

Metformin Underused in Patients with Prediabetes

Troy Brown, RN

Metformin was prescribed for only 3.7% of patients with prediabetes, even though it can help prevent the onset of type 2 diabetes, according to a new retrospective cohort analysis.

"We were surprised to see just how low the [prescription] rates were, particularly among the highest-risk individuals, where evidence for metformin use is strongest," lead author Tannaz Moin, MD, from the David Geffen School of Medicine at University of California, Los Angeles, told *Medscape Medical News*.

"Despite inclusion in national guidelines for more than 6 years and proven long-term tolerability, safety, and cost-effectiveness, the prescription of metformin in the real-world clinical approach to diabetes prevention remains unclear," Dr Moin and colleagues write.

They [report their findings](#) in the April 21 issue of the *Annals of Internal Medicine*.

Lose weight for diabetes

Weight loss, plus exercise, can make a difference in helping people with type 2 diabetes get their hemoglobin A1C -- the measure of average blood sugar levels -- to the goal of less than 7%, according to Osama Hamdy, MD, PhD, medical director of the Obesity Clinic and Program, Joslin Diabetes Center in Boston.

He reported on results of a program at Joslin Diabetes Center called Why WAIT (Weight Achievement and Intensive Treatment), in which those with type 2 diabetes are encouraged to lose weight by following the Joslin guidelines for overweight patients.

In a report on 85 WAIT participants, Hamdy found that they reduced their initial weight by an average of 24 pounds after 12 weeks.

About 82% of the participants reached the target A1C of less than 7%.

Their cholesterol levels improved significantly, too. And participants needed less diabetes medicine once they lost weight.

I was determined to share my positive approach and not let diabetes stand in the way of enjoying my life.

Paula Deen

Diabetes Exercise

Develop an Exercise Plan

(Note: Consult your doctor before you begin to determine what type of exercise program is best for you.)

Your food and exercise selections for managing your diabetes should reflect your individual needs and preferences. You can choose from a variety of exercises, such as aerobics, strength training, and flexibility.

Aim for a goal of exercising five days a week for at least 30 minutes, either in one continuous session or in short spurts throughout the day.

This routine can make a tangible difference in your disease as well as how you look and feel.

You might find it helpful to work with an exercise physiologist who will design a program for you.

Pick activities you enjoy. Think of physical activities that you like to do and can stick with over time. You don't need to spend money on special equipment or join a fancy health club. Just get out and walk! If you have been inactive, walking makes a good choice. Start with three 10-minute walks a week and increase the length and frequency of your walks over time. Or try biking or swimming. Consider a variety of activities (both indoor and outdoor) that you can do in both good and bad weather.

Find ways to stay motivated and make exercise more rewarding. You might want to exercise with a partner or join an exercise group or gym. Many gyms offer classes geared to beginners. Some organizations offer exercise support groups; for example, the American Diabetes Association offers an online walking support group and step tracker, Club Ped.

Try using a pedometer (a simple inexpensive device that clips on your clothes) to measure your steps and chart your progress. America on the Move, a fitness advocacy group, recommends 10,000 steps or five miles a day of total walking. You can measure the number of steps you take in an average week and keep increasing your steps until you reach a number that's right for you. In general, follow the 10 percent rule: increase your workout by only 10 percent per week. That means if you walk one mile one week, walk an additional 1/10 mile the next.

Be consistent: as a homeostatic "machine," your body adapts to your everyday routine. So the more inactive you become, the more your body wants to stay put. Once you get more active, your body adjusts and craves activity. You reap the rewards by feeling more energetic when you exercise, which provides the drive to keep moving! Read more: <http://www.diabetescare.net/nutrition->

Our mission should be to educate our people, through information and advocacy, commit ourselves to prevent and cure diabetes and improve the lives of our people affected by this dreaded disease.

We must bring to the people the social-awareness, and the importance of health, wellbeing, and commit them to live a healthier lifestyle, by strengthening their minds, bodies and spirits.

Editor

Quick and Healthy Meals for People with Diabetes

In this article

[Breakfast Ideas](#)

[Lunch Ideas](#)

[Dinner Ideas](#)

Ctrl+click

No food is off-limits when you have diabetes. The key is to watch portions, balance what you eat, and have about the same number of carbohydrates in each meal.

These four tips can help you get started, along with recipe ideas for breakfast, lunch, and dinner. Test your blood sugar levels to learn how different foods affect them.

Stick to a certain number of carbohydrate grams per meal. Usually this is about 45-75 grams three times a day.

Balance carbs with fiber and protein in each meal. This is easy if you use the plate method. Make half of your plate vegetables, a quarter of your plate a carb like brown rice, black beans, or whole-wheat pasta, and the other quarter of your plate a healthy protein like chicken breast, fish, lean meat, or tofu. Add a small piece of fruit and some low-fat or fat-free milk or yogurt, depending on your carb target for that meal.

Eat smart fats such as those in nuts, avocado, fish, olives, and other plants. Avoid saturated fats from meat, butter, cheese, and other dairy foods. Note: Coconut, although a plant, has saturated fat.

Nutrient-rich diet can improve memory and protect against cognitive decline as we age, study finds

Ctrl+click

A diet rich in fruits, vegetables, nuts and fish could improve memory and protect our brains from as we age

By Kristen Amiet

DO: Learn what affects your blood sugars

Most people know that what we eat and how active we are plays a role in diabetes management, but did you know that things like caffeine and stress may also influence your blood sugars? Learn what factors may be affecting your blood glucose values by keeping a journal or log that keeps track of blood sugar readings and factors that might be affecting them, like what you ate, when you exercised, how stressed you were that day, etc. Use these trends to figure out what might be most affecting your blood sugar readings. Do you notice a blood sugar surge in the mornings? Do you see a large spike at night after your evening snack? Do you eat at consistent times during the day or go long hours between meals? Learning what specifically affects your blood sugar values can help you to better tailor your diabetes management plan without continual trial and error.

WebMD

Upswing: Caffeine

Your blood sugar can rise after you have coffee -- even black coffee with no calories -- thanks to the caffeine. The same goes for black tea, green tea, and energy drinks. Each person with diabetes reacts to foods and drinks differently, so it's best to keep track of your own responses. Ironically, other compounds in coffee may help prevent type 2 diabetes in healthy people. WebMD

Upswing: Chinese Food

When you dig into a plate of sesame beef or sweet and sour chicken, it isn't just the white rice that can cause a problem. High-fat foods can make your blood sugar stay up for longer. The same is true for pizza, french fries, and other goodies that have a lot of carbs and fat. Check your blood sugar about 2 hours after you eat to know how a food affects you.

WebMD

Curbing the Obesity (and Diabetes) Epidemic

In their editorial, Drs Herman and Rothberg credit the "shift in cultural attitudes toward obesity, the American Medical Association's recognition of **obesity as a disease**, and the increasing focus on societal interventions to address food policy and the built environment" as forces contributing to curbing the obesity (and type 2 diabetes) epidemic.

DON'T: Jump on a bandwagon diet

This typically goes hand-in-hand with avoiding untrustworthy sources of information. There are countless diet plans available online, many of which promise extreme weight loss in very little time or were invented by folks with little professional background in health or nutrition. For those living with diabetes, going on extreme diets to lose weight or manage blood sugars can be very dangerous, particularly when they cut out entire nutrient groups like carbohydrates.

When attempting to change your eating habits focus on a more gradual, sustainable approach, like reducing the amount of processed foods you're eating or increasing your intake of vegetables each day. The most effective diabetic eating plans are rarely "sexy" or dramatic but are easier to maintain, resulting in long-term success, not just a temporary fix. WebMD

Editor's note:

Sri Lankans in Sri Lanka have no other option than eating processed white foods.

May be that the taste is better for the taste buds eating processed food rather than eating brown unprocessed foods.

Incidence of type 2 diabetes is very high in the island, and most people don't take their situations serious enough, end up with inevitable complications

Spikes in blood sugar- may be due to magnesium deficiency

Magnesium is also an important component in leveling out your blood sugar level and works to improve glucose absorption. If you notice that your blood sugar spikes or that you are feeling tired all the time, no matter how much you eat, you might be magnesium-deficient. Similarly you might be running low on magnesium if you are chronically fatigued and develop adrenal fatigue. -BabaMail

Blood Pressure and Diabetes

About 70% of people with diabetes either have high blood pressure -- a score of at least 140/90 (read as "140 over 90") -- or use prescription drugs to keep their blood pressure down. High blood pressure raises your chance of having other health problems that diabetes can cause, like eye disease and kidney damage. It also makes you more likely to have heart disease and stroke.

Meditation to Relieve Diabetes Nerve Pain

Meditation is a therapy offered in many **pain treatment** centers for diabetes and other painful disorders. Research shows that meditation can lower blood pressure and improve heart rate, breathing, and **brainwaves**. Tension and tightness seep from muscles as the body receives a quiet message to relax.

The soothing power of repetition is at the **heart** of meditation. Focusing on the breath, ignoring thoughts, and repeating a word or phrase -- a mantra -- makes the body relax. People describe feeling warmth, calm, even a sense of heaviness while they meditate.

While you can learn meditation on your own, it helps to take a class. A teacher can guide you -- and help you reach that deeper, more relaxed state. WebMD

Alternative method of treatment for diabetic neuropathy

Some people with **diabetes** and the **nerve pain** -- or peripheral **neuropathy** that comes with it -- find relief in surprisingly simple ways. Sometimes a nice, warm (but *not hot*) bath is enough to relieve stress and **nerve pain**. If you have **neuropathy**, by the way, you might want to have someone else test the water to make sure it's not too hot. **Amassage** can also help. Other people turn to **biofeedback**, **meditation**, relaxation techniques, or hypnosis -- all of which have been proven to help.

