Dr. Marlene's
NATURAL HEALTH CONNECTIONS

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Blood Tests: Which Ones Do You Really Need?

Do routine check-ups tell you what you need to know? Have you been told there's "nothing wrong" when you don't feel right? These tests can help solve some common mysteries.

Health insurance plans often send out reminders to get an annual check-up for "preventive care." Unfortunately, the annual check-up doesn't necessarily prevent anything. In fact, that's often the case.

Let me explain. Annual check-ups could be a valuable part of prevention if tests detected the most significant health risks and — most importantly — action was taken to reverse or reduce those risks. But this doesn't necessarily happen.

I've heard some stories that are quite sad. Ignoring signs of impending diabetes is a common one.

"You almost have diabetes," some of my patients had been told by their doctors, but nothing was done about it. By their next check-up a year later, they did have diabetes, and then the doctor wrote them a prescription. And the root of the problem still wasn't addressed.

Unfortunately, this happens a lot.

I'm not saying that you shouldn't get check-ups. You should. But test results are only beneficial if the information is used to motivate action to improve health. And if you're in great shape, maybe you don't need a check-up every year.

On the other hand, if you find that something is less than optimal and you take steps to correct it, you may need to retest a specific health marker more often. It really depends on the individual situation.

For example, if your vitamin D level is low and you start taking vitamin D supplements, I would retest your level in three to six months. If there's no improvement, try a higher-dose supplement, then retest in another few months.

The other thing to know is this: Basic check-ups may not include some tests that you need to identify

IN THE NEXT ISSUE:
How to Choose Supplements for Your Personal Needs

a problem. Consequently, it may seem that there's "nothing wrong," when this really isn't the case. For example, you may need more detailed thyroid or iron tests that are not part of usual check-ups.

To help you navigate the world of tests, I'll describe some routine ones and a few others that can help to solve mysterious symptoms. They are all blood tests that require a blood draw in a doctor's office or a testing lab, and you usually get results in a few days.

Dr. Marlene's
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As well as describing these tests, I've summarized them in a chart on page 5, along with optimal levels for each health marker. You can use that chart as a checklist when you get a check-up and review your test results.

Blood-Sugar Tests

There are three main tests that show how your body is using blood sugar: fasting glucose, A1C (which measures average blood sugar during the past three months), and fasting insulin.

Fasting glucose is generally included in routine check-ups. A1C tests are usually done when patients are prediabetic or already have diabetes. But another marker that is not typically used in today's healthcare system — fasting insulin — could provide much earlier warning that diabetes is brewing, allowing more time to avert the disease and other health problems.[1]

Why Insulin Needs to Be Tested

If I had to pick one test that is most overlooked yet essential, fasting insulin would be it.

Here's why: It takes 10 to 20 years for type 2 diabetes to develop. The disease is a result of eating too many starchy and sugary foods that cause too much blood sugar to be produced. When this starts to happen, your body produces extra insulin to compensate. And elevated insulin is the first sign of trouble, long before blood sugar becomes elevated. But insulin isn't measured, so levels remain hidden.

Elevated insulin is inflammatory. It drives weight gain and makes it impossible to lose weight. Excess insulin is what causes a big belly — fat that accumulates around the waist. That fat surrounds organs and causes dangerous chronic inflammation that contributes to plaque build-up in arteries, joint pain, and even dementia, as well as type 2 diabetes.

Startling Insulin Fact

One study found that insulin levels were the most reliable predictor of future type 2 diabetes — 24 years before a diabetes diagnosis.[2]

When a diet continues to be high in carbs, even extra insulin can't keep up with excess blood sugar, and the level of blood sugar rises. That's when prediabetes starts to be detected with a test of fasting blood sugar. But this happens years after the first stage of damaging, elevated insulin.

How Often Should You Test?

Fasting insulin, fasting blood sugar, and A1C should be part of your annual check-up. If any of these are elevated, take steps to correct this with a low-carb diet, which will give you more stable energy and fewer cravings. (For diet details, see earlier newsletter issues listed in *Related to This Topic* on page 6.) Getting some exercise each day will speed up the process.

As you start to eat a low-carb diet, your numbers will change. If only your insulin was elevated, retest it in six months. If your blood sugar was elevated, I recommend getting another A1C test in six months, to see your average blood-sugar level.

If you take any medications to lower blood sugar, it's vital to monitor your levels when you make changes. As a low-carb diet lowers blood sugar, your medication will need to be adjusted by your doctor to prevent blood sugar from dropping too low.

