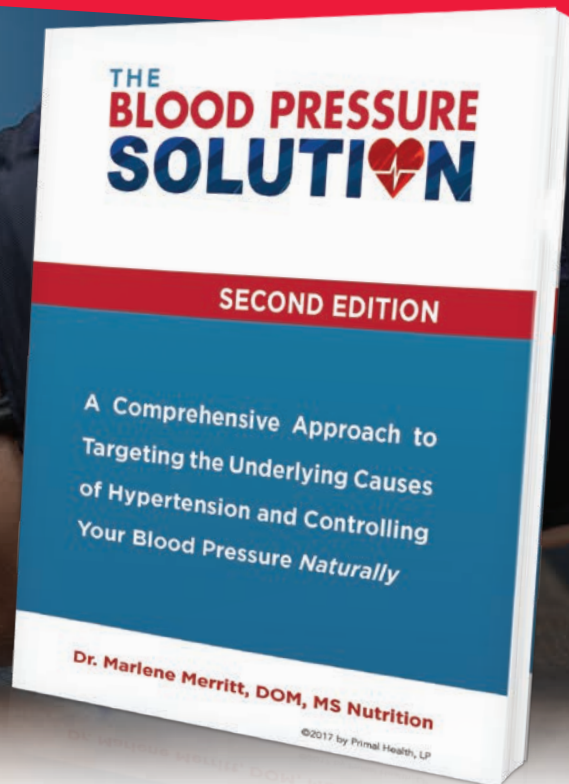
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# Get Dr. Marlene's Best-Selling Book... **Blood Pressure Solution!**



**Dr. Marlene has been sounding the alarm about dangerous blood pressure drugs for the last 15 years — and offering a safe, natural alternative.**

She has worked with hundreds of patients who were suffering high blood pressure—many were taking two, three, even four medications and going through awful side effects...

Just like Kathleen Kelly, whose ankles swelled up from the prescription blood pressure drugs she was taking. She also suffered an awful cough from using Lisinopril. By the time she read Dr. Marlene's best-selling book, **Blood Pressure Solution**, Kathleen's doctor had her on three blood pressure medicines combined—and her blood pressure was still high!

"My patients are always surprised to see how easy it is to use my natural Blood Pressure Solution," said Dr. Marlene. "The diet is not restrictive. Many of the foods you thought were taboo are perfectly ok—like steak is ok, butter is ok, natural sea salt is ok, even several carb foods are good. Part of the solution is to get good fats into your diet."

After reading **Blood Pressure Solution**, Kathleen made simple lifestyle changes found in the book and began to see immediate results...

***"My blood pressure came down right away...I just feel great. I'm ecstatic. I go around telling everybody I found the fountain of youth. I have much more energy now. My concentration and focus are better. I can walk around my block without getting winded anymore. I am 100% off my medication."***

Did you see that? Kathleen reports she is 100% off her medications. And so can you!

Yes! You too can be off these anti-hypertensive drugs... maintain blood pressure in the normal range... and feel good again!

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

Dr. Marlene originally developed her unique solution for her patients at the Merritt Wellness Center in Austin, Texas. And after seeing just how successful it was for people in her own community—she decided to put her entire natural solution, with step-by-step guidance, into an easy-to-use book called, **Blood Pressure Solution**.

This is a comprehensive approach to targeting the underlying causes of hypertension and controlling your blood pressure naturally.

Dr. Marlene's book has been sweeping the country with over 330,000 copies sold in the U.S., and even 32,000 copies shipped overseas.

So, are you ready to bring your blood pressure back to the normal range? Gain more energy? Drop a few unwanted pounds? And feel better than you have in years, just as Kathleen did?

Great! Get your copy of Dr. Marlene's best-selling book, **Blood Pressure Solution** today! Go to the website listed below, and you'll see a complete review of the book, watch videos from people just like Kathleen and order your copy of **Blood Pressure Solution**!