"These methods of **alternative medicine** have shown tremendous promise," says Tom Elasy, MD, director of the **Diabetes** Clinic at Vanderbilt University in Nashville. "I have many patients who have pursued alternative approaches, and I get very positive feedback about the results."

WebMD

A1c Testing for Diabetes

Why Does A1c Matter?

Keeping control of your blood sugar over time helps lower your risk of problems such as kidney, nerve, and eye disease. It may also make you less likely to have a heart attack, stroke, and death from heart disease. Each percentage point you drop in your A1c test result (from 8% to 7%, for example) can drop your risk of kidney, eye, and nerve disease by a whopping 40%.

If you have diabetes, you should check your blood sugar often to make sure your levels are in check. A hemoglobin A1c test is a blood test that measures your average blood sugar level over the past 2 to 3 months. It's a way to check how well you control your blood sugar over time. A1c measures how much glucose has been "sticking" to your red blood cells. If your treatment changes or your blood sugar control is not on target, then you should repeat the test every 3 months.

What's Your A1c Goal?

Aim for an A1c of around 7% or less.

How Can You Improve Your Blood Pressure?

All the things that are good for your heart will help you control your blood pressure: eat a low-salt diet, eat more foods high in potassium, get regular exercise, limit alcohol, quit smoking, and stay at a healthy weight. When lifestyle changes aren't enough to control high blood pressure, drugs can help lower it.

Types of Diabetes

Type 1 diabetes occurs when the **pancreas** cannot make **insulin**. Without **insulin**, sugar piles up in your **blood**. People with **type 1 diabetes** must take insulin to help get the sugar into the cells. **Type 1 diabetes** often starts in younger people or in children. Researchers say it may be triggered when something goes wrong with the immune system.

Type 2 diabetes happens when the **pancreas** does not make enough insulin, the insulin does not work properly, or both. Being **overweight** makes **type 2 diabetes** more likely. It can happen in a person of any age.

Gestational diabetes occurs during **pregnancy** in some women. Hormone changes during pregnancy prevent insulin from working properly. Women with gestational diabetes usually need to take insulin. The condition may disappear after the child is born.

WebMD

Magnesium

Although the relationship between magnesium and diabetes has been studied for decades, it is not yet fully understood. Studies show that a deficiency in magnesium may worsen blood sugar control in **type 2 diabetes**. Scientists say that a deficiency of magnesium interrupts **insulin** secretion in the **pancreas** and increases **insulin resistance** in the body's tissues. Evidence suggests that a deficiency of magnesium may contribute to certain **diabetes complications**. A recent analysis showed that people with higher dietary intakes of magnesium (through consumption of whole grains, nuts, and green leafy vegetables) had a decreased risk of **type 2 diabetes**.

WebMD

What Plant Foods Are Used for Diabetes Treatment?

The following plant foods are sometimes used for diabetes treatment, particularly for those with type 2 diabetes.: Brewer's yeast
Buckwheat; Broccoli and other related greens; **Cinnamon**; Cloves
Coffee; Okra; Peas; Fenugreek seeds; Sage

What Plant Foods Are Used for Diabetes Treatment? continued...

Most plant foods are rich in fiber, **vitamins**, and minerals, which are important to good health in people with diabetes. Some revealing new studies show that certain plant foods -- cinnamon, cloves, and coffee -- may actually aid in fighting inflammation and help insulin, the hormone that helps controls blood sugar. Studies have shown that cinnamon extracts can improve sugar **metabolism**, triggering insulin release, which also affects **cholesterol metabolism**. Clove oil extracts (eugenol) have been found to improve the function of insulin and to lower glucose, total **cholesterol**, **LDL**, and **triglycerides**. Recent findings indicate that an unknown compound in coffee (not **caffeine**) may enhance insulin sensitivity and reduce the risk of developing type 2 diabetes. Still, the scientific evidence thus far does not support the role of garlic, ginger, ginseng, hawthorn, or nettle in benefiting blood sugar control in people with diabetes. If you have diabetes and are considering taking any of these herbal substances for diabetes treatment, be sure you talk to your doctor before you take them.

WebMD

Coenzyme Q10

Coenzyme Q10, often referred to as **CoQ10** (other names include ubiquinone and ubiquinol) is a vitamin-like substance. CoQ10 helps cells make energy and acts as an **antioxidant**. Meats and seafood contain small amounts of CoQ10. **Supplements** are marketed as tablets and capsules. The evidence is not sufficient to evaluate CoQ10's effectiveness as a complementary or alternative therapy for diabetes. CoQ10 has not been shown to affect blood sugar control.

Simple Way to Stabilize Blood Sugar

It is not uncommon for adult men and women to experience post-meal glucose spikes. Jill A. Kanaley, from the University of Missouri (Missouri, USA), and colleagues **ENROLLED** 12 type-2 diabetic men and women, ages 21 to 55 years, in a study to assess whether increased protein consumption at breakfast could stabilize blood levels of glucose and incretin. Subjects ate either a high-protein or high-carbohydrate breakfast, and the lunch included a standard amount of protein and carbohydrates. The researchers found that eating more protein at breakfast lowered individuals' post-meal glucose levels. Insulin levels were slightly elevated after the lunch meal, which suggested that their bodies were working appropriately to regulate blood-sugar levels. Observing that: "In type 2 diabetic individuals, compared with a high-carbohydrate breakfast, the consumption of a high-protein breakfast meal attenuates the postprandial glucose response and does not magnify the response to the second meal," the study authors write that: "Insulin, C-peptide, and [glucose-dependent insulinotropic peptide] concentrations demonstrate the second-meal phenomenon and most likely aid in keeping the glucose concentrations controlled in response to the subsequent meal."

[VIEW NEWS SOURCE...](#)

The Link Between Diabetes and Depression

Depression is a complex disease. Its root causes can be tied to genes, your environment, and emotions. Managing diabetes can be stressful and time-consuming. The lifestyle and diet-related limits can make life seem less fun.

Depression Symptoms

There are several warning signs, including:

Sadness; **Anxiety**; Irritability

Lack of interest in things you once enjoyed

Pulling away from your social life

Can't concentrate

Insomnia (trouble falling and staying asleep)

Lots of guilt or feeling worthless

Loss of energy, or **fatigue**

Changes in appetite

Observable mental and physical sluggishness

Thoughts of death or **suicide**

If you (or someone you love) has

diabetes and show **signs of**

depression, tell your doctor right away.

WebMD

Work Your Plan

Use the advice your doctor or dietitian gave you to help prevent your blood sugar from soaring after meals. Keep an eye on how much you eat and what's on your plate. Check food labels to see how big (or small!) a serving is. When you eat out, remember that many restaurants dish out far more food than a normal serving. Take some home

Foods That Help-diabetes

With both type 1 and type 2 diabetes, what you eat makes a difference. For instance, sugary or starchy carbs strongly affect your blood sugar (glucose). Go for a healthy mix of vegetables and fruits, whole grains, beans, fish, lean meats, and low-fat dairy. Ask your doctor or a registered dietitian for ideas on meals, snacks, and the best times to eat.-WebMD



Get the Good Exercise Effect

When you make it a habit to be active, it's good for your blood sugar, especially with type 2 diabetes. Your body will respond better to insulin. Working out also prompts your muscles to use glucose. For instance, studies show that blood sugar levels improve when you build muscle through strength training.

Diabetes control is governed by following the right diabetic diet. What to eat and what not to eat is important for diabetes control and diabetes cure or diabetes reversal.

Diabetologist, Dr. Sanjiv Bhambani with Moolchand Medcity suggests, "A diabetes diet should be high on fibre, must contain milk without cream, buttermilk, fresh seasonal fruits, green vegetables, etc." But remember to consume these components in moderation. **Diabetes diet for Indians and Sri Lankans** should have the ratio of 60:20:20 for carbs, fats and proteins. The doctor explains, "Per day calorie intake should be between 1,500-1,800 calories with a proportion of 60:20:20 between carbohydrates, fats and proteins, respectively." He adds that a diabetes diet should "have at least two seasonal fruits and three vegetables in a diet plan."

Though dry fruits may seem like a healthy snack, it is not a good option for diabetics, as the fructose can spike your sugar level. Go for fresh fruits rather than dry fruits for diabetes control (but there are some restrictions... we'll come to it). But you can still opt for nuts as a healthy snack.

The doctor shares his recipe for diabetes diet for Indians and Sri Lankans

- One teaspoon of methi seeds soaked overnight in 100 ml of water is very effective in controlling diabetes.
- Drink tomato juice with salt and pepper every morning on an empty stomach.
- Intake of 6 almonds (soaked overnight) is also helpful in keeping a check on diabetes.

Rekha Sharma, President and Director of Indian Dietetic Association, shares some major diabetes diet pointers that one should follow at home or at a restaurant.

Whole grains, oats, channa atta, millets and other high fibre foods should be included in the meals. If one feels like consuming pasta or noodles, it should always be accompanied with vegetable/sprouts.

Milk is the right combination of carbohydrates and proteins and helps control blood sugar levels. Two servings of milk in a daily diet is a good option.

Diabetes Control: Diabetic Diet Tips

High fibre vegetables such as peas, beans, broccoli and spinach /leafy vegetables should be included in one's diet. Also, pulses with husk and sprouts are a healthy option and should be part of the diet.

Pulses are important in the diet as their effect on blood glucose is less than that of most other carbohydrate containing foods. Vegetables rich in fibre help lowering down the blood sugar levels and thus are healthy.

Good fats such as Omega-3 and monounsaturated fats (MUFA) should be consumed as they are good for the body. Natural sources for these are canola oil, flax seed oil, fatty fish and nuts. These are also low in cholesterol and are trans fat free.

