



DIABETES AND NERVE PROBLEMS

In Interest of Public Awareness

WHAT IS DIABETIC NEUROPATHY?

Diabetic neuropathy is a type of nerve damage that can occur if you have diabetes. It is the most serious and common complication of diabetes. Different types of diabetic neuropathy affect different areas of the body.

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Long-term high blood sugar injures the nerves throughout the body

Common SYMPTOMS

Loss of sensation



Weakness (limbs)



Numbness or pain in legs



Alternating diarrhea and constipation



Erectile dysfunction



Dizziness (when standing up)



Types of Diabetic Neuropathy

Focal Neuropathy
Mostly affects head, torso and legs

Peripheral Neuropathy
Mostly affects legs and feet

Proximal Neuropathy
Mostly affects hips and thighs

Autonomic Neuropathy
Mostly affects digestive system, urinary system and reproductive system

Taking control of your DIABETIC NEUROPATHY

Visit your doctor regularly for appropriate care



Take prescribed medications



Manage your blood sugar



Regularly check your feet and extremities



Exercise regularly



Eat healthy



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FOOT CARE IN DIABETES

In Interest of Public Awareness

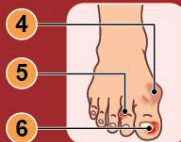
Diabetic individuals are prone to developing foot complications. Taking care of your feet is an important part of your diabetes care regime. If ignored, these complications can manifest into more serious foot problems. With uncontrolled blood sugar levels, diabetics are more likely to have ulceration and foot deformities, which may even lead to foot amputation.

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Common diabetic FOOT PROBLEMS

- 1 Ulcer
- 2 Dry skin
- 3 Callus
- 4 Bunion
- 5 Corn (hammer toe)
- 6 Toenail infection



Tips for FOOT CARE

Inspect your feet regularly for any problem (such as cuts, calluses, blisters, etc.). Use a mirror for better inspection



Maintain healthy blood sugar levels



Consult your diabetes care team/doctor to take good care of your feet



Wash your feet in lukewarm water; do not expose them to excessively cold or hot water



Keep your feet dry, especially between the toes



Never walk barefoot indoors or outdoors



Wear clean and soft cotton socks; shoes should fit well. Check your shoes for dirt or pebbles etc., before wearing

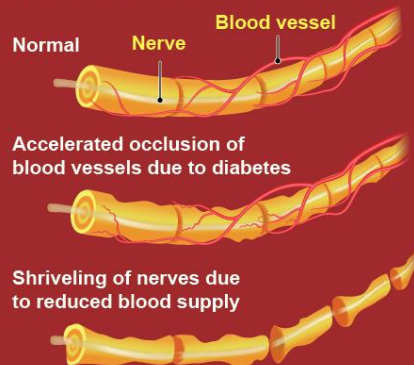
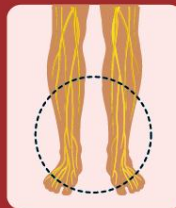


Moisturize your feet regularly, avoid moisturizing between the toes



Diabetes AFFECT the NERVES and BLOOD VESSELS in your FEET

- High blood sugar levels can cause nerve damage in your feet and due to this you will feel numbness or tingling sensation in your feet and over time the ability to sense will decline
- High blood sugar levels can damage blood vessels and thereby reduce blood flow
- High blood sugar levels allow bacteria to grow quickly, which will lead to rapid development and spread of infection



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DIABETES AND HEART DISEASE

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High blood glucose levels in diabetics can damage blood vessels and nerves. Gradually, this damage can lead to heart disease. Diabetics also tend to develop heart disease at a younger age than nondiabetics

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2x more in **Men** **DIABETES increases risk of HEART DISEASE** 4x more in **Women**