Important Nutrients

There are so many tests available today that you could spend thousands of dollars on testing levels of virtually every essential vitamin and mineral. I have not found this to generally be helpful, and I don't recommend it. However, there are some key nutrients that should be tested.

Vitamin D: This has become a routine test in check-ups. It is essential for overall health, and low levels are common. I found that even in sunny climates, vitamin D levels were low in almost 100 percent of my patients. And government research found that insufficient levels are a national problem.

Unfortunately, vitamin D levels are not retested often enough. If your level is low and you take a vitamin-D supplement, get your level tested again in three to six months. If your level is not rising to a healthier level, take a higher-dose supplement. Keep retesting until you reach a good level. And then, retest once per year.

Vitamin D is necessary for calcium to be utilized by bones, and it helps reduce risk for many chronic diseases, including type 2 diabetes, heart disease, many cancers, autoimmune diseases, and infectious diseases.[3]

I've found that most people need to supplement with 5,000 IU daily of vitamin D to effectively raise levels. When taking this dose, I also recommend taking vitamin K2, one serving daily, to prevent calcium from being deposited in arteries.

Vitamin B12: It may be tested in routine check-ups because low levels of vitamin B12 are common in older people. Make sure you do get a B12 test. If your level is low, take a supplement and follow the same retesting steps as I've suggested above for vitamin D.

Low levels of vitamin B12 can lead to problems with balance, fatigue, weakness, depression, difficulty thinking clearly, constipation, loss of appetite, and unwanted weight loss.[4]

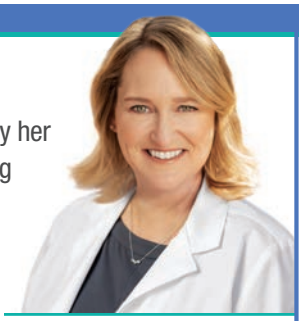
I once had a patient who came to me in despair. His doctors told him that nothing was wrong but he was constantly extremely tired. Fatigue can have many causes or contributing factors, but running some tests quickly solved the mystery. A healthy level of B12 is over 500 pg/mL but this patient's level was 76 pg/mL — by far the lowest that I have ever seen in all my years of practice. Correcting it restored his energy.

Vitamin B12 deficiency is known to be a problem among older people because of low stomach acid that makes it difficult to absorb the vitamin. Sublingual forms of B12 supplements, which dissolve in your mouth under the tongue, are a good option because they bypass any possible digestive issues.

Homocysteine: This is not a nutrient, but if levels of homocysteine are high, it's a sign that you may be deficient in multiple B vitamins, in addition to B12. Take a B-complex supplement and follow the same retesting steps as for vitamin D.

Homocysteine isn't a routine test, but you can request it. Elevated homocysteine increases risk for heart disease.

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.

Iron: There are two important forms of iron that I recommend testing. One is serum iron, which is the active, usable form, and the other is ferritin, which is a stored form — back-up power, so to speak. You should have healthy levels of both forms.

Symptoms of low iron can include weakness, lack of energy, difficulty exercising, difficulty concentrating, irritability, and restless leg syndrome. A severe iron deficiency can lead to anemia, which can cause irregularities in heart and lung function.[5]

Regular check-ups are likely to include a complete blood count (CBC) test, to help detect anemia, blood diseases and other disorders. But it doesn't measure levels of usable and stored iron — those are separate tests you can request.

Thyroid Function

I've had many patients who had symptoms of low thyroid but were told there was nothing wrong. Such symptoms can include weight gain, inability to lose weight, fatigue, trouble tolerating cold, depression, pain in muscles or joints, dry skin, and thinning hair. Low thyroid can double the risk of type 2 diabetes and raise harmful cholesterol.

The problem is that routine health check-ups include only one marker of thyroid function: TSH, short for thyroid stimulating hormone. TSH is not a thyroid hormone. It is a brain hormone that is released to stimulate the thyroid..

Actual thyroid hormones come in different forms, and not all of these are active forms that can be used by your body. The TSH test should be done, but you also need two other tests: Free T3 and free T4. Free T3 is the form of thyroid hormone that actually makes your cells function — the active form your body uses for normal metabolism. Free T4 is the storage form of free T3. You need healthy levels of these.[6]

What Influences Thyroid Hormones

Nutritionally, your body needs essential nutrients to properly produce and use thyroid hormones. These include vitamins that you would find in a multi, including B vitamins and vitamin D, and some minerals: iron, selenium, zinc, tyrosine, and iodine. A multi can give you at least some of these.