Fruits high in fibre such as papaya, apple, orange, pear and guava should be consumed. Mangoes, bananas, and grapes contain high sugar; therefore these fruits should be consumed lesser than the others.

Small frequent meals:

A large meal gives rise to higher blood sugar in one's body, therefore it is essential to take small frequent meals to prevent both higher and very low blood sugar values and keep them constant. Small in between snacks can be dhokla, fruit, high fibre cookies, butter milk, yogurt, upma/poha with vegetables etc.

A person with diabetes should follow a diet which is low in carbohydrates, high in fibre and contains adequate amounts of proteins, vitamins and minerals; and avoid fatty foods and sweets. He/she should also take frequent small meals (5 meals pattern).

Have lots of fluid.
Limit intake of alcohol.
TOI

Growing concerns over environmental chemicals and insulin resistance

Study leader Dr. Leonardo Trasande, a professor at NYU Langone, says: "Our research adds to growing concerns that environmental chemicals might be independent contributors to insulin resistance, elevated **blood pressure** and other metabolic disorders."

Prof. Trasande would like the 1976 Toxic Substances Control Act updated: "Our study adds further concern for the need to test chemicals for toxicity prior to their broad and widespread use, which is not required under current federal law." Other research from Prof. Trasande in 2013 confirmed a link between DEHP exposure and **hypertension** in Americans. DEHP was used as a plasticizer but banned in Europe in 2004 - DINP and DIDP are designed to replace it. Perhaps the safer alternatives lie in not using plastics at all.

"Alternatives to DIDP and DINP include wax paper and aluminum wrap; indeed, a dietary intervention that introduced fresh foods that were not canned or packaged in plastic reduced phthalate metabolites substantially."

Prof. Trasande adds that there are "safe and simple" steps that can limit exposure to phthalates, including:

- Do not microwave food in plastic containers or covered by plastic wrap
- Do not wash plastic food containers in the dishwasher, where plasticizers can leak out
- Avoid phthalates by avoiding plastic containers labeled with the numbers 3, 6 or 7 inside the recycle symbol.

The results of the research come from blood and urine sample analysis of participants in the National Health and Nutrition Examination Survey (NHANES).

Millions of Americans 'do not know they have diabetes'

Diabetes is a disease where there is too much glucose in the blood. This can be either because the body cannot produce the insulin that helps convert the glucose into energy for cells (type 1 diabetes) or because the body develops resistance to insulin (type 2 diabetes, the most common form of the disease).

If diabetes goes untreated, high glucose levels build up in the blood and instead of going into cells to produce energy, it leads to short-term and long-term problems. In the short term, cells get starved of energy.

In the longer term, too much glucose in the blood affects the eyes, kidneys, nerves and heart. If untreated, it leads to serious health complications, including **heart disease, stroke**, blindness, kidney failure and lower-extremity amputations.

According to the US Centers for Disease Control and Prevention (CDC), 9.3% of Americans (29.1 million) have diabetes, 28% of whom (8.1 million) don't know they have it, while 86 million have prediabetes, but only 11% know they have it.

Diabetes is the seventh leading cause of death in the US, where estimates show it cost the American economy some \$245 billion in 2012.

Heart and Blood Vessels

Heart disease and blood vessel disease are common problems for many people who don't have their diabetes under control. You're twice as likely to have heart problems and strokes as people who don't have the condition.

Blood vessel damage or **nerve damage** may also cause foot problems that, in rare cases, can lead to amputations. More than half the legs and feet removed are not lost because of an injury, but as a result of this disease.

Symptoms: You might not notice warning signs until you have a **heart attack** or stroke. Problems with large blood vessels in your legs can cause leg cramps, changes in skin color, and less sensation.

The good news: Many studies show that controlling your diabetes can help you avoid these problems, or stop them from getting worse if you have them.

Surprising Things That Affect Blood Sugar

Alcohol. If you drink, only do so if your blood sugar is stable.

Illness. When you're sick, test your blood sugar more often, stay hydrated, and try to eat regularly.

Travel and changes in time zones can also affect your diabetes by disrupting your schedule. Test your blood sugar level before and after meals. Ask your doctor if you need to adjust your medications.-WebMD

How can I reduce my risk?

You can do a lot to reduce your chances of getting type 2 diabetes.

Exercising regularly, reducing fat and calorie intake and losing a little weight can help you reduce your risk. Your lifestyle choices can prevent the onset of type 2 diabetes. Evidence from large research projects in the United States, Finland, Europe and Australia have shown that adopting a healthy lifestyle is effective for preventing type 2 diabetes.

It is important for everyone to be active every day and eat well, not just those aiming to prevent diabetes. Yet while most of us know the benefits of living a healthy, active lifestyle, many of us see it as a lot of hard work and having to give up lots of good things, when it's really not like that at all. Involving the entire family in making decisions such as taking steps to set lifestyle goals and working towards making lifestyle changes is an important first step to preventing type 2 diabetes. It is true that making changes to your lifestyle may mean sacrificing some old habits but with some careful planning and support from programs' such as our **Life! program** you can make these changes to be a part of your every day and reduce your risk of developing type 2 diabetes and other chronic diseases such as heart disease.

To find out more and to order your free type 2 diabetes prevention kit, call 13 RISK (13 7475) or visit www.lifeprogram.org.au. Life! program participants share their experiences: "In 8 months I have lost 12kg and more importantly lowered my blood sugars from 6.2mmol/L to 5.1mmol/L and my success is entirely due to the Life! course and the facilitator. I recommend the course because it started me then supported me in what has been a moderate lifestyle change – but a life changing experience" states one recent Life! program graduate. "Better lifestyle. It's the reason you do the course: to live longer with a better quality of life" declares another Life! program graduate.

The first step is to **assess your risk**. If you score 12 or more on the Australian Type 2 Diabetes Risk Assessment tool or have a history of heart disease or gestational diabetes, you are at high risk of developing type 2 diabetes and may be eligible to participate in the **Life! program**.
Diabetes Australia



This is your poison

Problems of managing Diabetes in Sri Lanka

Dear Dr Harold

I did get very alarmed when I read about diabetes in the article you had written to the Sunday leader, its consequences and the very high cost in purchasing a glucometer etc. etc. Is there some way we can help the poor people in Sri Lanka who suffer from diabetes to buy the glucometer without spending a fortune? Dr Quintes De Zylva and his excellent band of volunteers have performed miracles under the Auslamat programme. I wonder if he could be persuaded to make some suggestions in this direction. It is indeed a tragedy if many in our motherland die because they cannot purchase the machine or get the treatment to cure or control their diabetes, which you say has reached such high proportions.

Patrick Cooray

This letter was received as a consequence to the eye opener article on the subject titled "Why Are Many Diabetics Careless of the Disease?" appearing in one of the Sunday Leader Newspapers.

As suggested, unfortunately, Dr Quintus bringing in a few glucometers will not solve the problem when over a million people suffer from diabetes in Sri Lanka.

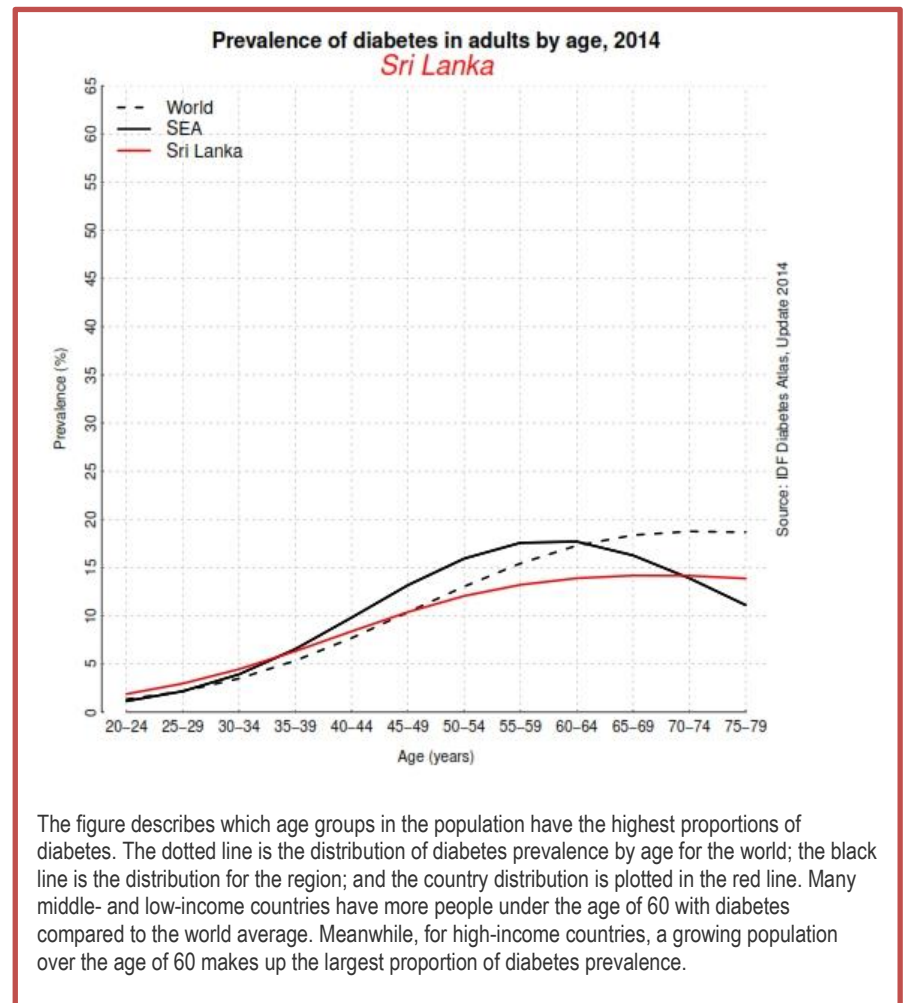
The policy of any elected government should be the responsibility to take care of the health needs of the people. Taking care of good health through education, fund allocations and policy making scores in a healthy nation and the hospitals will be less burdened in managing non-communicable chronic diseases, such as coronary heart disease, stroke and diabetes among others.

