

(An initiative of MV Hospital for Diabetes (Pvt) Ltd., Royapuram, Chennai, India)

One in 2 people with diabetes don't know they have it ...

Are You at Risk?

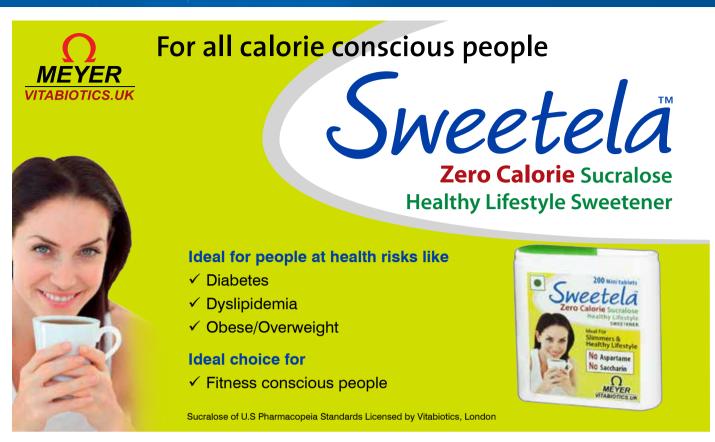
Facets of Diabetes mellitus 'Must Know' Facts

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FAQ's About Diabetes mellitus Your questions answered Make the change Your wellbeing is in your hands

**Innovations in diabetes care** 







# INNOVATIONS in Diabetes CARE

Dr. Mitalee Barman

Consultant Diabetologist, MVH, Royapuram A New Treatment for Type 2 Diabetes Mellitus - Sodium-Glucose CoTransporter -2 (SGL T2) Inhibitors

Prevents hyperglycaemia, promotes weight loss and controls hypertension

Multiple antidiabetic medications are often required to prevent Mong-term complications. Current medications act on the pancreas to control high blood glucose levels. However, many are often associated with progressive beta -cell failure and side effects such as hypoglycaemia and weight gain and come in the way of achieving the best and long-lasting glycaemic control in Type 2 diabetes mellitus.

Each day, approximately 180 g of glucose are filtered from the kidneys of a healthy adult, and almost all of the filtered glucose is reabsorbed and returned to the circulation.

Sodium-Glucose CoTransporter-2 (SGLT2) Inhibitors (Canagliflozin (Invokana) & Dapagliflozin (Forxiga) is a new form of treatment to lower blood sugar in Type 2 diabetes by making the kidneys remove sugar from the body through the urine.

Because the mechanism of action is not linked to beta-cell function and tissue sensitivity of insulin, SGLT-2 inhibitors improve glycaemic control while at the same time they avoid hypoglycaemia, promote weight loss and, as they encourage excretion of sodium along with glucose, they reduce hypertension.

The only major side effect observed in some cases is urinary tract infection.



Hello!

It is my pleasure to introduce our new tri- annual publication, 'Sweet Life '– Live well with diabetes.

With diabetes reaching almost epidemic proportions in our country and world- wide, I feel it is our responsibility to create awareness about this condition which, if not managed properly, can play havoc with the functioning of every other organ in the body.

Our publication is packed with information that could help people avoid diabetes by taking stock of their current lifestyle and making healthy changes, or by helping people with diabetes to minimize future complications by managing their condition and also living a good life.

Our aim is to reach out to one and all and become the voice of change.

#### With regards Dr. Vijay Viswanathan,

MD, PhD, FRCP (London), FRCP (Glasgow) Head & Chief Diabetologist, M.V. Hospital for Diabetes (P) Ltd



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Sweet Life

Q&A About Diabetes





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# Facets of DIABETESMellitus

Dr. Hemanga Barman, Consultant Diabetologist, MVH

The pancreas secretes different hormones that are finely tuned to control blood glucose levels.

Normal blood sugar level is less than 100mg/ dL after not eating for 8 hours, less than 140mg/dL 2 hours after eating, and during the day, levels are the lowest just before a meal, 70mgdL to 80mgdL on an average.

Does Diabetes mellitus happen due to eating too much sugar? Does it run in the family? Or are there other reasons that upset the body's fine-tuned mechanisms?

#### Type 2 diabetes mellitus...



Most commonly occurring form of diabetes in adults, children and young adults usually with a family history of diabetes.

- **Cause :** The body either cannot use the insulin it produces or doesn't produce enough insulin to maintain a normal blood glucose level.
- Action : A healthy diet and physical activity or exercise may lower blood glucose level to satisfactory range. Sometimes oral medication or insulin may be needed.
- **Alert** : Symptoms may appear gradually or not be noticed at all.

#### Type 1 diabetes mellitus...

An autoimmune disease that can be diagnosed at any age but usually occurs in childhood.

- **Cause** : The pancreas produces too little or no insulin.
- Action : Regular injections of insulin maintain healthy blood glucose levels.
- Alert : Watch out for Hypo glycaemia (low blood glucose) or hyper glycemia (high blood glucose) if the balance goes awry.