However, nutrients aren't the only factors. Chemicals in food and water can depress thyroid function. Some of the most toxic ones include fluoride, chlorine, and bromine, also referred to as bromide or bromate. Crash diets, untreated infections, and stress can be other contributors or triggers.

In addition, celiac disease or gluten sensitivity is a common underlying factor in Hashimoto's disease, where the immune system attacks the thyroid gland.[7]

The combination of all these possible triggers makes low thyroid a bit complex to resolve, but it can definitely be corrected. If you have or suspect low thyroid, I recommend checking out my 30-day thyroid protocol in an earlier issue of this newsletter, listed in *Related to This Topic* on page 6.

An overactive thyroid is another situation that can cause fatigue as well as weakness, anxiety, mood swings, trouble sleeping, sensitivity to heat, a fast or irregular heart rate, and swelling in the neck as a result of an enlarged thyroid gland. It should be treated by a competent health professional.

Health of Arteries

Cholesterol levels are routinely tested in check-ups. If your levels are high, some of the issues I've described above may be causes or contributors. Blood sugar is a major one, as malfunctioning insulin and blood sugar drive cholesterol up. Low thyroid can also lead to elevated cholesterol. In both of these cases, addressing blood sugar with a low-carb diet and, where necessary, correcting thyroid function, are essential steps to healthier cholesterol.

When looking at your cholesterol test results, the relationship between "good" HDL cholesterol and triglycerides can give you a sense of your risk of developing plaque in your arteries. Higher HDL and lower triglycerides reduce risk, and a low-carb diet that lowers blood sugar can help bring about healthier levels.[8]

Inflammation

C-reactive protein (CRP) is a marker of chronic inflammation. It isn't a routine test in check-ups but you can ask for it. Chronic inflammation increases risks for heart disease, stroke, type 2 diabetes, arthritis, and other ills.[9]

There are various factors that can contribute to chronic inflammation. These include a high-carb diet, lack of exercise, stress, and untreated infections.

I've had patients who had an infected tooth for a long time and couldn't lose weight, were having sleep problems, and experienced low energy or brain fog. They

had become so accustomed to the dental discomfort that they didn't even think to mention it when they came to see me — it was "normal."

When a CRP test showed high levels of inflammation, I began asking questions about possible triggers, and only then was the tooth mentioned. And once it was treated, their inflammation levels dropped. That's just one example of how the test can be helpful.

Tests and Optimal Numbers

Here's a list of all the tests described in this issue. Get these tests annually, and more often if you're working on improving a level. The target numbers are more stringent than "normal" levels, because I believe we should all aim for optimal health.

What Results Tell You	Test	What It Measures	Target Numbers	Unit of Measurement
Blood Sugar and Insulin				
Risk for type 2 diabetes; in diabetics, risk for complications. Why it's easy to gain weight and/or difficult to lose it.	Fasting insulin	Insulin level at time of test	Under 6	mIU/mL (milli-international units per milliliter)
	A1C	Average blood sugar in the past 3 months	Under 5.5	Percent of hemoglobin in red blood cells that is coated with sugar
	Fasting blood glucose	Blood sugar at time of test	85–92	mg/dL (milligrams per deciliter)
Important Nutrients				
Whether levels of key nutrients are sufficient. Low levels may cause or contribute to low energy and other symptoms mistakenly viewed as "getting old."	Vitamin D	Vitamin D level	50–80	ng/mL (nanograms per milliliter)
	Vitamin B12	Vitamin B12 level	Over 500	pg/mL (picograms per milliliter)
	Serum iron	Level of usable iron	Women: 60–160 Men: 80–180	mcg/dL (micrograms per deciliter)
	Ferritin	Stored iron that is not usable	Under 100	ng/mL (nanograms per milliliter)
	Homocysteine	Need for B vitamins	Under 9	mmol/L (micromoles per liter)
Thyroid Function				
Whether the thyroid, which can underlie many health problems, is functioning well.	TSH	An indirect measure of thyroid function	1.0–2.5	mIU/L (milli-international units per liter)
	Free T4	More precise, direct measures of thyroid function	1.2–1.8	ng/dL (nanograms per deciliter)
	Free T3		3.2–4.0	pg/mL (picograms per milliliter)
Health of Arteries				
Risk for plaque developing in arteries.	HDL	Risk indicated by the combination of these 2 tests	Over 50	mg/dL (milligrams per deciliter)
	Triglycerides		Under 100	mg/dL (milligrams per deciliter)
Inflammation				
Whether there's a hidden, underlying trigger of health problems.	C-reactive protein (CRP)	Chronic inflammation	Under 1	mg/L (milligrams per liter)

What to Do With Test Results

Test results are usually available online by logging in to a password-protected site of your healthcare provider. This should give you results of all the tests you've had and an indication of whether your levels are in a normal range.