Sri Lanka can boast of a good preventive public health system, but when it comes to assisting the sick at times of need as part of home care service fall short in comparison to developed countries.

The population in Sri Lanka suffers from diabetes at all age groups to potential epidemic levels. Sri Lanka is one of the 6 countries of the IDF SEA region.

387 million people have diabetes in the world and 75 million people in the SEA Region; by 2035 this will rise to 123 million.

There were 1.1 million cases of diabetes in Sri Lanka in 2014, whilst in India more than 62 million diabetic individuals currently diagnosed with the disease.



The figure describes which age groups in the population have the highest proportions of diabetes. The dotted line is the distribution of diabetes prevalence by age for the world; the black line is the distribution for the region; and the country distribution is plotted in the red line. Many middle- and low-income countries have more people under the age of 60 with diabetes compared to the world average. Meanwhile, for high-income countries, a growing population over the age of 60 makes up the largest proportion of diabetes prevalence.

More information on Sri Lanka is available from the CIA World Factbook

Continuing next page

Prevention is the cure..... contd

Diabetes though there are genetic and multifactorial risk factors involved, in both types of the disease, is not preventable but controllable. In most developed countries, governments allocate funds to diabetic associations for the proper handling and education of the diabetic care of the patients. Australian model is a good example where the state gives sufficient assistance to these associations to provide diabetic education, and equipment, screening and other needs at a nominal price to the convenience of the sufferers. Such associations have sufficient nursing and para-medical staff, to educate and manage diabetic cases.

It is an area where a substantial allocation of funds is necessary to manage the ever increasing population of diabetes among Sri Lankans. Diabetic associations do exist in the main cities, and in the rural areas diabetics may have to visit daily for their insulin shots to the local hospital. In Colombo, the Diabetic Association runs as a non-profit non-governmental organization with its headquarters at National Diabetes Centre (NDC) 50, Sarana Mawatha Rajagiriya. It is the only organization in Sri Lanka committed to serve the diabetic fraternity of the country through primary and secondary prevention, education, awareness and advocacy. Unfortunately, such efficiently run diabetic management services are not present in other parts of the island, mainly in the provinces.

Distribution of glucometers and test strips

Glucometers that monitors the blood sugar levels are not within the reach of the average person in Sri Lanka. Most pharmacies and drug companies sell each for approximately Rs 6,000. The rich people do buy them in Sri Lanka or on their visits abroad, but the government needs to subsidise them if the government seriously thinks of controlling the disease in the population.

A diabetic patient in this modern age cannot keep a check on the blood sugar levels unless he or she has the privilege of having a glucometer and the test strips that go with it.

If the government of the day cannot handle the situation, an appeal to the World Health Organization for assistance may be the solution.

The mission of the WHO Diabetes Programme is to prevent diabetes whenever possible and, where not possible, to minimize complications and maximize quality of life. Our core functions are to set norms and standards, promote surveillance, encourage prevention, raise awareness and strengthen prevention and control.

Why haven't the successive Sri Lankan governments seek the assistance of the World Health Organization to control the disease?

Take diabetes seriously.

You may have heard people say they have "a touch of diabetes" or that their "sugar is a little high." These words suggest that diabetes is not a serious disease. That is not correct. Diabetes is serious, but you can learn to manage it.

People with diabetes need to make healthy food choices, stay at a healthy weight, move more every day, and take their medicine even when they feel good. It's a lot to do. It's not easy, but it's worth it!

Dietetic education

In most developed countries diabetics are aware that they should restrict to eating low glycaemic Index foods. In Sri Lanka, the term is not familiar with as health education for diabetes is lacking through the media.

People with diabetes or no diabetes eat the same food. They all eat foods cooked with processed rice or wheat flour, such as white rice with curries, indiappans, pittus, hoppers. In most homes diabetic patients have no other option than eating carbohydrates for all three meals, the most common energy producing food?

The same applies when one leaves home. All way-side food outlets are full of high glycaemic foods, and the diabetics have no way of escaping other than eating such food.

Eating high protein diet with low glycaemic carbohydrates

In most other countries people could afford to eat a high protein diet such as eating fish and meat more regularly for energy purposes. In Sri Lanka the average wage earner finds it difficult to eat high protein diets due to the costs. Most working class people purchase a "bath packet" (White rice forming the bulk of the parcel with added small amounts of curries), on their way to work. Such rice packets are not suited for diabetics to consume as they are composed of highly processed high glycaemic white rice.

It would be the responsibility of the health authorities to see that special meal packets are available for diabetic people. That itself will educate the diabetics what sort of food they should consume.

What would be the alternative?

Diabetics should not eat more than two tablespoons of rice per sitting, in order to control blood sugar levels. Even taking anti-diabetic medication may not be able to control such bulk eating of high glycaemic foods.

Sri Lankans are not traditionally salad eaters unlike the Western countries, including the Mediterranean belts.

Eating vegetables and salads are low glycaemic index foods and are most suited for diabetic patients to keep the blood sugar within the normal range.

For breakfast, eating boiled green gram (mun ata) with coconut scrapings and lunu-miris would be a good choice for diabetics.

Most average people eat white bread with left over lentil curry from the previous night. Switching to brown multigrade types of bread would ease the situation.

Those rich people having servants invariably cook mouth-watering hoppers or indiappans for breakfast. Consuming these diets daily may be a factor for the increase incidence of diabetes in Sri Lanka.

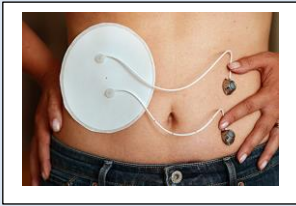
It would be the responsibility of the health authorities to publicise through the mass media the types of food diabetics must eat. This may reduce the incidence of diabetes in Sri Lanka.

Most of all, all diabetics must visit the gym daily for half hour gym workout. That alone may bring down the blood sugar levels.

(Article written for publication in Sunday Leader by the editor- still unpublished)

Implantable and Wireless Medicine

An Artificial Pancreas



People with type 1 diabetes may soon be able to set their insulin doses by smartphone. Researchers are testing a "bionic pancreas," a pump that goes under your skin. When paired with an app and a small chip, it tracks blood sugar levels and adjusts amounts of insulin and glucagon (another hormone that controls blood sugar) on its own. A key study is slated for 2016 and the researchers, who are based at Boston University and Massachusetts General Hospital, plan to submit the device for FDA approval in 2017.
Robin Roberts WEbMD

Past studies have shown, for instance, that people who hold a warm cup of coffee tend to consider strangers as likely to be more friendly and "warm" than do people who hold a cup of iced coffee.

Eyes

Diabetes is the leading cause of new vision loss in the U.S. in adults 20 to 74 years old. It can lead to eye problems, some of which can cause blindness if not treated:

Glaucoma
Cataracts
Diabetic retinopathy

Symptoms: Vision problems, sight loss, or pain in your eye if you have diabetes-related eye disease.
The good news: Studies show that regular eye exams and timely treatment of these kinds of problems could prevent up to 90% of diabetes-related blindness.

Why do high triglycerides matter?

Although it's unclear how, high triglycerides may contribute to hardening of the arteries or thickening of the artery walls (atherosclerosis) — which increases the risk of stroke, heart attack and heart disease.

High triglycerides are often a sign of other conditions that increase the risk of heart disease and stroke as well, including obesity and metabolic syndrome — a cluster of conditions that includes too much fat around the waist, high blood pressure, high triglycerides, high blood sugar and abnormal cholesterol levels.

Sometimes high triglycerides are a sign of poorly controlled type 2 diabetes, low levels of thyroid hormones (hypothyroidism), liver or kidney disease, or rare genetic conditions that affect how your body converts fat to energy. High triglycerides could also be a side effect of taking medications such as beta blockers, birth control pills, diuretics, steroids or the breast cancer drug tamoxifen.

Mayo Clinic

Find out why the glycemic load of foods is more important than the glycemic index — and how you can use one to calculate the other.

By Madeline Vann, MPH
Medically reviewed by Farrokh Sohrabi, MD

Once you've mastered counting carbs, just a little more math will let you fine-tune your [diabetes](#) diet plan. Figuring out the glycemic load of a food can help you craft a menu that won't put your [blood sugar](#) on a roller coaster.

Understanding Glycemic Index vs. Glycemic Load

Beyond carbohydrate counting, you might already be looking at the glycemic index (GI) [number](#), which tells you how quickly your blood sugar might spike after eating a certain type of food. The GI of carb-based foods is a measurement of how quickly blood sugar rises after eating in comparison to a slice of white bread, which has a GI of 100. In general, the lower the GI number, the less dramatically the food will affect blood sugar. Low-GI foods are generally 55 or less.

However, calculating the glycemic load (GL) can provide an even more accurate picture of what that food will do to your blood sugar. "Glycemic load accounts for carbohydrates in food and how much each gram of it will raise your blood sugar level," says Krista Wennerstrom, RD, food and nutrition services director at Thorek Memorial Hospital in Chicago.

To find a food's GL, multiply its GI by the number of carbohydrate grams in a serving, and then divide by 100. A low GL is between 1 and 10; a moderate GL is 11 to 19; and a high GL is 20 or higher. For those with diabetes, you want your diet to have GL values as low as possible.

As an example, an average cake-type doughnut has a GI of 76 and 23 carbohydrate grams. Multiply 76 by 23 and then divide by 100, and you get 17.48, which is close to the top of the moderate range for glycemic load.