**Get Your Copy Today! Go To:**  
**[www.PrimalLabs.com/BPS](http://www.PrimalLabs.com/BPS)**

# Walking Motivation: Fitness Trackers



Walking is a simple way to get some daily exercise, but staying motivated can be a challenge. While some people relish their daily walk as a time to unplug from other activities and recharge, others view it as a necessary but unappealing chore, or they don't do it at all.

Regardless of your current walking habits, tracking your steps and other activity markers can be a useful practice. It may also help if you don't currently walk or do any other exercise.

Before smartphones and high-tech wearable trackers became widely available, steps were tracked with pedometers — small devices that clip onto a waistband or pocket. And, according to studies with more than 2,700 people, those who wore pedometers increased their physical activity by 27 percent, lowered their blood pressure, and lost some weight.<sup>1</sup>

Obviously, fitness trackers can't force you to get up and move. But studies of older adults have found that once you start, they can help you to keep going.

One participant in a study at Michigan State University in East Lansing described her experience this way: "You have to make that commitment, and once you do, the technology is very motivating."<sup>2</sup>

Fitness tracking can be helpful with any type of exercise, but I'm focusing here on walking because it's something that anyone can easily do.

## What Can You Track?

Steps are a basic measurement. How many do you take in a day? If you're active around the house, you may be surprised by how quickly the steps add up. On the other hand, if you don't move much, seeing that fact may be a wake-up call.

Depending upon the device, you can also track distance, calories burned, heart rate, and more.

## Different Ways to Track

There are inexpensive pedometers for \$10 or so. Or you can get a bit more high-tech.

Smartphones come with health apps that generally track steps and distance walked or run (while the phone is in your pocket or attached to you in some other way, such as in a fanny pack). They also allow you to manually input and track other health-related data, such as:

- Sleep.
- Your measurements.
- Vital signs such as temperature, heart rate, blood pressure, and blood sugar.
- Symptoms such as digestive issues, pains, memory lapses, shortness of breath, mood changes, and others.

Fitness trackers worn on the wrist have been popular for years now; prices start around \$25. They can work with or without a smartphone, depending upon the model. If you use a smartphone,

heart rate data needs to be input manually, but wrist-worn trackers can monitor it directly.

## Cautions

Any type of fitness tracker can be helpful to measure and record steps and distance, and to give you a history of your activity. But the accuracy of calories burned and of heart rate measurements is not guaranteed. Fitness trackers and smart watches are not medical devices. If you need to track your heart rate for medical reasons, I recommend asking your doctor about the best way to monitor it.

## Best Way to Walk for Heart Health

For maximum heart benefits in the shortest time, alternate spurts of walking faster or uphill with walking at your regular pace. For example, for one minute or one city block, walk fast enough to get your heart beating faster and then, walk at your regular pace for the next 2–3 minutes or blocks. Repeat this pattern at least five more times, depending on your fitness level.

### Helpful Free Walking Apps



**MapMyWalk** tracks your walking routes, time, distance, speed, elevation, and calories burned. You can save and view your history and share routes with others. [www.mapmywalk.com](http://www.mapmywalk.com)



**Walkr** "gamifies" walking. Your "walking energy" fuels a spaceship and enables it to discover new planets. I've used it for nearly 5 years; it's quite fun. [www.walkrgame.com](http://www.walkrgame.com)

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# Dog Owners: Scoop Less Poop

Just like us, dogs are healthier when they eat real, fresh food instead of low-quality, processed fare — and they produce up to 66 percent less poop. That's what researchers found when they compared the effects of different diets in a group of beagles, at the University of Illinois at Urbana-Champaign.<sup>1</sup>

The study tested four different diets:

- kibble made of highly processed ingredients
- refrigerated dog food made of fresh food
- two diets of pet food made of USDA-certified, human-grade fresh food (noted on product labels)



The three fresh-food diets contained minimally processed, real food such as beef, chicken, carrots, and broccoli. Each diet was followed for four weeks.

On the highly processed kibble, which is rich in refined grains, dogs ate quite a bit more to maintain their weight and produced 1.5 to 2.9 times more poop than on any of the fresh diets. Lab analysis showed that when they were eating fresh food, they had a healthier balance of beneficial gut microbes. And on the fresh diets, they were digesting more of their food rather than eliminating it.