#### Gestational diabetes...

Develops during pregnancy.

- **Cause :** Due to increased secretion of pregnancy related female hormones, the body cannot use the insulin it produces as well as it should.
- **Symptoms:** Usually no noticeable signs or symptoms. At times an increase in thirst or increased urination or a feeling of tiredness may be noticed.
- Action : If a proper diet and exercise are not sufficient to maintain good control, insulin may be needed.
- Alert : All pregnant women should undergo a 2 hour 75 gm- oral glucose tolerance test between the 24th and 28th week of pregnancy or at the first visit to the doctor. There is a higher risk of developing Type 2 diabetes in later years.



#### **Pre-Diabetes:**

Blood glucose level is higher than normal but not high enough to be classified as diabetes.

IFG : 101 mg/dL to 125 mg/ dL

IGT : 140 mg/dL to 199 mg/dL

- Action : Prevent this from progressing to Diabetes by modifying lifestyle through diet and exercise. Eat healthy food, be active and control weight.
- Alert : Do not ignore this. It can progress to Type 2 diabetes in the next ten years. It can also be the start of long term damage to the body especially of the heart and circulatory system.

#### Diabetes Caused by Genetic Defects of the Beta Cell

MODY -- Maturity Onset Diabetes of the Young is inherited and is caused by a single abnormal gene. There are now six known genes in which defects will cause MODY. It usually presents in childhood or adolescence and is diagnosed either by accident while testing for other reasons, or while screening for diabetes.

**Cause:** Gene mutations reduce the ability of the pancreas to produce insulin which leads to the high blood glucose levels.

Action: Healthy eating, physical exercise or oral medication.

**Alert :** MODY shares some Type 2 diabetes symptoms and is often not recognised and people may be treated as Type 1 or Type 2 diabetes.

#### Neonatal diabetes mellitus (NDM):

NDM is a rare form of diabetes that occurs in the first 6 months of life. About half of the cases of NDM are temporary and disappear in infancy, although it may come back in adulthood. The other half of the cases will continue to have diabetes throughout their lives.

**Cause:** not enough insulin is produced leading to an increase in blood glucose.

**Alert:** NDM can be mistaken for the much more common Type 1 diabetes, but Type 1 diabetes usually occurs after the first 6 months of life.

#### Latent Autoimmune Diabetes in Adults (LADA) or Type 1.5 diabetes

A genetically-linked, hereditary autoimmune disorder that affects adults aged 35 and older and shares some features of both Type 1 and Type 2 diabetes.

**Cause:** The body confuses the pancreas with foreign bodies and reacts by attacking and slowly destroying the insulin-producing beta islet cells.

**Action:** Eat a healthy, balanced diet and be active. LADA initially responds to oral hypoglycemic agents as in Type 2 diabetes and at a later stage only to insulin injections as in Type 1 diabetes..

**Alert:** LADA is often misdiagnosed as Type 2 diabetes. LADA and Type 2 diabetes are managed differently. People with LADA are often thin, so if you are thin and have been diagnosed with Type 2 diabetes, test for LADA.



#### Other reasons for diabetes:

Surgery on the pancreas can increase the risk of lower insulin production which may be temporary or permanent.

Some types of medication especially steroids can raise blood sugar levels.

Injuries to the pancreas from trauma or disease such as pancreatitis, infection, and cancer of the pancreas can cause diabetes.

Excess amounts of certain hormones that work against the action of insulin can cause diabetes.

Several infections are associated with the occurrence of diabetes, including congenital rubella, coxsackie virus B, cytomegalovirus, adenovirus, and mumps.



## FREQUENTLY ASKED QUESTIONS ABOUT DIABETES

Dr. M Jaiganesh, Consultant Diabetologist, MVH

#### What blood sugar levels indicate Diabetes mellitus?

#### You have Diabetes if :

- 2 consecutive fasting blood glucose tests are equal to or greater than 126mg/dL.
- Any random blood glucose test is greater than 200 mg/dL
- An A1c test is equal to or greater than 6.5 %
- A 2- hour oral glucose tolerance test shows any value over 200 mg/dL

#### Why do people with diabetes feel very thirsty and have a frequent need to relieve themselves?

The kidneys work very hard to remove all the extra glucose in the blood, and so people with diabetes have to pass urine very often especially during the nights. The body tries to make up the lost fluids by the feeling of excessive thirst.

#### Why are people with certain types of diabetes thin?

When the body does not receive sufficient glucose in its cells for energy, it starts breaking down protein from the muscles for energy. This results in weight loss. Another reason for weight loss is that a lot of energy is required for the kidneys to remove the excess sugar. However, this is not a healthy way to lose weight.

#### Why are people with diabetes always very hungry?

When blood sugar levels become very low, the body thinks it hasn't been fed and creates a feeling of hunger to get more of the glucose that cells need to carry out their work.

#### Why do wounds take a long time to heal in diabetes?

The normal wound healing process gets slowed down on the whole.



#### Why are Yeast infections so common?

Fungi and bacteria grow very well in sugar-rich environments.