Smoking doubles the risk of heart disease in diabetic individuals



Be **AWARE** of the following **RISK FACTORS**



Age
>45 years

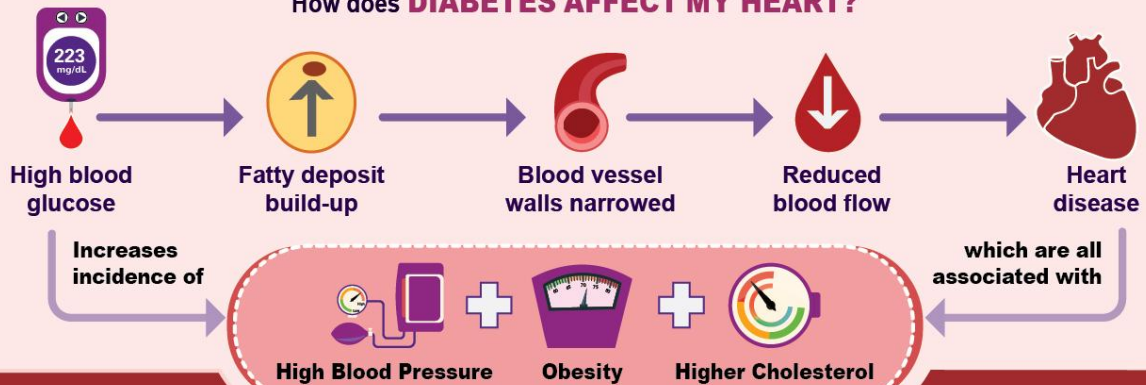
Family history
of diabetes

History of diabetes
during pregnancy

High cholesterol
or BP levels

Obesity

How does **DIABETES AFFECT MY HEART?**



What you can do to **PROTECT** your **HEART**

Take prescribed medications



Eat healthy balanced diet



Be physically active



Quit smoking and drinking



Follow **ABC's** of **DIABETES** by lowering



HbA1c (measures average blood sugar levels for 3 months)



Blood pressure



Cholesterol

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DIABETIC KIDNEY DISEASE

In Interest of Public Awareness

WHAT IS DIABETIC KIDNEY DISEASE?

A serious complication caused by poorly controlled diabetes leading to severe damage to the kidneys and resulting in reduced kidney function that can progress to kidney failure if not managed well

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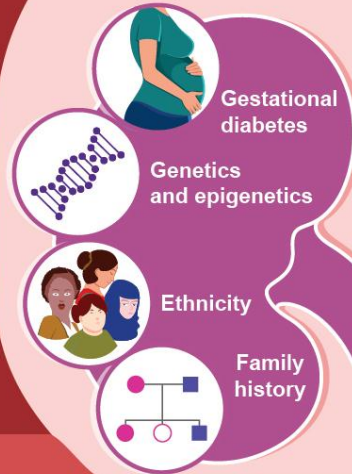
COMMON

SYMPTOMS

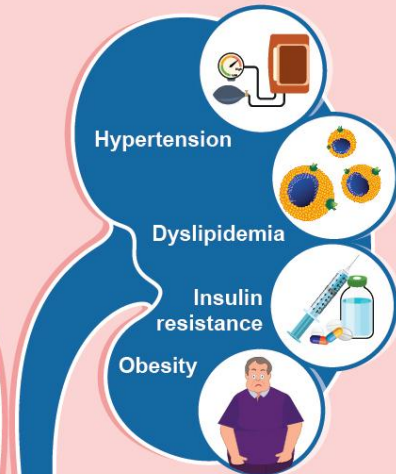
- ♦ Worsening blood pressure control
- ♦ Swelling of feet, ankles, hands or eyes
- ♦ Frequent urination
- ♦ Protein in the urine
- ♦ Loss of appetite
- ♦ Nausea and vomiting
- ♦ Shortness of breath
- ♦ Fatigue

RISK FACTORS

NON-MODIFIABLE



MODIFIABLE



HOW TO REDUCE THE RISK?

Frequent consultations
with your doctor



Manage blood
sugar levels



Eat
healthy



No salt
intake



Manage high BP
or cholesterol



Quit smoking
and drinking



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DIABETES AND CHOLESTEROL

In Interest of Public Awareness

High blood sugar levels damage the linings of the arteries of all sizes, due to which arteries are weakened and/or clogged with plaques. In atherosclerosis, walls of arteries become narrow and hardened due to fat deposition, resulting in reduced blood flow to various vital organs such as brain, heart and kidneys, etc.