Diabetes Takes a Toll on the Brain

By
NICHOLAS BAKALAR

Having Type 2 diabetes is associated with greater impairment of blood flow to the brain and a sharper decline in mental acuity compared with nondiabetic people of similar age and health status, even over a two-year period, researchers report.

The study, [published in Neurology](#), included 40 people whose average age was 66, half of whom had been in long-term treatment for Type 2 diabetes. All were tested at the start of the study and then two years later with M.R.I. scans, various blood tests and several tests of cognitive ability.

At the end of two years, people with diabetes had greater declines in gray matter volume, composite scores on mental tests, and in rates of blood flow to the brain than those in the control group. They also had greater increases in blood measures of inflammation. Among the group with diabetes, those with more severe declines in cerebral blood flow had correspondingly greater declines on tests of mental skills.

"There is currently no treatment for cognitive decline in diabetes," said the lead author, Dr. Vera Novak, an associate professor of neurology at Harvard. "Even tighter glycemic control did not improve things. We are doing a new trial to assess whether injecting insulin into the brain through the nose could improve cognitive function or slow down cognitive decline."

Vegetables and Diabetes

Most vegetables contain fiber and are naturally low in fat and sodium (unless they are canned or frozen in sauces). Starchy vegetables, such as potatoes and corn, aren't included in this category. They are considered part of the breads, grains, and other starches group.

Best Choices:

Fresh vegetables, eaten raw or lightly steamed, roasted, or grilled
Plain frozen vegetables, lightly steamed
[Low sodium](#) or unsalted canned vegetables
Lettuces, greens, kale, spinach, arugula

Worst Choices:

Canned vegetables with lots of added sodium
Vegetables cooked with lots of added butter, cheese, or sauce
Pickles (if you need to limit sodium; otherwise, pickles are okay)
Sauerkraut, (same as pickles; limit only if you have [high blood pressure](#))
Fruits and Diabetes
Fruits have carbohydrates, [vitamins](#), minerals, and fiber. They are naturally low in fat (except for avocados) and sodium. Most fruits have more carbs than do vegetables.
WebMD

Why Does Cholesterol Matter?

Keeping your LDL cholesterol at a healthy level can bring down your chances of having heart disease. Your doctor will let you know by how much your cholesterol should be lowered.

How Diabetes Affects the Eyes

Diabetes can increase the risk of eye problems. Your blood sugar (glucose) levels may be high because your body can't make or use insulin properly. Too much blood sugar can build up, damaging nerves and blood vessels in the body. When the damage happens in the blood vessels in the eyes, this can lead to vision loss or blindness. Anyone with diabetes is at risk, so it's important to get routine eye exams.

Signs and Symptoms of Eye Damage

Diabetes can affect the eyes in different ways. When blood sugars are high or when you start insulin treatment, you may experience blurry vision or other vision problems. But your eyes may be damaged even if you don't notice any changes. Don't wait for symptoms to arise to get your vision checked.

Diabetic Retinopathy

The retina senses light coming into the eye and sends messages to the brain about the things you see. When blood glucose builds up, the blood vessels inside the retina may be damaged -- this is called diabetic retinopathy. At first you may not notice any changes. But over time these blood vessels may develop fragile defects in the blood vessel walls, which can leak fluid. With advanced diabetes, fragile blood vessels grow throughout the retina. This can lead to severe vision loss and even blindness.

Treatment -- Laser Surgery

Retinopathy can be detected during thorough eye exams. A special type of angiogram uses dye to find leaking blood vessels. Early stages of diabetic retinopathy often can be treated with laser surgery called photocoagulation. The laser seals the blood vessels in order to stop them from leaking and growing. The procedure can't restore lost vision. Combined with follow up care, however, surgery can lower your chances of blindness by as much as 95%.



Treatment -- Vitrectomy

In advanced stages of diabetic retinopathy -- if the retina has detached or a lot of blood has leaked into the eye -- your doctor may suggest vitrectomy. This surgical treatment removes scar tissue, blood, and cloudy fluid from inside the eye. Vitrectomy can often improve vision, especially if it's done before the disease has progressed very far.

Diabetic Retinopathy Risk Factors

Risk factors for diabetic retinopathy include how well you control your blood sugar and blood pressure. Control of blood cholesterol may also help reduce the risks. Your chances of developing diabetic retinopathy increase the longer you have diabetes. Eventually, nearly everyone with diabetes will develop some degree of retinopathy.

Diabetic Retinopathy Prevention

You can help prevent eye problems by keeping your blood sugar, blood pressure, and cholesterol under control. A major study found that people with diabetes who managed their diabetes intensely had much lower rate of diabetic retinopathy as those who followed standard diabetes treatment. It also helps to stop smoking. And it's very important to get an annual dilated eye exam to detect early signs of the disease.

Glaucoma and Diabetes

While anyone over 40 is at increased risk of glaucoma, people with diabetes are 40% more likely to develop it. Your chances increase the longer you have diabetes. Glaucoma may cause bright halos or colored rings around lights, but usually has no symptoms. Untreated, it can cause an increase in eye pressure that damages the optic nerve, resulting in vision loss and blindness. Glaucoma can be treated with drops to lower eye pressure, or laser or conventional surgery.

Cataracts and Diabetes: If you have diabetes, you're 60% more likely to develop cataracts -- and you're more likely to get them at a younger age than people without diabetes. Poor control of blood sugar can speed up this condition. With a cataract, the lens in the eye becomes cloudy, which blocks light and makes everything look hazy. Cataract surgery -- when the eye's natural lens is replaced with an artificial lens -- can help vision. Sometimes diabetic retinopathy can get worse after cataract surgery.

WebMD

Can I Eat Fruit if I Have Diabetes?

Listen

By Amy Capetta
WebMD Feature

Reviewed by [Kathleen M. Zelman, MPH, RD, LD](#)

Fruit is not off-limits if you have [type 2 diabetes](#). It

has too many good things going for it, such as fiber and nutrients, as well as its natural sweetness.

These fruits are good choices. Keep in mind that fruit gives you carbs, and "as with any carbohydrate, it's important to be mindful of serving sizes," Shira Lenchewski, RD, says. Pairing fruit with some [protein](#), such as nonfat or low-fat yogurt or a few nuts, also helps.

Tomatoes

Considered a vegetable or a fruit (depending on whom you ask), one thing is sure -- this red member of the nightshade family is loaded with lycopene, a natural chemical that gives the [tomato](#) its bright color. Cooked [tomatoes](#) are richer in lycopene than raw tomatoes.

"It's a powerful antioxidant that is associated with lowering [LDL](#) 'bad' [cholesterol](#) levels and lowering the risk of heart disease, two [diabetes](#)-related conditions," Lenchewski says.

Portion Size: 1 cup

Nutritional Info: 30 calories; 8 grams of carbs

Avocado

"While [avocado](#) may not come to mind when we think of fruits, it's a wonderful low-[sugar](#) option," Lenchewski says. "Although avocado is high in fat, it's mostly polyunsaturated fat, which provides a variety of anti-inflammatory benefits."

Portion Size: half an avocado

Nutritional Info: 140 calories, 8 grams of carbs

Blackberries

These dark-colored berries are rich in anthocyanins. "Since these antioxidants protect body tissues from oxidative damage, they play an important role in maintaining heart health," Lenchewski says.

Maarouf adds that the anthocyanin compounds can help raise HDL ("good") [cholesterol](#) while lowering LDL ("bad") cholesterol. "Blackberries are also a fantastic source of vitamin C, potassium, and fiber -- nearly 8 grams, which means it contains more fiber than most cereals and breads on the market," she says.

Portion Size: 1 cup

Nutritional Info: 70 calories, 15 grams of carbs

Banana

When people with [diabetes](#) are looking for something good to eat, they'll think "anything but the banana," Maarouf says. "While a whole banana (depending on the size) may be a shade over 30 carbs, it could be just 10 carbs more than a flour tortilla or an average slice of bread," she says.

"Looking at the bigger picture, bananas are a great source of potassium and [magnesium](#), which can also help keep your [blood pressure](#) under control."

Banana comes neatly packaged by nature. You can toss it into a bag as-is. "And if you add a [cereal](#) bar, you have a [breakfast](#) with enough carbs to keep your [blood sugar](#) -- and your brain -- from crashing before lunch time," Maarouf says.

Portion Size: 1 medium banana (about 7 inches long)

Nutritional Info: 105 calories, 27 grams of carbs



Great Grains to Try- for diabetics: Maybe you've heard of quinoa, the whole grain from South America. Some other new-to-you whole grains are becoming more widely available, and they can be a good choice to get complex carbs in your diet.

Some grains to look for are millet, a staple from Africa and Asia, bulgur, which is used in Middle Eastern dishes, and triticale, a hybrid of wheat and rye.

WebMD

Diabetic control in a nutshell

If you don't eat there wouldn't be sugar in your blood for metabolic processes: diabetes gets cured but you die.

If you do not eat any carbs, only fat and proteins: your diabetes again gets cured, but you die of kidney failure.

If you exercise daily like a gym work out and eat a normal meal restricting carbs to 40gm. You will live in the pre-diabetic phase.

When you have a full blown diabetic situation you need to take anti-diabetic medication, do daily exercise and restrict to low GI carbs (vegies) diet- you live As you age, after about 10 years being a diabetic, tablet medication may not suffice to maintain the blood sugar within the normal range- then you start on insulin, and continue exercise regime- you live.

The advantage of taking insulin is that you could enjoy food and take adequate dose of insulin at the beginning of the meal. So, at a party a diabetic can look at the food displayed on the table, assess how much you will indulge and take adequate dose of the insulin injection. If you are on tablet medication bad luck, you die.

So, low GI diet (Mediterranean type), plenty of salads, olive oil, fish , nuts and little meat with a glass of red wine, exercise and weekend dancing will go a long way, you will live joyfully.