#### **Does diabetes affect vision?**

Sure it does. When the glucose in the blood is high, the retina is affected. Bleeding points appear in the retina and as a result, vision gets disturbed.

This symptom is reversible if blood sugar levels are corrected early but ,if ignored, it can cause permanent damage.

### Why do people with diabetes get a tingling feeling or numbness in the hands and feet?

Tingling and numbness in the hands and feet, a burning pain are signs of nerve damage due to diabetes. If blood glucose levels are controlled it can be reversed, but if neglected the damage will be permanent.

## WELLBEING

Make the Change

Athough genes may influence the development of Type 2 diabetes, lifestyle factors play a far greater role in the development of the condition. There are a few important steps you can take towards staying in good health.

**Dr. Rashmi**, Consultant Diabetologist, MV Centre for Diabetes, Bangalore

#### **Control Your Weight**

xcess weight is the single most important cause of Type —2 diabetes. Being obese makes you 20 to 40 times more \_likely to develop diabetes.

Women who have a healthy weight (BMI less than 25), a healthy diet, 30 minutes or more of exercise daily, and are non- smokers have 90 % less chance of developing diabetes.

Consuming a lot of red meats and processed meats along with lack of physical activity and excess weight, significantly increases the risk of Type 2 diabetes in men.

#### **Be Active**

#### Not being active increases your chances of developing Type 2 diabetes.

A brisk walk for half an hour every day reduces the risk of developing Type 2 diabetes by 30 percent.

Every two hours you spend watching TV increases the chances of developing diabetes by 20 percent.

So, take up other hobbies such as gardening, yoga, exercising, or dancing. Physical activity helps your body to use insulin better and also makes you fit and healthy.

If you are short of time, walk for 15 minutes twice a day or for 10 minutes three times a day. Be creative and find as many ways as you can to be active.

#### Choose Well...

#### Diets rich in whole grains protect against diabetes.

Opt for high fibre carbohydrate foods such as wholegrain breads and cereals, millets, beans, lentils, vegetables and fruits. Whole fruit is a much better source of fibre than fruit juice.

Using whole grains in place of polished white rice could lower diabetes risk by 36 percent

#### Avoid sugary drinks as they have a high glycaemic load.

One or more sugar-sweetened beverage per day had an 83 percent higher risk of Type 2 diabetes.



Two or more servings of fruit drinks a day had a 31 percent higher risk of Type 2 diabetes.

#### Choose good fats instead of bad fats.

Good fats, such as the polyunsaturated fats found in liquid vegetable oils, nuts, and seeds can help hold off Type 2 diabetes.

Eat foods that are low in fat.

#### How to reduce saturated fat in your diet

Choose reduced or low fat milk, curd, ice-cream and custard.

Choose lean meat, remove skin from chicken, avoid cheese, butter and coconut products.

Beware of Trans fats or bad fats that are found in margarine, packaged baked goods, fried foods in most fast-food restaurants, and any product that has 'partially hydrogenated vegetable oil'.

Have cakes, pastries, cream biscuits, pre-packaged biscuits, chips, cakes and frozen meals in moderation.

Avoid take away foods, processed meats and sausages.

Eating a lot of red and processed meats seems to set off diabetes in people who are already at genetic risk.

Replacing red meat or processed red meat with nuts, low-fat dairy, poultry, or fish, or for whole grains lowered diabetes risk by up to 35 percent.

Barbecue or grill chicken and fish instead of frying. Oily fish such as mackerel, sardine, salmon and tuna contain a special type of fat called Omega 3 which is good for the heart.

Balancing polyunsaturated fats (sunflower, safflower, soya bean, corn, and sesame oils) with monounsaturated fats (Canola and olive oil ) provides good fat which is important for good health.

Seeds, nuts, and groundnut oil contain both poly and monounsaturated fats.

Stir fry meat and vegetables, or steam vegetables. Use more of dry roasting and grilling as cooking methods.

#### **Stop Smoking**

Smokers are roughly 50 percent more likely to develop diabetes than non-smokers, while heavy smokers are at an even higher risk.

#### Be careful with Alcohol

If you drink, do so in moderation.

#### Check

Check your blood pressure, blood sugars, glycosylated haemoglobin, and lipid profile regularly if diabetes runs in your family.

(Statistics from the Nurses Health Studies I and II, Black Women's Health Study and the Health Professionals Follow-Up Study...)



M.V. Hospital for Diabetes, Chennai conferred the Best Single Speciality Hospital Award, 2014 for Diabetology/Endocrinology in India. Dr. Vijay Viswanathan, Head & Chief Diabetologist (extreme left) MVH receives the award from Shri. Shripad Yasso Naik – Minister of State for Health and Family Welfare, Govt. of India.

M.V.Hospital for Diabetes, Royapuram has been treating people with Diabetes mellitus and conducting research in diabetes for over 60 years. It is also a teaching institute. It has branches at <b>Chennai</b> : No. 9, Dr. Radhakrishnan Salai, Mylapore, Chennai 600 004. Ph: 2844 5213, 6585 0955 / 6585 0956	
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