Pet food made of human-grade ingredients was the most beneficial. When dogs were eating it, they produced the least poop. Doing right by your pet can bring unexpected rewards.

## When Diabetes Harms the Heart

In traditional type 2 diabetes treatment, doctors monitor A1c — average levels of blood sugar during the last two to three months — as a marker of risk for complications such as heart disease. When A1c is 6.5 or higher, risk for heart disease is known to be significantly higher (although risk starts to rise much earlier — keep reading). But this is not the only sign.

A new study looked at more than 29,000 type 2 diabetics over a period of 2 years. None had heart disease at the start of the study. Researchers tracked A1c levels at various stages and found that people whose levels of blood sugar had big swings were up to 59 percent more likely to develop heart disease; the bigger the swings, the greater the risk.<sup>2</sup>

For anyone relying on oral medications and insulin to control diabetes, without the right diet, it can be tricky to keep blood sugar stable. And there is a risk of blood sugar dipping too low; symptoms can include:

- |                         |                   |                   |
|-------------------------|-------------------|-------------------|
| • Anxiety               | • Dizziness       | • Nightmares      |
| • Blurred vision        | • Feeling shaky   | • Rapid heartbeat |
| • Chills                | • Headaches       | • Sleepiness      |
| • Confusion             | • Irritability    | • Sweating        |
| • Coordination problems | • Lightheadedness | • Weakness        |
|                         | • Nausea          |                   |

### When Risk for Heart Disease Really Starts to Rise

Risk for heart disease starts to increase before diabetes is diagnosed — even before blood sugar becomes elevated. The initial trigger is insulin resistance — when tissues become less sensitive to insulin.

Insulin enables your body to absorb and use blood sugar to produce energy. When cells are resistant to insulin, blood sugar stubbornly remains circulating in the blood, and the human body produces extra insulin to try and solve the problem. At that point, insulin becomes elevated, increases chronic inflammation, and sets the stage for plaque to build up in arteries.

This initial point is not diagnosed in today's routine check-ups, but it's the real starting point of heart disease, as well as diabetes. After a while, even excess insulin production isn't enough to prevent blood sugar from rising. When it rises high enough, diabetes is diagnosed.

An overload of sugar and starchy food starts this cycle, perpetuates type 2 diabetes, and leads to swings in blood sugar. The best way to stabilize blood sugar and reverse the cycle is to eat a diet of healthy, low-carb foods and get some regular exercise. For more details, see Volume 3, Issue 11 of this newsletter: *The Diabetic's Guide to Heart Health*.

1 Do, S., et al. "Nutrient Digestibility and Fecal Characteristics, Microbiota, and Metabolites in Dogs Fed Human-Grade Foods." *J Anim Sci*. 2021 Jan 29;skab028. 2 Shen, Y., et al. "Association between visit-to-visit HbA1c variability and the risk of cardiovascular disease in patients with type 2 diabetes." *Diabetes Obes Metab*. 2021 Jan;23(1):125-135.

## Vitamin C Relieves Bleeding Gums and Eyes

If your gums bleed, the traditional advice from dentists is to make sure that you brush and floss twice a day, because the bleeding could be a sign of gum disease. But a new study from the University of Washington suggests a different approach: check your intake of vitamin C.

A new review of 15 clinical trials, with a total of more than 1,100 mostly healthy people in different countries, plus data from a U.S. government survey of more than 8,200 Americans, found this: Bleeding gums and bleeding in the eye are both linked to low levels of vitamin C.<sup>1</sup>

The study also shows that consuming more vitamin C, when levels are low, helps to reverse bleeding in the gums and eyes. Researchers also noted that today's recommended daily intake of vitamin C — 90 mg daily for men and 75 mg for women — is too low.

Ironically, the link between lack of vitamin C and

bleeding gums was identified in earlier studies, also at the University of Washington — more than 30 years ago. And it's well known in holistic medicine.