Take my advice.

Remember, you are your own doctor for diabetes like the captain of the ship

The medical literature tells us that the most effective ways to reduce the risk of heart disease, cancer, stroke, diabetes, Alzheimer's, and many more problems are through healthy diet and exercise. Our bodies have evolved to move, yet we now use the energy in oil instead of muscles to do our work.

David Suzuki

Diabetes drug discovery promises targeted treatment for the future

Metformin has been used for more than 50 years, but until now little has been known about how it actually works at a molecular level.

Previously, researchers assumed the drug directly reduced blood-sugar levels, but now they have discovered that in fact it reduces harmful fat molecules in the liver. "It's now given us a road map that we didn't have before in terms of a molecular understanding," Professor Bruce Kemp of St Vincent's Institute in Victoria said.

Now that researchers have unlocked the secrets of Metformin, it will enable doctors to directly target the condition.

Type 2 diabetes affects an estimated half a million Australians and an estimated 100 million around the world.

Those with the disorder are unable to convert the sugar in their blood into energy due to low levels of insulin, leaving them with high blood-sugar levels.

Metformin could also have important applications beyond diabetes.

"There's a lot of interest in Metformin as a potential therapeutic drug used in cancer," Professor Kemp said.

"There are a number of laboratories in the world, including the National Institute of Health laboratory, the aging laboratory in Baltimore, where they're analysing the effects of Metformin on aging.

"Low doses have been shown to extend the lives of mice" ABC News.

Hypoglycaemia

Cold sweats, trembling hands, intense [anxiety](#), a general sense of confusion -- no, it's not the night before final exams. These are signs of [low blood sugar \(hypoglycemia\)](#), and it often happens when you take too much [insulin](#).

Hypoglycemia happens to many people with [diabetes](#). And it can sometimes be serious. Thankfully, most episodes related to [insulin](#) can be avoided if you follow a few simple rules.

How to Avoid Mistakes

You might have too much [insulin](#) in your system and get a drop in your blood sugar for several reasons. It most often happens when you:

Misread the syringes or vials. This is easy to do if you're unfamiliar with a new product.

Use the wrong type of insulin. Let's say you normally take 30 units of long-acting and 10 units of short-acting insulin. It's easy to get them mixed up.

Take insulin, but don't eat. Rapid-acting and short-acting insulin injections should be taken just before or with meals. Blood sugar rises after meals. Taking rapid-acting or short-acting insulin without eating could lower [sugar levels](#) to a potentially dangerous level.

Inject insulin in an arm or leg just

before exercise. [Physical activity](#) can lower [blood sugar levels](#) and also affect how your body absorbs insulin. Inject in an area that isn't affected by the exercise.

What Is Pre-diabetes?

Prediabetes is a wake-up call that you're on the path to diabetes. But it's not too late to turn things around.

If you have it (like 79 million other Americans), your blood sugar (glucose) level is higher than it should be, but not in the diabetes range. People used to call it "borderline" diabetes. Normally, your body makes a hormone called insulin to help control your blood sugar. When you have prediabetes, that system doesn't work as well as it should. You might not be able to make enough insulin after eating, or your body might not respond to insulin properly.

Prediabetes makes you more likely to get heart disease or have a stroke. But you can take action to lower those risks.

3 Key Lifestyle Changes to Make Now-pre-diabetes

Lifestyle changes can help many people with prediabetes delay or prevent it from becoming diabetes.

In a large research study called the Diabetes Prevention Program, these changes cut the odds of getting diabetes:

1. Weight control. If you're overweight, your prediabetes is more likely to turn into diabetes.

Losing even as little as 5% to 10% of your body weight makes a difference.

2. Exercise. Get moderate exercise for 30 minutes a day, such as cycling, swimming, or brisk walking. It helps prevent and manage diabetes, studies show. Aerobic exercise, the kind that gets your heart rate up, is ideal. If you're not active now, check with your doctor first.

3. Nutrition. Go for meals that mix low-fat protein, vegetables, and whole grains. Limit calories, serving sizes, sugar, and starchy carbs. Favor fiber-rich foods, which help you feel full and not eat too much

WEbMD

How much added sugar should you consume?

Current dietary guidelines set in 2010 say the upper level recommendation for sugar is 25 percent of your daily calories. I think we have a good amount of evidence that suggests nobody should be eating 25 percent of their daily calories as added sugar.

Now new guidelines could bring it down to 10 percent of daily calories. However, comments are still being made till May 9. ... I think we're going to have a new upper limit recommendation. It's not as low as the American Heart Association's, but it sure is an improvement over 25 percent.

By Sonya Collins

WebMD Health News



A diabetic should not consume a whole plate of rice as seen in the picture. You have had your share in life, and that could be the reason that you have developed insulin resistance.

Two tablespoons of rice would be the recommended amount, and nothing more. Substitute your hunger pangs and get that feeling of fullness, fill your plate with curries, and vegetables.

Drink plenty of water

What's the difference between fructose and glucose?

A: Both glucose and fructose are sugars. My colleagues and I published a study that very clearly showed a marked difference between older, overweight people who consumed glucose-sweetened beverages and those who drank fructose-sweetened beverages.

For 10 weeks, the adults in the study got 25 percent of their daily calorie needs from either fructose-sweetened or glucose-sweetened beverages. Both groups gained the same amount of weight – about three and a quarter pounds. But those who drank the fructose-sweetened beverages turned more sugar into fat. They had increased levels of fats in their blood, increased insulin resistance, and they gained fat in the abdomen around the organs.

We saw none of these effects in the group that consumed glucose.

By Sonya Collins

WebMD Health News

Diabetes and Coffee

By Megan Day MS, RD, CDE



When you're talking about coffee and reducing the potential type 2 diabetes risk, it's important to note that we are talking

about **caffeinated** coffee without any additions, like cream or sugar. While your corner coffee shop is selling a grande mocha latte, those types of drinks do not carry the same health benefits of plain, black coffee.

In this blog, we'll discuss how caffeinated, black coffee affects your risk of developing type 2. In addition, we'll talk about what you're really drinking in your grande from the coffee shop and ways to make them healthier.

Coffee Consumption and Diabetes Risk

In a study published in the journal *Diabetologia*, increased consumption of coffee showed a reduced risk of developing type 2 diabetes. The risk reduction was rather significant. Participants who increased their coffee consumption on average by one and a half cups per day showed an 11% reduction in risk. Participants who decreased their consumption of coffee by one cup or more showed a 17% higher risk for developing type 2 diabetes. It's important to note this study evaluated thousands of people and followed them for four years. (1) Individuals that had the highest rates of consumption (3 or more cups of coffee per day) had a 37% lower risk than the individuals that consumed the lowest amounts of coffee (less than one cup per day). (1) The study did mention that individuals with more complications such as cardiovascular disease, high cholesterol, high blood pressure, or cancer may be those that also consume lower amounts of coffee. However, even when certain cases of comorbidities were excluded, the results were similar. (1)

The takeaway from this is if you drink coffee regularly, and you have clearance from your doctor, it may be beneficial to increase your coffee consumption by another cup. I wouldn't recommend drinking it all at once, and avoid putting in extra sugar and cream.

Read more: http://www.diabetescare.net/authors/megan-day/coffee-and-the-diabetes-risk?utm_source=taboola&utm_medium=referral&utm_term=nbc-today#ixzz3XyB1BBLr

Overweight Diabetes Patients Outlive Slimmer Ones - Study

By Sharon Begley

NEW YORK (Reuters) - Patients with type 2 diabetes who are overweight but not obese outlive diabetics of normal weight, scientists reported on Monday, in another example of the "obesity paradox."

Although public health officials issue dire warnings about the consequences of overweight, and employers are pressuring workers to slim down via "wellness programs," the relationship between weight and longevity is paradoxical: Studies show that although obesity increases the risk of developing cardiovascular disease (CVD), overweight patients with CVD live longer than patients of normal weight.

Similarly, obesity increases the chances of developing type 2 diabetes. But it wasn't clear if overweight confers a survival advantage in diabetics.

Sixteen previous studies got conflicting answers: Some found overweight diabetics had lower mortality; others didn't. But many were hobbled by methodological problems including few patients, short follow-up, or using questionnaires rather than clinic records.

The new study tried to do better. Researchers led by Drs. Stephen Atkin and Pierluigi Costanzo of Britain's University of Hull followed 10,568 patients with type 2 diabetes for an average of nearly 11 years.

Although overweight and obese patients had an increased risk of heart attack and stroke, they were more likely to stay alive than normal-weight diabetics, the researchers reported in *Annals of Internal Medicine*.

Underweight diabetics had the highest risk of dying during the study, with nearly three times the mortality of normal-weight patients. Overweight patients had the best survival, being 13% less likely to die than normal-weight or obese diabetics.

That result was at odds with a 2014 study in the *New England Journal of Medicine* that found no survival advantage with extra pounds. That study, however, used the upper end of normal weight as the comparison. If it had used the full range of 18.5 to 24.9, Costanzo said, "it's likely" the results "would have been similar to ours."

SOURCE: <http://bit.ly/1Qgjt8>

In Life, do your best to be positive. Diabetes is a serious illness, but it can be controlled. If you are willing to do your part, change your lifestyle, you can continue to enjoy an active and fruitful life.

The mother may notice that the child becoming confused, sleepy, or go unconscious when the blood sugar is high.

Look for these symptoms in your child suspected of diabetes

- Increase in the frequency of urination.
- Bed wetting at night
- Slight increase in thirst.
- Increased tiredness
- Nausea
- Blurred vision
- Frequent infections and slow healing wounds
- Weight loss

Doctors, dieticians, and other medical men can only advice you, but proof of the pudding is in the eating. You should become your own doctor to control your diabetes on a daily basis. Do not neglect yourself under the pretext that you are with the best diabetic specialist, ultimately, it is you who need to control your sugar intake.