Make sure to use this information. If you're looking at tests you've had in the past, compare the list to the tests I've described, and make a note to ask for any other tests you should get.

When looking at your test results, beware of "normal." It's certainly better than having levels that are worse than normal, but optimal levels listed in the chart on page 5 may be different, and they're designed to truly enhance your health.

If it's been a while since you were tested, get a check-up and see how your tests compare with previous ones.

Be Your Own Advocate

Sometimes, you may request a test but the doctor may not think it's necessary or it may not be covered by your insurance. I don't blame you if you're leery of getting a big bill. But such tests don't have to cost an arm and a leg.

If you have to pay out of pocket, find out how much it would cost to get the test through your doctor, and then shop around. It may cost less to get tested by a lab that works directly with consumers, such as one of these:

- www.ultalabtests.com
- www.lifelinescreening.com
- www.directlabs.com

The tests I've described require a blood draw. If you contact one of the direct-to-consumer testing companies, they will give you locations in your area where you can get a blood draw, and then your blood sample will be sent to a lab. You should have results in a few days. The procedure is the same as testing in your doctor's office.

The tests I've recommended generally cost between $20 and $30 each through labs such as the ones listed above. And you probably don't need to get a bunch of them at the same time.

For example, let's say you're able to get a fasting blood glucose test and an A1C test through your insurance, but not a fasting insulin test. Investing less than $30 for the insulin test is money well spent. It can help you save on medications down the road, not to mention the most important benefit: better health.

A Final Word

Here's the critical point in all this: Once you get test results, are you going to take action? Only you can answer that question, but I hope it's a "yes," or at least "I'll give it my best effort." You don't have to be perfect, but once you take steps in the right direction, your health and well-being will improve.

Related to This Topic

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

Related Topic	Volume	Issue	Title
Low-Carb Diet	6	1	Your 2023 Guide to Better Health: Part 1
Low-Carb Diet	6	2	Your 2023 Guide to Better Health: Part 2
Multivitamins	2	8	Do You Really Need a Multivitamin?
Vitamin D	3	8	Vitamin D: Fight Diabetes, Osteoporosis, Infections, and More
Blood Sugar and Diabetes	5	12	Top 20 Diabetes Questions Answered
Gluten	2	3	How Gluten Can Cause More Than 30 Health Conditions
Healthy Arteries	1	4	When Statin Drugs Can Harm You More than Cholesterol
Stress	4	6	How to Conquer Hidden Stress (page 8)
Thyroid	2	7	The 30-Day Thyroid Restoration Protocol

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

1 Johnson, J.L., et al. "Identifying prediabetes using fasting insulin levels." Endocr Pract. 2010 Jan-Feb;16(1):47-52.
2 Dankner, R., et al. "Basal-state hyperinsulinemia in healthy normoglycemic adults is predictive of type 2 diabetes over a 24-year follow-up: a preliminary report." Diabetes Care. 2009 Aug;32(8):1464-6.
3 Holick, M.F. "Evidence-based D-bate on health benefits of vitamin D revisited." Dermatoendocrinol. 2012 Apr 1;4(2):183-90.
4 Vitamin B12 Fact Sheet for Consumers. National Institutes of Health Office of Dietary Supplements.
5 Balendran, S., et al. "Non-anaemic iron deficiency." Aust Prescr. 2021 Dec;44(6):193–196.
6 Andersen, S., et al. "Narrow individual variations in serum T(4) and T(3) in normal subjects: a clue to the understanding of subclinical thyroid disease." J Clin Endocrinol Metab. 2002 Mar;87(3):1068-72.
7 Metso, S., et al. "Gluten-free diet and autoimmune thyroiditis in patients with celiac disease. A prospective controlled study." Scand J Gastroenterol. 2012 Jan;47(1):43-8.
8 Wang, L., et al. "The association between blood glucose levels and lipids or lipid ratios in type 2 diabetes patients: A cross-sectional study." Front Endocrinol (Lausanne). 2022 Sep 6;13:969080.
9 Jeong H., et al. "C reactive protein level as a marker for dyslipidaemia, diabetes and metabolic syndrome: results from the Korea National Health and Nutrition Examination Survey." BMJ Open. 2019 Aug 30;9(8):e029861.

5 Important Reasons to Get Green SUPER FOODS Into Your Diet

Reason #1

You don't eat enough fruits and vegetables.

Eat your broccoli! Can you hear your mother say it? Sure, but do you really want to?