In supplements, it's best to take vitamin C in a multivitamin. If you take extra, I don't recommend more than 250 mg daily, as more will not be well absorbed unless you are sick or especially depleted. Taking more vitamin C than you can absorb can trigger diarrhea, which resolves by reducing the amount of vitamin C.

The best way to get plenty of vitamin C is from food. Good vegetable sources include bell peppers, Brussels sprouts, and broccoli. Citrus fruits are another source, but they are also rich in sugar, so I don't recommend relying on fruit.



## 10 Antibiotics Found in Food

It's no secret that antibiotics given to cows and chickens lead to antibiotic residues in our food, which contribute to antibiotic resistance. And because traditional food tests can identify only a few antibiotics at a time, antibiotic residues may be a bigger problem than we think.

Scientists in China recently developed a new testing method that can efficiently detect 77 different antibiotics in a variety of foods. These new tests found 10 different antibiotics in store-bought samples of wheat flour, lamb, eggs, milk, cabbage, and bananas.<sup>2</sup>

If you're thinking, "Well, that's in China," consider this: Using less-efficient testing methods a few years ago, scientists at Emory University in Atlanta tested regular

and organic milk samples from stores around the country. Most regular (but not organic) milk contained residues of several different antibiotics — even though the FDA prohibits detectable levels of antibiotics in our milk.

### Reality Check

The amounts of antibiotics in food residues are tiny — trace amounts. But because most people constantly consume these residues, "superbugs" have become resistant, and antibiotic medications have become less effective.

In addition, antibiotic residues in food disrupt the balance of beneficial bacteria in our digestive system. This contributes to inflammation and development of chronic diseases.

Hopefully, better testing of food will produce a more accurate picture of the problem and help to speed up effective solutions.

### How to Avoid Eating Hidden Antibiotics

Since 2015, the CDC has been working on a program to beat antibiotic resistance, which includes reducing the use of antibiotics on our farms. But the problem is far from solved. Meanwhile, here's what you can do to keep antibiotics out of your food:

- buy organic food as much as possible
- buy meat, poultry, eggs, and milk produced without the use of antibiotics — preferably pasture-raised
- buy fish and seafood that is wild or raised without antibiotics

I find that my patients are often surprised by the possibility of fish and seafood containing antibiotic residues. Much of what we eat, whether it's saltwater or freshwater seafood, is farmed, and antibiotics are often (but not always) used to prevent microbial growth on these farms. Buying wild varieties is a simple way to avoid the problem.

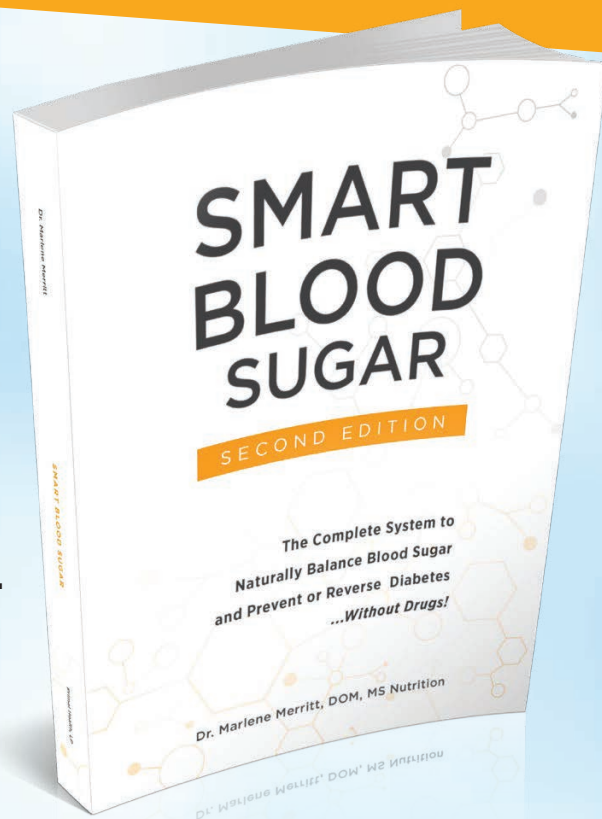
1 Hujoel, P.P., et al. "Bleeding tendency and ascorbic acid requirements: systematic review and meta-analysis of clinical trials." *Nutr Rev*. 2021 Feb 1;nuaa115. doi: 10.1093/nutrit/nuaa115. Online ahead of print. 2 Hu, M., et al. "Trace Analysis of Multiclass Antibiotics in Food Products by Liquid Chromatography-Tandem Mass Spectrometry: Method Development." *J Agric Food Chem*. 2021 Jan 27. doi: 10.1021/acs.jafc.0c05778. Online ahead of print.