Type 2 diabetes can't be cured, but it can be reversed by eating right (low GI foods) and exercising regularly. You need to understand the complications of neglected diabetes, terminating as chronic kidney failure, stroke, heart problems and other serious health concerns that come with diabetes

Insulin pump

This is a device used for the administration of insulin in the treatment of diabetes mellitus with a continuous under the skin (subcutaneous) insulin infusion therapy. This is composed of

- The pump itself
- Disposable reservoir for insulin
- Disposable infusion set including a cannula for insertion under the skin
- Can be uploaded to a computer and graphed for trend analysis.

Neuropathy is a troublesome complication of diabetes resistant to usual treatment. There are reports of alleviation or even total disappearance of resistant neuropathic pain with the use of insulin pumps.

The pump allows the replacement of slow acting insulin for basal needs with infusion of rapid acting insulin during the time of eating. The advantage of the pump is that the user can give a bolus dose before the meal to cover the glucose level resulting from the meal. These pump users feel that bolus injections from the pump is more convenient and discreet than the regular injections (pen types).

- Many modern "smart" pumps have a "bolus wizard" that calculates how much bolus insulin you need taking into account your expected carbohydrate intake, blood sugar level, and still-active insulin.

- Insulin pumps can provide an accurate record of insulin usage through their history menus. On many insulin pumps, this history

- Recent studies of use of insulin pumps in Type 2 diabetes have shown profound improvements in HbA1c, sexual performance, and neuropathy pain.

Written by the editor

Hyperglycaemia

Hyperglycemia, or high blood sugar (glucose), is a serious health problem for those with diabetes. Hyperglycemia develops when there is too much sugar in the blood. In people with diabetes, there are two specific types of hyperglycemia that occur:

Fasting hyperglycemia is defined as a blood sugar greater than 130 mg/dL (milligrams per deciliter) after fasting for at least 8 hours.

Postprandial or after-meal hyperglycemia is defined as a blood sugar usually greater than 180 mg/dL. In people without diabetes postprandial or post-meal sugars rarely go over 140 mg/dL. However, occasionally after a large meal, a 1-2 hour post-meal sugar level can reach 180 mg/dL. Consistently elevated high post-meal blood sugar levels can be an indicator that a person has or is at high risk for developing **type 2 diabetes**

- When a person with diabetes has hyperglycemia frequently or for long periods of time as indicated by a high **HbA1c** blood test, damage to nerves, blood vessels, and other body organs can occur. Hyperglycemia can also lead to more serious conditions, including **ketoacidosis** -- mostly in people with type 1 diabetes -- and **hyperglycemic hyperosmolar nonketotic syndrome** (HHNS) in people with type 2 diabetes or in people at risk for type 2 diabetes.
- It's important to treat the symptoms of hyperglycemia promptly to help prevent complications from diabetes.

WebMD

High blood pressure and diabetes—double trouble

Do you have high blood pressure, also known as hypertension? If so, you should be tested for diabetes. That recommendation comes from the U.S. Preventive Services Task Force, an independent panel of experts that reviews the evidence for prevention strategies. The task force's recommendations usually become guidelines for primary care doctors and some specialists. High blood pressure and diabetes often travel together. Treating them simultaneously is a win-win approach. For example:

- Among people with diabetes, controlling blood pressure cuts in half the chances of having a heart attack or stroke or dying of heart disease.
- Among people with high blood pressure, controlling blood sugar reduces the chances of:
 - losing vision
 - losing feeling in the fingers or feet
 - losing a limb
 - suffering kidney damage.

Key points

- If you have high blood pressure, make sure you are tested for diabetes.
- Controlling blood pressure and diabetes with lifestyle changes can substantially decrease your chances of having a heart attack or stroke. Lifestyle changes include:
 - exercise
 - losing weight if needed

stopping smoking if you're a smoker

Diabetes is a disease unlike cancer, you could control with discipline and you'll live as long as non-diabetics with less risk factors

Controlling Diabetes

You could walk for 30 minutes daily and with the right diet, you can put diabetes in retreat. Give up most of the high calorie carb foods like pizzas, mashed potatoes, rice, and sweets. Two tablespoonful of brown rice would be the amount you should eat, if you are a rice addict. Noodles and pasta are good substitutes for rice, provided you limit the load intake. Lowering carbohydrate intake is crucial because most carbs release too much of sugar and cause spikes in the blood. Focus on leafy greens, and enjoy a salad for lunch. Get more proteins from poultry rather than from red meat. Eat oily fish at least twice a week. Eat wholemeal bread with high fibre. Limit the bread to one or two slices.

If you are overweight reducing by eating less and exercising more would bring down excess sugar levels in your blood, and may lose weight, too.

Exercise in addition to losing weight, build muscles, and stimulate insulin sensitivity. Do some daily stretching exercises and aerobics (climbing the stairs at home or at work as many times as possible

New classes of Drugs

Dipeptidyl peptidase-4 inhibitor

DPP-4 inhibitors (gliptins) include the oral drugs Januvia, Nesina, Onglyza, and Tradjenta. –class of drugs used orally to treat type 2 diabetes by inhibiting or blocking DPP-4 Glucagon stored in the liver increases blood sugar levels. DPP-4 inhibitors reduce glucagon and blood sugar levels. The mechanism of DPP-4 inhibitors is to increase incretin levels (GLP-1 and GIP), which inhibit glucagon release, which in turn increases insulin secretion, decreases gastric emptying, and decreases blood glucose levels.

Side effects of DPP-4 inhibitors-

Long-term effects of DPP-4 inhibitors on mortality and morbidity are so far inconclusive, although adverse effects, including nasopharyngitis, headache, nausea, hypersensitivity and skin reactions, have been observed in clinical studies

Sodium-glucose co-transporter 2 (SGLT2) inhibitors

Sodium-glucose co-transporter 2 (SGLT2) inhibitors work by blocking glucose from being re-absorbed by the kidneys. That raises the amount of glucose urinated, and lowers the amount of glucose in the blood. Currently, Invokana (canaglifozin) is the only drug in this class that's approved by the FDA. More SGLT2 inhibitors are being developed

Incretin mimetics

There is a relatively new class of drugs called incretin mimetics, which mimic certain substances that can be found in the stomach and intestinal tract. These substances are normally released in response to food intake and signal the release of insulin from the pancreas. Since this reaction is reduced in people with type 2 diabetes, incretin mimetics work to stimulate insulin release and help lower blood sugar. Your doctor may recommend incretin mimetics if you have not been able to adequately control your blood sugar with other types of treatment. These medications are taken by injection, either once or twice a day.

Glycaemic Index (GI) can be used as a guide as long as you are aware of the limitations. For example, the GI of some fruits, vegetables and cereals can be higher than foods that are considered to be treats, such as biscuits and cakes. This does not mean that we can replace these with treats, as the former are rich in nutrients and antioxidants, and the latter are not.

The glycaemic index of food is a ranking of foods based on their immediate effect on blood glucose (blood sugar) levels. Carbohydrate foods that breakdown quickly during digestion have the highest glycemic indexes. Their blood sugar response is fast and high. Carbohydrates that breakdown slowly, releasing glucose gradually into the blood stream, have low glycemic indexes.

Those who eat carbohydrates of high glycaemic index (GI) regularly, i.e. an index over 60 are most probably, sure candidates to become diabetics especially those with a family history. Eating high GI foods regularly, such as white rice having a GI index of 87, or cooked carrots and baked potatoes, GI of 85, or white bread of GI 70, or products cooked with wheat flour, such as string hoppers, hoppers, pittus, roties, are the sure candidates to become diabetics, complicated by obesity.

New Thinking about Eating

Protein: The role of protein in the diet of people with diabetes has been the subject of some controversy. For many years, it was thought that most of the protein that was eaten was converted to glucose in the liver and entered the bloodstream, rising blood glucose levels. New research, however, has shown that while about half of the protein is in fact converted to glucose, it does not enter the bloodstream. Where it goes remains a mystery- but it probably does' not affect blood glucose levels.

Experts today recommend that people with diabetes include protein in their diets as about 17 percent of calories- the same recommendation as for everyone else. There is evidence that people with diabetes whose protein intake exceeds 20 percent of daily calories may be more likely to develop the early signs of kidney disease. If kidney disease is already present, reducing protein intake has been shown to slow the progression of the disease.

Much has been learned- we now know that protein doesn't help in the treatment of hypoglycaemia. More research is needed, however, to pinpoint the precise effects of protein in people with diabetes.

Source: A Franz MJ. Protein- New research, new recommendations. Diabetes Self Management,

HbA1c for Diabetes Diagnosis

HbA1c (also known as glycated haemoglobin), since late 1970s, and currently is being used to measure how well your diabetes is managed, and to assess how your diet has controlled during a period of three months.

Haemoglobin in the red cell is a protein. Glucose floating in the blood serum tends to adhere to haemoglobin within the red cells and measures the percentage of glycated haemoglobin, or A1c in the blood. Haemoglobin in red cells carries oxygen in the blood. When blood sugar is too high it combines with haemoglobin. To check whether you are a pre-diabetic or full blown diabetic the standard tests performed by the doctors up to now are- Presently, and in the past many blood tests were done to diagnose diabetes: Testing your glucose level at home with your monitor measures the blood sugar at a given moment, the A1c test indicates the average for over past few months.

Written by the editor

HbA1c is a reliable test to check whether you are a diabetic, in addition to other routine tests. Every diabetic should check his HbA1c at least once in 6 months.

In Sri Lanka, most diabetics do not get this test done because of the expense. In Australia this test is done under Medicare.