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ATHEROSCLEROSIS Stages



ATHEROSCLEROSIS in DIABETIC PATIENTS can lead to

Kidney damage
(Nephropathy)



Eye damage
(Retinopathy)



Heart and arterial
damage (Cardiopathy)



Nerve damage
(Neuropathy)



If you have a family
history of diabetes
you are more likely to
get vascular disease



HEALTHY LIFESTYLE CHOICES



Take medications
regularly to manage
your blood sugar
levels, as prescribed
by your doctor



Manage your sugar,
cholesterol and
blood pressure



Maintain a
healthy weight



Be physically
active



Quit
tobacco

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DIABETIC COMPLICATIONS

In Interest of Public Awareness

High blood sugar levels over a long period of time can seriously damage blood vessels in your body. If your blood vessels aren't working properly, blood can't travel to the parts of your body it needs to, leading to damage to multiple organs such as the heart, eyes, brain and kidneys, etc.

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COMPLICATIONS

ACUTE

- Hypoglycemia
- Diabetic ketoacidosis
- Hyperosmolar hyperglycemic nonketotic coma

You can take action to prevent or delay these complications of diabetes!

HOW TO AVOID COMPLICATIONS?

Regular follow-up with doctor



Maintain ideal body weight



In India 30% of diabetics are overweight

Exercise regularly



Eat healthy



Control sugar and blood pressure



No salt intake



CHRONIC

- Brain stroke
- Cerebrovascular disease



Cardiovascular disease



Diabetic nephropathy



Diabetic neuropathy



- Diabetic retinopathy
- Cataract
- Glaucoma



Periodontal disease



Peripheral vascular disease



Foot damage



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INTRODUCTION TO TYPE 1 DIABETES MELLITUS

In Interest of Public Awareness

What is Type 1 Diabetes Mellitus?

Type 1 diabetes is a chronic condition in which the pancreas produces little or no insulin. Insulin is required to allow sugar (glucose) to move into cells to produce energy. Type 1 diabetes usually appears during childhood or adolescence



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COMMON SYMPTOMS

Increased
hunger



Excessive
thirst

Frequent
urination



Fatigue

Blurred
vision



Unintentional
weight loss

- Type 1 diabetes is not caused by poor diet or lack of exercise
- Genetics and some viruses may contribute to type 1 diabetes; however, the exact causes or triggers remain unknown

LIVING WITH TYPE 1 DIABETES

Regular monitoring, healthy diet and physical activity should be the goal. Regular checkups with the health care team for diet or insulin dosage related changes

IT'S TREATABLE



Monitor
blood glucose



Maintain
a healthy diet



Regular
exercise



Regular insulin injections
or an insulin pump

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INTRODUCTION TO TYPE 2 DIABETES MELLITUS

In Interest of Public Awareness

What is Type 2 Diabetes Mellitus?

Type 2 diabetes mellitus is a long-term medical condition in which your body either does not produce enough insulin, or it resists insulin, resulting in high blood sugar levels leading to damage to multiple organs and other complications

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About **1 in 12 adults** with diabetes in the world is from **India**



More than **74 million** adults in India have diabetes

WHAT ARE THE SYMPTOMS?

Feeling hungry



Feeling thirsty



Frequent urination



Slow healing



Blurry vision



Numbness in hands or feet



WHAT ARE THE BODY PARTS AFFECTED BY DIABETES?



Brain



Eyes



Kidneys



Heart



Teeth



Feet

HOW TO MANAGE YOUR DIABETES?



Eat healthy balanced diet



Exercise regularly



Regularly visit your doctor



Monitor blood glucose levels



Take medications on time

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MANAGEMENT OF TYPE 2 DIABETES

In Interest of Public Awareness

High blood sugar levels (Diabetes) can affect your whole body but they can be managed with the help of your healthcare provider and you can live a healthy and long life by taking care of yourself