Getting the fresh vegetables you need every day for good health isn't easy, or fun.

Fruits are friendlier, but unless you're eating berries, you're getting too much sugar. Apples, bananas, oranges, grapes and melons are especially high in sugar. And too much sugar impacts your weight, your blood glucose, and your lipid profile.

And yet vegetables and berries are essential to good health. And that's why, today, many people are choosing Primal Labs' **Super Greens** nutrient drink.

This delicious raspberry-flavored powder mixes easily in water, or can be added to a smoothie. It's loaded with nutritious phytonutrients, alkalizing chlorophyll and free-radical-fighting antioxidants.

In less than one minute you get all the green nutrients you need for the day!

Reason #2

You want a healthier body chemistry

Did you know your body's natural pH is 7.4? That's slightly alkaline, which is exactly what your body needs for good health.

But your body's natural pH can come under assault from the typical Western diet, which leans acidic, with a pH between 5 and 6.9.

For example, red meats, deli turkey, sodas, grains and processed foods are all acidic foods. Alcoholic beverages are acidic, too. And even some cheeses are acidic.

It's not hard to choose foods that are almost all acidic, and that can push your natural pH levels down.

Super Greens nutritional drink comes to the rescue with its concentrated formula of alkalizing superfoods that provide essential phytonutrients, polyphenols, chlorophyll, live enzymes and several bioavailable vitamins and minerals.

All the nutrients in **Super Greens** support good health while maintaining the proper pH.

Reason #3

You want health-promoting Phytonutrients

Fruits and vegetables contain over 25,000 different phytonutrients, and up to 8,000 of them are antioxidants that fight the free radicals that contribute to aging.

More benefits on the next page! →

For Heart Health, Bone Health, Digestive Health and Brain Health – Get **Super Greens**!

Until recently, only a relatively small number of phytonutrients have been studied, but that's changing. And already many of these amazing nutrients are known to…

- **Lift your energy**
- **Boost your immune system**
- **Fight cellular oxidation (aging)**
- **Improve your digestion**
- **Support eye and artery health**

Plus...

- **Promote brain health**
- **Nourish your skin, hair, and nails**
- **And fight food cravings!**

Just a quick glance at these important benefits tells you that getting your phytonutrients is essential to good health. And now they're easy to get with Primal Labs' **Super Greens** nutrient drink.

Reason #4
You want a nutritious "greens drink" that tastes great

Maybe you've tried a greens drink before and found it to be "awful." I know what you mean. Some of them taste like blenderized grass clippings. And many of them are sickeningly over sweetened.

Super Greens is different. It contains a healthy berry blend that tastes like a refreshing raspberry drink. Make a smoothie with a couple of ice cubes and a scoop of your favorite yogurt, and it'll taste like dessert (incidentally, while most dairy is acidic, yogurt is alkaline).

Best of all, because it tastes so good, you'll love making **Super Greens** a regular part of your diet. And you may even want to have it more than once a day. Can you do that?

You sure can, there's no harm, only good.

Use **Super Greens** daily and you won't miss out on the important nutrients you'd get from fresh fruits and vegetables. For many folks, **Super Greens** is a convenient and delicious alternative.

Reason #5
You need to watch your weight

One of the biggest problems many of us have is nagging hunger pangs. That's when we reach for a candy bar. Or a bag of chips. Or a sugar-laden drink.

But that's too much sugar, and too many empty calories.

Here's the solution – mix up a glass of delicious **Super Greens**! It's refreshing. It's filling. It's loaded with green superfoods. And best of all, because it's lightly sweetened with stevia, it has ZERO sugar and only 20 calories per serving.

So, use **Super Greens** to support your heart health, bone health, digestive health and brain health. Use it to keep inflammatory responses normal. And also to support a healthy body chemistry that resists aging.

Considering that it's not always practical to get all the fruits and vegetables you need – **Super Greens** offers a convenient and great-tasting alternative.

Try it and see for yourself how much better you feel. Through this ad, you can get 15% OFF your order. And Primal Labs has an unbeatable 100% money-back guarantee. You must be happy or your money back. Period. So, give it a try on my recommendation. I know you'll be glad you did!

Order **Super Greens** at 15% Off Today Through This Special Link:
www.PrimalSpecials.com/Greens

How to Avoid Summer Pitfalls

Depending on where you are, warm weather can be a welcome relief from colder temperatures or it may mean scorching heat that can make you dangerously dehydrated. The sun can burn your skin more easily in summer, and ticks can make you ill.