The blood is taken from a vein in the arm.

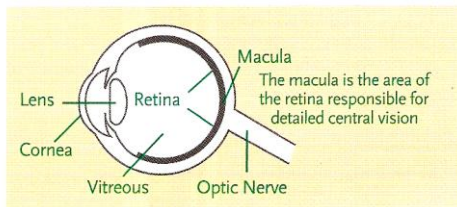
Macular Degeneration

Diabetes with high cholesterol levels may have vision problems

Researchers at Harvard University found that individuals who had the highest levels of low density lipoprotein (LDL, the "bad" cholesterol) were twice as likely to develop macular edema as individuals with lower levels of LDL. Macular edema is a visual disturbance caused by the accumulation of water in the macula of the eye. This condition is the most common cause of blindness in diabetics. Although vision loss is more common in the diabetic population than in other patients, the reason for this is not clear. This study is the first piece of research that demonstrates a possible link between high glucose levels and macular edema.

Ref: About.com by Jennifer Moll Nov 05,2006

Macular degeneration (MD) is a degenerative eye disease that causes loss of central vision, the vision we need to read, drive, and recognize faces. MD is the leading cause of severe vision loss among people over 50 years of age in the Western world. As it is often related to ageing, the condition is also known as age-related macular degeneration (AMD). AMD is usually described as being either wet or dry.



In dry AMD, part of the retina begins to thin and atrophy.

Wet AMD is less common (10-15% of all AMD cases) but more often associated with severe vision loss. It is characterized by the development of abnormal, leaky blood vessels in the macula, which may eventually form scar tissues. A number of treatments are available that can slow (and in some reverse) vision loss in wet AMD.

Early detection of any form of AMD is crucial. Early diagnosis, through medical eye exams approximately every two years, offer eye care specialists the opportunity to provide counsel about appropriate options for treatment.

It is now observed that fat found in dairy products lowers the incidence of developing diabetes, a new study suggests.

Researchers in New York have observed looking at more than 3,700 US adults, that those with higher blood levels of fatty acid known as trans-palmitoleic acid, there was a 60 percent less likely incidence to develop diabetes, a study carried over a period of 20 years.

The findings were that the incidence of Type 2 diabetes was less approximately 60% among those who entered the studies. Trans-palmitoleic acid found in the fatty foods was thought to be beneficial for the lower incidence of Type 2 diabetes.

Such benefits may need to be weighed against the fact that full-fat dairy products having high calories could lead to weight gain, a risk factor for diabetes. Dr. Darius Mozaffarian, an associate professor at the Harvard School of Public Health in Boston is of the same opinion, and that diabetics should continue their current low fat, low glycaemic foods until further studies are carried out. However, the fact remains that dairy has some anti-diabetes properties.

Carbohydrate foods that breakdown quickly during digestion have the highest glycemic indexes. Their blood sugar response is fast and high. Carbohydrates that breakdown slowly, releasing glucose gradually into the blood stream, have low glycemic indexes. Those who eat carbohydrates of high glycaemic index (GI) regularly, i.e. an index over 60 are most probably, sure candidates to become diabetics especially those with a family history.

Eating high GI foods regularly, such as white rice having a GI index of 87, or cooked carrots and baked potatoes, GI of 85, or white bread of GI 70, or products cooked with wheat flour, such as string hoppers, hoppers, pittus, roties, are the sure candidates to become diabetics, complicated by obesity. Rice eaters should feel happy that there is one imported variety of rice – basmati — that has only a GI index of 57 (proviso, you restrict the load).

Prevent type 2 diabetes blood-sugar spikes by eating more protein for breakfast

Individuals with Type 2 Diabetes have difficulty regulating their glucose -- or blood sugar -- levels, particularly after meals. Now, University of Missouri researchers have found that Type 2 diabetics can eat more protein at breakfast to help reduce glucose spikes at both breakfast and lunch. "People often assume that their glucose response at one meal will be identical to their responses at other meals, but that really isn't the case," said Jill Kanaley, professor and associate chair in the MU Department of Nutrition and Exercise Physiology. "For instance, we know that what you eat and when you eat make a difference, and that if people skip breakfast, their glucose response at lunch will be huge. In our study, we found those who ate breakfast experienced appropriate glucose responses after lunch."

Kanaley and her colleagues monitored Type 2 diabetics' levels of glucose, insulin and several gut hormones -- which help regulate the insulin response -- after breakfast and lunch. The participants ate either high-protein or high-carbohydrate breakfasts, and the lunch included a standard amount of protein and **carbohydrates**.

The researchers found eating more protein at breakfast lowered individuals' post-meal glucose levels. Insulin levels were slightly elevated after the lunch meal, which demonstrated that individuals' bodies were working appropriately to regulate blood-sugar levels, Kanaley said.

"The first meal of the day is critical in maintaining glycemic control at later meals, so it really primes people for the rest of the day," Kanaley said. "Eating breakfast prompts cells to increase concentrations of insulin at the second meal, which is good because it shows that the body is acting appropriately by trying to regulate glucose levels. However, it is important for Type 2 diabetics to understand that different foods will affect them differently, and to really understand how they respond to meals, they need to consistently track their glucose. Trigger foods may change depending on how much physical activity people have gotten that day or how long they have waited between meals."

Kanaley said that although it would be helpful for individuals with high blood sugar to eat more protein, they do not need to consume extreme amounts of protein to reap the benefits.

"We suggest consuming 25 to 30 grams of protein at breakfast, which is within the range of the FDA recommendations," Kanaley said.

<http://www.medicalnewstoday.com/>

Insulin

Without insulin, **blood sugar levels** rise to dangerous levels. This can cause immediate, life-threatening consequences, usually in people with type 1 diabetes. Over time, high blood sugar levels can lead to heart and **kidney disease**, vision problems and amputations, according to the ADA. There are a number of different types of insulin. For example, some are long-acting and some are short-acting, according to the ADA. Short-acting insulins are typically taken at meal times. Intermediate-acting insulins are also available.

But none of these types of insulin is available as generics.

To get a better idea of why, Riggs and Greene reviewed the history of insulin.

Insulin was first discovered in 1921 by orthopedic surgeon Frederick Banting and medical student Charles Best, from the University of Toronto. The pair later sold the patent for insulin to the university for \$1.

"Insulin was immediately perceived as a lifesaving drug of vast clinical and public health significance," the study authors wrote. The university couldn't produce enough insulin for the number of people who needed it. So they teamed up pharmaceutical companies in the United States and abroad. Part of the deal was that drug makers could take U.S. patents on any manufacturing process improvements.

Over the years, improvements were made to insulin that allowed people to take fewer shots. At the time, insulins were made from beef and pork, which presented a number of problems, such as impurities in the insulin and immune reactions after injection, according to the study authors.

In the 1970s, the first human insulins became available. Twenty years later, the first synthetic insulins were developed. The first versions were short-acting insulins. In 2000, the first long-acting synthetic insulin was approved by the U.S. Food and Drug Administration.

Along the way, as each newer, incrementally better insulin came along, new patents were issued, thus preventing generic competition, according to the researchers. This re-patenting technique is called "evergreening," Riggs and Greene wrote.

Dr. Bill Chin is executive vice president of scientific and regulatory advocacy for PhRMA, a pharmaceutical trade association. He said, "I think this review simplifies the whole change from insulins of animal origins to insulins we have today. I think insulin is a modern wonder, and it's wonderful that we've had incentives for companies to create new medicines that have the ability to offer diabetics a way to control their blood sugar, potentially leading to a normal life."

Q: What are the health impacts of too much sugar and how damaging is it?

A: Sugar starts a chain reaction of problems. Fructose and glucose in your foods and soft drinks and sodas leave the intestine and go straight to the liver. But there's an enzyme that will shut off the metabolism of glucose if the liver doesn't need any energy. Then glucose won't even come into the liver. It just goes zipping right by to the brain, muscle, fat cells, and nerve cells. The rest of the body can use the energy from the glucose.

But the enzyme that controls fructose metabolism is always turned on. You drink a big gulp, and nearly all that fructose goes straight into the liver. Very little of it gets into the blood stream and to the brain, muscles and other parts of the body. Fructose overloads the liver, and the liver has to do something with it. Some gets turned into energy, but some of it is going to get turned into fat.

Then the liver is either going to store the fat or send some of it into the blood. As you continue to overwhelm your liver with sugar, the liver is going to do both. You're going to have higher fat levels in the blood, and that's going to increase your risk for cardiovascular disease. You're also going to store more fat in the liver, and that's going to cause insulin resistance, which is a risk factor for diabetes and a real problem for all metabolic functions.

With insulin resistance, it is likely that the liver turns even more sugar into fat. Then you're going to get higher levels of liver fat. With higher levels of liver fat, you're going to get more insulin resistance. It's a vicious cycle. The liver does its best to keep everything in balance by sending some of that fat to the blood. Now the fat levels are higher in the blood, and that's why we get metabolic syndrome, which is a cluster of conditions including high blood pressure, overweight -- especially around the stomach -- high blood sugar and high cholesterol. They all go hand in hand and make each other worse.

WebMD

Kidney disease and diabetes

Kidney disease can happen to anyone but it is much more common in people with diabetes and people with high blood pressure.

Kidney disease in diabetes develops very slowly, over many years. It is most common in people who have had the condition for over 20 years.

About one in three people with diabetes might go on to develop kidney disease, although, as treatments improve, fewer people are affected. If you are a diabetic, your doctor will check on blood urea, potassium, creatinine, eGFR, annually to check whether your kidneys are getting diseases. He will also check urine for micro-albumin and creatinine levels

This special supplement is compiled, edited & published by Dr Harold Gunatillake-Health writer
Email:gunatillakeharold@gmail.com
Tel: 62 9521 67 28 (Sydney)