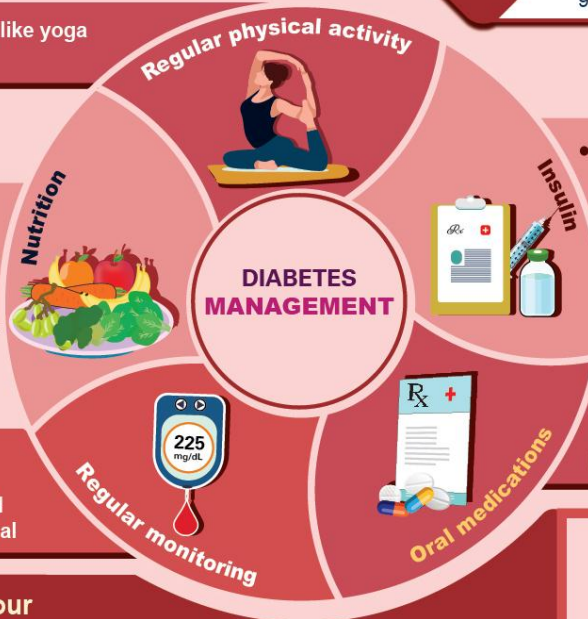
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Regular physical activities like yoga and exercise

- Eat a healthy, balanced diet
- Plan your meals with carbohydrate counting

- Regularly monitor your blood sugar
- Try to control your blood sugar levels within normal



- Safe and effective
- New delivery devices make insulin injection safer and more comfortable

- Safe and effective
- Take prescribed medications as advised by your doctor

MANAGE Your DIABETES Well



Fasting blood sugar
Check in the morning on empty stomach



HbA1C
Average blood sugar over 3 months



BMI
Your weight should be appropriate in relation to your height



Cholesterol
Manage your cholesterol within the normal limits



Blood pressure
Normal blood pressure is <120/80 mmHg. Check regularly



Post-meal blood sugar
Check at 2 hours after a meal

Why is Diabetes DANGEROUS?

Increased risk of heart disease or heart failure



Higher risk of stroke



Threatens vision, limbs and extremities



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PREGNANCY AND DIABETES

Gestational diabetes occurs during pregnancy

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GESTATIONAL DIABETES RISK FACTORS



History of glucose intolerance



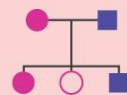
Overweight/obese



Age over 25 years



Unhealthy diet



Family history of diabetes



Gestational diabetes during previous pregnancy

SYMPTOMS OF GESTATIONAL DIABETES

Increased hunger



Increased thirst



Frequent urination



Feeling tired



Blurred vision



Can Gestational Diabetes Affect the Baby?

Yes, it can cause the following problems to the baby if not managed well



Preterm birth



Respiratory problems



Jaundice



Diabetes in future

HOW TO CONTROL AND MANAGE?

Eat healthy diabetic food



Exercise regularly



Take medications or insulin as prescribed by your doctor



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TYPE 2 DIABETES AND INSULIN

In Interest of Public Awareness

Type 2 diabetes is a long-term chronic condition in which body's blood sugar (glucose) levels are high

Why should I use **INSULIN**?

As diabetes progresses, there is pancreatic β -cell exhaustion and oral medications tend to lose their effects because of lack of insulin production. It becomes difficult for the patients to manage their sugar levels as oral medications gradually becomes less effective. Thereby leading to the need for insulin supplementation along with oral medications

Pancreatic fatigue



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Insulins are safe and available in many forms to suit your needs. Insulin delivery devices ensure convenience and have reduced the pain of the needle prick as finer needles are used timely and early insulin therapy is very important as it always works and decreases insulin resistance and helps in maintaining healthy blood sugar levels.

Insulin pen



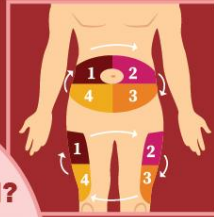
Insulin pump



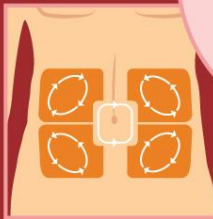
1. Choose area

Where to **INJECT INSULIN**?

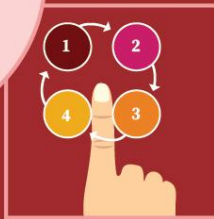
Consult your doctor for dosage and preferable sites for injecting insulin



2. Divide area in 4 quadrants



3. Select site within a quadrant and inject (use 1 quadrant/week)



4. Change position and inject almost one-finger width from your last injection

How to **PREVENT** adverse effects of **DIABETES**?