I'm not trying to discourage you from spending time outdoors. I'm a big believer in outdoor activities. I'm talking about the potential pitfalls only because I want you to enjoy the summer season without mishaps, and that's easier to do with a little planning.

Sun Protection

We're continually told to apply sunscreen to protect against sun damage, but not everyone likes to put it on. In addition, it isn't the only way to protect yourself against harm from the sun's rays.

Wearing clothing that covers most of your body — long-sleeved shirts and pants or skirts and a hat with a brim — is the most basic defense against the sun. When researchers compared the degree of sun protection provided by clothing and sunscreen, they found that clothing was more effective. They called clothing "the cornerstone of UV protection."[1]

Clothing is simple. You don't have to rub anything onto your skin or think about reapplying. And it certainly isn't a new concept. Loose clothing has traditionally been worn in the world's hottest areas for thousands of years, long before sunscreen was invented.

While any type of clothing provides sun protection, some fabrics and colors are better than others. In addition, some clothing is specifically designed and tested to protect against sun rays. (See *Best Types of Clothing for Sun Protection* on the right.)

There are even full-body swimsuits made of UV-protective fabric, designed to be worn on the beach and in the water. These help people who are at high risk for skin cancer to enjoy the outdoors safely and offer an alternative to sunscreen for anyone.

That said, you still need sunscreen for your face, hands, neck, and any other areas that are exposed, especially if you're sun-sensitive or in the sun during

Best Types of Clothing for Sun Protection

Wearing any type of clothing protects against sun damage,[2] but some colors and types of fabric block more UV radiation than others.

Coverage is more important than color, but brightly-colored and dark T-shirts are considered to be more protective than white ones because color absorbs and blocks UV rays. Fabrics with a denser weave, such as denim or polyester, provide more protection — in any color. And some garments can be specifically designed to block UV rays.

Among lightweight fabrics, shiny ones, such as silks and shiny polyesters, provide better protection because they reflect radiation.

Unbleached cotton, also called calico, contains lignins, which are natural absorbers of ultraviolet rays. Its natural colors can be green, brown, reddish brown, tan, or off-white, and it has tiny flecks. Unbleached cotton is typically labelled as such.

Sun-Protection Ratings of Clothing

Clothing can be rated for its effectiveness in blocking the sun's rays. The rating is called "UPF," short for Ultraviolet Protection Factor, and it's regulated by the Federal Trade Commission. To receive a UPF rating, clothing must be tested and must meet certain standards.

When clothing has received a UPF rating, that fact should be stated on the label. Some UPF-rated clothing is treated with chemicals to increase sun protection, but chemical-free versions are a better choice.

Many companies make this type of clothing, and an online search for "chemical-free UPF clothing" will lead to many options.

Bottom line, skin that is covered by any type of clothing — UPF-rated or not — will get some sun protection. Wear what's comfortable for you.

the hottest time of day — 10 a.m. to 4 p.m. or later. The same holds true if you are outdoors at any time of day for more than a short while, even when it's cloudy.

When choosing sunscreen, I recommend avoiding chemical ingredients that penetrate the skin. Instead, look for sunscreens made with titanium dioxide or zinc oxide — these are made from minerals rather than synthetic chemicals. They work like a physical barrier on the surface of your skin, without being visible, and are the safest option. For more details on sunscreen, you can check out page 8 of last June's issue, Volume 5, Issue 6, *Sunscreens: Which Ones Are Safe?*

Heat Protection

I've lived in a hot, dry climate for many years and I wouldn't plan to go jogging in the middle of a hot summer day. But this isn't always obvious for anyone who isn't used to such weather.

One of my friends visited from New York and insisted on going for a jog in the midday heat, despite my warnings. "I'll just drink plenty of water and I'll be fine," she told me before jogging off. Minutes later, she was back. "Why didn't you tell me?"

This doesn't mean you have to stay cooped up indoors all day in hot weather, whether it's dry, humid, or somewhere in between. Rather, plan to do outdoor activities earlier in the morning and later in the day, when temperatures are cooler.

In addition, drink plenty of water to stay hydrated. If the heat is making you sweat, you know you're losing fluids. But in a hot, dry climate, sweat evaporates and you don't feel it. Don't wait to get thirsty.

Filtered water is the best thing to drink, but filtration removes natural minerals. As a result, your mineral levels can get depleted, and then you drink and drink and still feel thirsty. To solve this problem, add minerals to your water in the form of electrolytes. You can get slightly effervescent powders, such as Nuun, that are sweetened with stevia and come in different flavors. They will help your body to retain water (a good thing in this case) and satisfy your thirst.

