

THE DIABETIC AND PRE-DIABETIC EPIDEMIC IS COMING TO A HOME NEAR YOU RIGHT NOW!

As of 2012, up to 14 percent of the American population had type 2 diabetes, and as much as 38 percent were pre-diabetic. This suggests about HALF of all American adults are either pre-diabetic or diabetic.^{1,2}

At least 20 percent of the population in every U.S. state is also obese³ — a condition that severely predisposes you to [diabetes](#). That said, being skinny is not a blanket assurance of health.

Recent research suggests one-third of normal-weight adults may also be pre-diabetic without knowing it.⁴ Children are also getting fatter and unhealthier.

According to recent research, 7 million children in the U.S. have non-alcoholic fatty liver disease (NAFLD) and close to one-third of these kids also have either pre-diabetes or diabetes.⁵

Great Britain has also seen a rapid rise in these conditions. In 2003, 11.6 percent of people in Great Britain were diagnosed with pre-diabetes. That number had tripled by 2011, reaching over 35 percent.

As noted by BBC News,⁶ "The world is facing an 'unrelenting march' of diabetes that now affects nearly 1 in 11 adults" worldwide. Statistics such as these point to two very important facts:

- Genetics cannot be a primary cause of diabetes
- Something we're consistently doing must be horribly wrong

In this case, that "something" is a combination of seriously flawed food choices, poor exposure to natural sunlight and lack of physical activity.

Optimal Sun Exposure Required for Health and Diabetes

You may have the perfect diet but if you have failed to optimize your exposure to the sun and assiduously avoid blue light from artificial sources, not just at night but all day, then you will likely be challenged to achieve high level health.

Why? It's a very complex explanation, but the end summary is that it helps to optimize your mitochondrial function.

Please also review my recent article on using [indoor sunglasses](#) to minimize your exposure to blue light from artificial lights. They only need to be used when the lights are on and you are indoors, even in the daytime. Most people think they are only for night time use but this is incorrect.

Additionally, establishing an optimal circadian rhythm is important, so going outside, ideally barefoot, shortly after waking up and close to sunrise, exposing your eyes to natural sunlight for 3 to 5 minutes, is an important health practice.

If you have a night job, please consider changing your job as it is seriously damaging your health. Additionally, it would be ideal to get one to three hours of unfiltered sunlight (not through a window or sunglasses) every day and expose as much skin as you can.

Understanding the Cause of Type 2 Diabetes

Conventional medicine has type 2 diabetes pegged as a problem with blood sugar rather than the underlying problem of improper insulin and [leptin](#) signaling.

The reality is that diabetes is a disease rooted in insulin resistance, and perhaps more importantly, a malfunction of leptin signaling, caused by chronically elevated insulin and leptin levels. This is why treating type 2 diabetes with insulin does not resolve the problem.

What's worse, this treatment actually exacerbates it, and can lead to the development of type 1 (insulin dependent) diabetes — an autoimmune disease in which your immune system destroys the insulin-producing cells of your pancreas, resulting in an inability to produce any significant insulin.

If left untreated, this condition will ultimately cause death from a hyperglycemic coma. Lifestyle choices are the best strategies to controlling your blood sugar, reducing your risk of diabetes and preventing secondary health problems from the condition.

Historically, the rise in diabetes was prompted by a flawed nutritional and exercise program initiated by the now-refuted Seven Countries Study.

The study, published in the 1950s by the sugar industry-funded researcher Ancel Keys, Ph.D., sparked an increase in the quantity of net carbohydrates recommended in your diet and a severe reduction in healthy fats. This imbalance affects your cellular resistance to the hormones insulin, leptin and ghrelin.

This cellular resistance is the real foundation to problems with diabetes — not high blood sugar, which is a symptom, not the cause.

Diabetics Need to Rigorously Avoid High-Carb Diets

Most of the food people eat these days is skewing their metabolism toward insulin resistance, metabolic syndrome and type 2 diabetes.