# 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!

**Order Your Copy Today!**  
**[www.SmartBloodSugar.com/Book](http://www.SmartBloodSugar.com/Book)**



# Q&A

**Q: Years ago, I had a bad reaction to the swine flu vaccine. It affected my nervous system, and I was told it gave me Guillain-Barré syndrome. I was hospitalized, but I came out of it okay. Now, I am leery of taking the COVID-19 vaccine. What do you think?**

— Nelda M.

**A:** I'm sorry to hear that you experienced Guillain-Barré syndrome (GBS) after getting the swine flu vaccine. And I'm very glad that you recovered.

In GBS, the immune system damages nerve cells, and this causes muscle weakness and other symptoms. While the cause is not fully understood, GBS often strikes after viral or bacterial infection.

Before the two new COVID-19 vaccines from Pfizer and Moderna, older vaccines contained a weakened, inactive form of a virus and an "adjuvant," an additive designed to kickstart the immune system to develop antibodies to the virus for which the vaccine is being given. Serious side effects, such as the onset of GBS, were likely reactions to the adjuvant.

The Pfizer and Moderna vaccines use new technology and work in a completely different way. They don't contain the virus or an adjuvant. Instead, they cause the immune system to produce a protein that mimics a minuscule part of the virus. (This can't cause an infection.)

Once the immune system makes

this protein, it produces antibodies to the virus. In future, should that person encounter the actual virus, their immune system will be prepared to fight it and avoid infection or, worst case, dramatically reduce the severity of any symptoms.

In other words, these new vaccines train the immune system to recognize the COVID-19 virus and to build defenses against it. And then, the immune system knows what to do if it runs into the virus.

Some people don't experience any side effects of these vaccines, such as a headache or a short period of fever or fatigue. But if side effects do occur, they are not a bad sign. Rather, they are an indicator that the immune system is working as it should to build its defenses.

Based on the studies of these vaccines and experience with the millions of people who have received them so far, GBS is not known to be a risk factor for any serious side effects.

Everything I've said about new technology above applies only to the two new vaccines from Pfizer and Moderna. Other vaccines may use adjuvants, which can cause other side effects.

In making your own decision about getting vaccinated, the other thing to consider is the potential effects of getting infected with the COVID-19 virus.

**Q: Is the keto diet safe for someone who is overweight and has high blood pressure and gout?**

— Michael J.

**A:** Keto diets have been studied since the early 1800s, and when followed correctly they are

generally safe. The keto diet drastically lowers insulin, and this lowers blood pressure and helps to relieve gout. In addition, the keto diet is the most effective way to lose weight and maintain muscle. Simply losing weight can sometimes relieve gout.

If you decide to try a keto diet, make sure to stay well hydrated, as dehydration can cause unpleasant symptoms while your body initially adapts to the diet. Eat plenty of non-starchy vegetables and get fat from healthy sources, such as fish, olive oil, and avocado. In addition, I recommend discussing any major dietary changes with your doctor.

I also suggest looking at an earlier issue of this newsletter, Volume 4, Issue 1, *The Keto Diet for Weight Loss, Diabetes, Improved Memory, and More*. It can help you decide if the keto diet is a good option for you.

## Do you have a question for Dr. Marlene?

Send your health-related questions to [drmarlene@naturalhealthconnections.com](mailto: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](mailto:support@primalhealthlp.com) or call 877-300-7849.