It may be tempting to reach for soda, which can be an extra source of carb overload — especially when you're hot and aren't paying attention to how much you're drinking. Don't rely on soda, but for an occasional treat, you can try one that's sweetened with stevia, such as Zevia.

When there are heat advisories, heed them and stay indoors in an air-conditioned space. If your area is prone to power outages and your home doesn't have back-up power, learn about local-area services that may provide cooling centers before a power outage strikes. And plan which essentials you would need to take with you if a power outage might last a while.

Symptoms of Dehydration

Feeling thirsty is one obvious sign that you need water. But older adults may not feel thirsty until they are already dehydrated. Other signs of dehydration can include:

- Feeling tired
- Feeling confused
- Getting dizzy
- Getting a headache
- Urinating less often
- Dark-colored urine

Tick Protection

I do a lot of hiking in the wilds and I'm very familiar with ticks. But I'm happy to say that I've never been bitten.

I don't rely on bug spray. Insect repellent with DEET is the only type that is proven to repel various bugs, but it isn't foolproof for ticks. And I don't like spraying chemicals on my skin, even though DEET is considered safe when used per product directions.

Ticks lurk in shady and moist areas, in tall grass, on shrubs, in piles of leaves, and even on rocks, waiting to jump onto and bite people and animals. I've seen them sitting on tops of tall blades of grass, eager to strike.

To stay bite-free when hiking, there are two things I do: I wear long pants and tuck them into my hiking boots, which makes it hard for a tick to reach my skin, even if it did jump on. And I try to avoid walking straight through tall grasses where ticks are likely lurking. For added protection, you could spray DEET on your clothes.

Around your house and garden, you can reduce the odds of ticks by making the environment less friendly to them. Clean out piles of leaves or other debris, cut grass, consider alternative landscaping to shrubs where they may hide, and get rid of any standing water. This will also make your yard less friendly to mosquitoes.

1 Berry, E.G., et al. "Slip versus Slop: A Head-to-Head Comparison of UV-Protective Clothing to Sunscreen." Cancers (Basel). 2022 Jan 21;14(3):542. 2 Lu, J.T., et al. "An Overview of Ultraviolet-Protective Clothing." Cureus. 2022 Jul 27;14(7):e27333.

Yoga Improves Memory

A study of 86 adults with full-time jobs found that yoga practice at home reduced stress and anxiety and improved short-term memory. The mean age of participants was 41 years.

The yoga program lasted eight weeks. It was done from home with remote instruction, three times per week. Each yoga session lasted 50 minutes.[1]

The yoga workouts included sequences of movements that required being aware of body position, the surrounding space, and breathing. Exercising these abilities is somewhat similar to dancing, which is known to enhance mental function.

The yoga movements also provided moderate aerobic exercise, which is beneficial for overall health. However, the yoga was more mentally challenging than walking in a straight line or riding a bike, so it exercised mental "muscles" and improved the ability to control attention.

Participants enjoyed doing the routines, which motivated them to stick with the program. If the idea of doing yoga at home appeals to you, there are many online workouts that you can try.

A Low-Carb Diet Beats Diabetes — Again

As you may know, I've been helping my patients to prevent and reverse type 2 diabetes with a low-carb diet for years. So, I was happy to see recent research that adds to the evidence supporting this approach.

The latest study tracked 186 patients in a primary-care doctor's practice in the United Kingdom. Each patient in the program volunteered to follow a low-carb diet to treat their type 2 diabetes.[2]

During an eight-year period, staff in the practice tracked and documented these patients' progress. Education and support, one-on-one and in groups, was also provided to help each patient develop a low-carb diet that worked for them. The results were very encouraging.

Among those who started eating a low-carb diet within one year of their diabetes diagnosis, 77 percent reversed the disease. For those who had been diabetic for longer periods, the success rate was not as high. However, even when diabetes had been diagnosed more than 15 years before starting a low-carb diet, 20 percent reversed the disease.

For those who didn't reverse the disease, their overall health and ability to manage their blood sugar — with fewer drugs — significantly improved. And all participants achieved healthier levels of blood pressure, cholesterol, and triglycerides.

Just as I've seen in my practice, this study showed that for anyone with type 2 diabetes, it's never too late to improve health — and maybe reverse the disease — with a low-carb diet. And the odds are even more in your favor if your blood sugar has started to rise but hasn't yet reached diabetic levels. If you aren't familiar with my low-carb diet, see my earlier newsletters on the topic, listed in the chart on page 6.