Most Americans are burning glucose as their primary fuel, which elevates blood sugar and promotes insulin resistance and inhibits your body's ability to access and burn body fat — hence, the connection between obesity and diabetes. Healthy fat, meanwhile, is a far preferable sort of fuel, as it burns far more efficiently than carbs.

The good news is that insulin resistance, metabolic syndrome and type 2 diabetes can all be resolved through proper nutrition and exercise. One of the most important dietary recommendations is to limit net carbs (total carbohydrates minus fiber) and [protein](#), replacing them with higher amounts of high quality healthy fats.

Most Americans consume harmful fats like industrially processed vegetable oils, which will invariably cause health problems.

So when we're talking about eating more fat, we're referring to natural, unprocessed fats found in real foods like seeds, nuts, butter, olives, avocado or [coconut oil](#).

Another good one is raw cacao — it's a phenomenal source of healthy saturated fats and many beneficial polyphenols.

One of the most efficient way to train your body to use fat for fuel is to remove sugars and starches from your diet.

The reason why low-net carb diets work so well for diabetics is because it helps you shift out of this nonfiber carb-based metabolism that depends on elevated insulin levels to drive blood sugar into cells and use carbs for fuel.

Diabetic? Track Your Net Carbs

The most important number to keep track of is your net carbs. This is calculated by subtracting the amount of fiber in grams from your daily total of carbohydrates in grams. The resulting number is your net carbs. A key way of preventing diabetes is to keep your net carbs below 50 grams per day.

The only way you'll know how many total carbs, fiber and net carbs you eat is to keep a food diary. The simplest way of doing this is to use an online [nutrition tracker](#). You need not do this forever, only as long as it takes for your body to remember how to burn fat as your primary fuel. This can be a few weeks to a few months. Once your body shifts, you can increase your healthy net carbs based on your activity level.

But be careful initially as you may be surprised at how quickly sandwich bread, pasta, soda, cookies and cakes add up — sometimes to over 350 grams per day. This high carb level increases your resistance to insulin and malfunction of leptin, increasing your risk of diabetes.

There are a number of trackers available, but my first choice is Cronometer.com/Mercola. That's my revision of the basic Cronometer tracker, and it's already set to default to calculate macronutrient levels based on a healthy high-fat, low-carb diet to get you into [nutritional ketosis](#).

With these basic guidelines in place, following are nine "superfoods" for diabetics⁷ that you'd be wise to add to your diet on a regular basis.

1. Fatty Fish Low in Mercury

One of the most important foods for diabetes is seafood, as it provides the essential animal-based omega-3 fat docosahexaenoic acid (DHA) from a food source.

DHA is vitally important as it is the only fat we know of that allows your body to take advantage of the photoelectric effect, the one that Einstein received his Noble Prize for. It converts the photons from the sun into DC electric current (electrons), which help fuel your mitochondria.

Optimal levels of DHA are one of the most important nutritional interventions that you can choose to make. If you haven't already checked your [omega-3 index test](#) to confirm your levels are adequate, I would strongly encourage you to do so.

That said, as levels of pollution have increased, you have to be very choosy about which types of seafood you eat. Most major waterways in the world are [contaminated with mercury](#), heavy metals, and chemicals like dioxins, PCBs and

other agricultural chemicals. If you're not careful, the toxic effects from the pollutants in the fish will outweigh the benefits of the omega-3 fats. Here are some important factors to consider:

- Choose fatty fish from cold-water locations, as not all seafood is a good source of omega-3. Good choices include [wild-caught Alaskan sockeye salmon](#), sardines, anchovies, herring and fish roe.
- Avoid farm-raised fish, as they can actually be more hazardous than wild in terms of their toxic content. For example, researchers warn that [farmed salmon](#) may be one of the most toxic foods in the world, thanks to toxins found in the feed. Levels of omega-3 fats may also be reduced by as much as 50 percent in farmed salmon, compared to wild salmon, due to the grains they're fed.
- To evaluate your mercury exposure from various seafood sources, check out the online mercury calculator at [GotMercury.org](#).⁸ The Environmental Working Group (EWG) also has a seafood calculator⁹ that can help you identify fish that are high in omega-3 and low in pollutants.

2. Avocado

[Avocado](#) (which is actually a fruit, not a vegetable) is a great source of healthy fat, fiber and about 20 different vitamins and minerals, including magnesium. As noted by Medical News Today:

"Eating foods that contain healthy fats may help increase fullness. Eating fat slows the digestion of carbohydrates, which helps to keep blood sugar levels more stable. Avocado is high in fiber too, with half a fruit containing 6 to 7 grams ... Eating high-fiber foods can ... improve weight loss, and make insulin more efficient. Spread avocado on toast in the morning instead of butter. Use avocado instead of mayonnaise in chicken or egg salad."

3. Seeds (Sunflower, Black Sesame, Black Cumin, Pumpkin and Chia)

Magnesium is a very important nutrient that many are deficient in. Lack of magnesium may raise your risk of insulin resistance, as it plays an important role in carbohydrate and glucose metabolism. Besides that, your body needs magnesium for more than 300 other biological and chemical processes, so make sure you're getting enough. As noted by Medical News Today:¹⁰

"For every 100 [milligram per day] mg/day increase in magnesium intake (up to a point), the risk of developing type 2 diabetes decreases by approximately 15 percent."¹¹ Most magnesium intake in these studies was from dietary sources, not supplements. Clinical studies have shown improvement in insulin sensitivity with magnesium intake between 300 and 365 mg/day. Researchers were also able to show that low magnesium levels resulted in impaired insulin secretion and lower insulin sensitivity."

Some of the most magnesium-rich foods are seeds. Additionally, although most of us are overloaded on unhealthy industrially processed omega 6 oils, we clearly need some, and unprocessed seeds are a terrific source:

- Sunflower:** One-quarter cup of sunflower seeds gives you 128 mg of magnesium.
- Black sesame:** 1 ounce of sesame seeds contain about 101 mg of magnesium.
- Black cumin:** Black cumin has a long history of medicinal use. Packed with antioxidants and immune-boosting components, black cumin has even been shown to have potent anti-cancer activity.¹² Studies have also shown black cumin can help

prevent both type 1 and type 2 diabetes. In one study, black cumin (nigella sativa) improved glucose tolerance as efficiently as metformin.¹³

- Pumpkin:** 2 tablespoons of pumpkin seeds will provide you with 74 mg of magnesium (about 25 percent of your recommended daily intake). Pumpkin seed butter can be made at home; simply blend whole, raw pumpkin seeds in a food processor until smooth.

- Chia:** Besides magnesium, chia seeds are also a good source of healthy fats, fiber and antioxidants. Just 1 ounce of chia seeds provides 10 grams of fiber. Add them to smoothies and salads

Other foods high in [magnesium](#)¹⁴ include nuts (especially almonds and cashews) and dark leafy greens (especially boiled spinach, which provides 78 mg of magnesium per cup). Avocados also contain magnesium.

4.Fiber and Digestive-Resistant Carbs

Diabetics also need to mind their fiber intake. Research¹⁵ shows that people with high intakes of [dietary fiber](#) not only have a significantly lower risk of obesity and diabetes, but also a lower risk of coronary heart disease, stroke, hypertension and gastrointestinal ailments.

Importantly, higher fiber intake has been shown to improve glycemia, leptin and insulin sensitivity in non-diabetic and diabetic individuals alike. The best sources of fiber in your diet come from whole foods and include the following. Aim for about 50 grams of fiber per 1,000 calories consumed.