Curb Loneliness for Better Health

The effect of loneliness on health can be as bad as smoking 15 cigarettes per day, according to a recent report from our Surgeon General.[3] Loneliness increases risks for heart disease, dementia, stroke, depression, anxiety, and premature death.

In addition, an interesting study of depression[4] found that while we generally think that depressed people need only to receive help, they can also feel better by giving help to others. Acts of kindness that boost the giver's mood can be as simple as leaving an encouraging Post-it note for a partner or housemate or giving a friend a ride.

If you feel lonely, get in touch with some friends or family members and see what they've been up to. And if you suspect that someone you care about feels lonely, give them a call and maybe get together.

1 Phansikar, M., et al. "Feasibility and impact of a remote moderate-intensity yoga intervention on stress and executive functioning in working adults: a randomized controlled trial." J Behav Med. 2023 Feb 8;1-12. 2 Unwin D., et al. "What predicts drug-free type 2 diabetes remission? Insights from an 8-year general practice service evaluation of a lower carbohydrate diet with weight loss." BMJ Nutrition, Prevention & Health. 2023;e000544. 3 Surgeon General's Advisory on Our Epidemic of Loneliness and Isolation. "Our Epidemic of Loneliness and Isolation 2023." 4 Cregg, D.R., et al. "Healing through helping: an experimental investigation of kindness, social activities, and reappraisal as well-being interventions." The Journal of Positive Psychology, DOI: 10.1080/17439760.2022.2154695.

Q&A

Q: I've been reading that ultra-processed food is unhealthy. What is it, and how is it different from other processed food?

— Arden B.

A: "Ultraprocessed" is a word that was coined by Brazilian researchers who study nutrition. It describes food that is extremely altered from its natural form and contains additives that are not found in nature or your kitchen.

Additives can include high fructose corn syrup, hydrogenated fats, gluten, hydrolyzed protein, and chemicals such as artificial flavors, preservatives, colors, emulsifiers, and thickeners. These are used to enhance taste, to entice you to eat more, and to extend shelf life.

It's estimated that about 70 percent of our packaged food is ultraprocessed. Ingredient lists on labels may be long and will include the types of unnatural ingredients I listed above. For example, instead of being made with just flour, water, and yeast or a starter, most breads contain a long list of additives. In addition to containing chemicals, ultraprocessed foods are likely to be high in sugar, carbs, and unhealthy fat.

Ultraprocessed foods are usually attractively packaged and aggressively marketed. Examples include fast food, frozen pizza, frozen burgers, chicken nuggets, hot dogs, sodas, candy, sugary cereals, many snacks, energy bars, cakes, cookies, flavored yogurts, and many more.

Studies have found the more ultraprocessed foods people eat, the more likely they are to experience depression, anxiety, and accelerated mental decline as they get older. These foods are also inflammatory and disrupt beneficial bacteria in the gut.

In addition, one tightly controlled study found that ultraprocessed foods lead to weight gain. In this study, 20 adult inpatients were offered only ultraprocessed foods for two weeks, and only whole foods for another two weeks. In both cases they were allowed to eat as much as they wanted.

While eating an ultraprocessed diet, they spontaneously ate more and gained two pounds. In contrast, while eating whole foods, they spontaneously ate less and lost two pounds. Participants found both diets to be equally appealing in terms of taste.

The solution to ultraprocessed food is to carefully read labels and look for foods that don't contain all the industrial ingredients. Frozen and canned vegetables, frozen or canned fish, and meats without harmful additives are good, convenient options. Of course, fresh vegetables, meat, fish, nuts, seeds, herbs, spices, and healthy fats such as extra virgin olive oil, coconut oil, and butter are also top choices.

Q: What causes brain inflammation and what can one do to not have that happen? *— S.M. John*

A: Inflammation in the brain can be caused by a variety of insults. These can include physical injury, mold in the environment, very high levels of insulin, anesthesia, some medications, sensitivities to certain foods such as gluten, chronic infections, and alcohol.

Feeling socially isolated can also trigger brain inflammation. This is not based on how physically isolated a person is. Monks living in isolation by choice have been in great health. Rather, it's based on how isolated a person feels — prisoners, for example, who are forced into isolation are more likely to have an inflamed brain.

A moldy environment is a common trigger. To solve the problem, the mold must be removed. High insulin comes from a high-carb diet and can be corrected by shifting to a low-carb diet. For gluten or other food sensitivities, the offending food needs to be excluded from the diet. Chronic infections must be treated.

For more details about brain inflammation and an explanation of nutrients that help to protect the brain, I suggest checking Volume 2, Issue 12, of this newsletter: *The Guide to Lifelong Brain Health*.

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.