Chia seeds	Berries	Almonds
Cauliflower	Root vegetables and tubers, such as onions and sweet potatoes	Green beans
Peas	Vegetables, such as broccoli, cauliflower and Brussel sprouts	Organic psyllium seed husk
Artichokes	Freshly ground flaxseed meal. Never use pre-ground as it is oxidized and damaged	Black beans

Digestive-resistant starches also help maintain a steady blood sugar level. This refers to low-viscous dietary fibers that resist digestion in the small intestine and slowly ferment in your large intestine.¹⁶ Here, resistant starches act as prebiotics, feeding healthy bacteria. Since they're indigestible, resistant starches do not result in blood sugar spikes. In fact, research suggests resistant starches help improve insulin regulation, reducing your risk of insulin resistance.¹⁷⁻¹⁸⁻¹⁹⁻²⁰

Foods high in [digestive-resistant starch](#) include certain underripe fruits, specifically banana, papaya and mango, as well as white beans, lentils, seeds and products like potato starch, tapioca starch and brown rice flour. Interestingly, cooking a normally

digestible starch such as potato or pasta and then cooling it in the refrigerator will alter the chemistry of the food, transforming more of it into resistant-type starch.²¹

5. Walnuts

Research shows higher nut consumption is associated with lower body weight, which is helpful for maintaining normal blood sugar levels.²² [Walnuts](#), in particular, are a healthy choice for diabetics as they're high in fiber and healthy fats.

In one recent study,²³ participants at increased risk of developing diabetes who added 2 ounces of walnuts to their daily diet for six months showed improvements in blood vessel wall (epithelial) function, and lower levels of low-density lipoprotein (LDL) cholesterol.

Walnuts are great for snacking when you might otherwise be tempted to reach for chips or crackers. You can easily make your own trail mix, combining walnuts, pumpkin seeds and raw cacao nibs, for example. They're also a great addition to salads.

6. Spinach

Besides magnesium, spinach is also a superb source of potassium, low levels of which have been linked to an increased risk of diabetes and diabetes complications. Cooked spinach provides 839 mg of potassium per cup. For comparison, one cup of banana — well-known as a potassium-rich food — contains 539 mg of potassium. One way to dramatically increase your spinach intake is to juice it. You can also add it to salad along with other mixed greens.

7. Strawberries

Fisetin, a substance found in strawberries, has been shown to prevent kidney and brain complications in diabetic mice.²⁴ Human studies have also demonstrated that people who eat plenty of berries, such as strawberries and blueberries, have a lower risk of both diabetes, heart attacks and dementia — outcomes thought to be related to the anthocyanins (a class of flavonoids) found in red, blue and purple-colored berries.²⁵

Studies have also linked the high vitamin C content of strawberries to a lower risk of type 2 diabetes. One cup of fresh strawberries provides 160 percent of your daily need of vitamin C. They're a delicious addition to salad (spinach, walnut and strawberries make a tasty combination). You can also blend fresh or frozen strawberries into your smoothies. According to one such study:²⁶

"Though diabetes is not traditionally considered a risk factor for vitamin C deficiency, patients with diabetes should all receive dietary advice about healthy eating and vitamin C dietary sources, including fresh fruits and vegetables. The recommended dietary intake of vitamin C is 45 mg per day for adults.

There are some data suggesting that people with diabetes may have increased cellular uptake and turnover of vitamin C that would necessitate increased intake, and they also have an increased risk of deficiency."

8. Ginger

Research suggests ginger may help reduce fasting blood sugar in diabetics.²⁷ Part of this effect relates to its anti-inflammatory capacity. Indeed, anti-inflammatory diets in general are helpful for the prevention of diabetes. Ginger is often used in cooking. For example, you can add fresh, grated ginger to sauces, marinades and dressing.

Alternatively, drink a cup or two of ginger tea each day. Simply steep a slice of fresh ginger in boiling water for a few minutes.

9.Cinnamon

Cinnamon is another common cooking spice that has garnered attention for its anti-diabetes benefits. Besides sprinkling it on [sweet potatoes](#) or carrots, you can add it to tea for a flavorful kick in lieu of sugar, which is best avoided anyway. As noted in Medical News Today:²⁸ *"Participants in one study²⁹ who took a high dose of cinnamon reduced their average blood sugar levels from 8.9 percent to 8.0 percent. Participants who took a low dose of cinnamon reduced their average blood sugar levels from 8.9 to 8.2 percent. Participants who did not take cinnamon saw no change."*

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