Eat a healthy balanced diet



Monitor blood sugar levels regularly



Exercise regularly

Take prescribed medications along with the insulin (in type 2 diabetics 1–2 doses of insulin in a day is usually enough as long-acting insulins are used which remain active for and 18–24 hours period)



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TYPE 2 DIABETES RISK FACTORS

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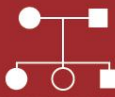
Diabetes can affect anyone; knowing the risk factors will help you identify the changes required in your lifestyle to keep your blood sugar levels in check

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You are more likely to develop Type 2 diabetes if you

RISK FACTORS FOR TYPE 2 DIABETES



Have a family history of diabetes mellitus



Have abnormal blood cholesterol/lipid levels



Have a BMI >23 kg/m²



Have a history of high blood sugar during previous pregnancy



Have a sedentary lifestyle



Age more than 40 years



Have high blood pressure



Have impaired glucose tolerance or impaired fasting glucose

DIABETES PREVENTION



Eat healthy



Exercise regularly



Quit smoking and drinking



Manage weight



Monitor blood glucose, blood pressure and cholesterol



Get your blood sugar levels checked periodically after the age of 40 years

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DIABETES AND NUTRITION

In Interest of Public Awareness

We get the energy for performing daily activities from the food we eat which is converted into glucose and passed on to the various body cells with the help of insulin. However, high blood glucose levels can have detrimental effects on various organs of the body. A balanced diet with a healthy meal planning play an important role in managing blood glucose levels.

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The Way to **EAT** with **DIABETES**



Right carbs

Choose the right carbs that raise your blood sugar slowly



Timing

Timely eat healthy food and take prescribed medications



Know your limits

Know your calorie intake and avoid sweets, alcoholic drinks and unhealthy fats, etc.

PORTION SIZE

In diabetics, eating the right amount of food help you manage your blood sugar levels and weight

You can use your hands as a practical guide for estimating the portion size of vegetables, carbohydrates, fats and proteins, etc.



1
Palm =
3 ounces (84 g)



2
Cupped hand =
1–2 ounces (28–56 g)



3
Fist = 1 cup or
a medium fruit



4
Thumb =
2 tablespoons



5
Thumb tip =
1 tablespoon



6
Fingertip =
1 teaspoon

MANAGING DIABETES with My **FOOD PLATE**



Follow a **BALANCED DIET**
to control blood glucose levels

Tips to **MANAGE DIABETES**



Be physically
active



Read food
labels carefully



No added sugars,
salt and solid fats

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DIABETES INVESTIGATIONS AND BLOOD SUGAR TARGETS

In Interest of Public Awareness

Diabetes Investigations

Your doctor will advise one or more tests to check for high blood sugar levels. Regular testing is important and is done to screen for diabetes or to monitor prediabetes or diabetes.

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WHY BLOOD SUGAR TESTING IS IMPORTANT?

To check the effects of medication



To manage high or low blood sugar levels



To modify the dose or schedule of medications, if required



To track progress of your goals

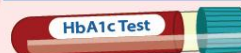


DIABETES TESTS



Fasting Blood Sugar Test
measures blood glucose for 8 hours of fasting

Postprandial Glucose Test
is done to check how your blood glucose levels respond after meals



*Depends on the method of checking

HbA1c* Test is done to check 3 months average sugar levels in the blood

Oral Glucose Tolerance Test
is a test to check body's ability towards sugar metabolism



THE PATH TO TYPE 2 DIABETES

| | DIABETES | PREDIABETES | NORMAL |
|--------------------------|--------------------|---------------|--------------------|
| Fasting blood sugar test | 126 mg/dL or above | 100–125 mg/dL | 99 mg/dL or below |
| HbA1c test | 6.5% or above | 5.7–6.4% | Below 5.7% |
| Glucose tolerance test | 200 mg/dL or above | 140–199 mg/dL | 140 mg/dL or below |

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DIABETES PREVENTION

In Interest of Public Awareness

Diabetes is a chronic disorder with patients having high blood sugar levels that can lead to serious complications such as kidney failure, heart disease, etc. Diabetes can be prevented or atleast delayed by making lifestyle changes

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DIABETES PREVENTION

Change your lifestyle and it could be a big step toward diabetes prevention and it's never too late to start. Here are some ways to lower your risk of getting diabetes



Maintain a healthy balanced diet



Avoid too much intake of sugary, salty food and beverages



Maintain healthy BMI



Include more of whole grains, fruits and vegetables in your diet



Drink plenty of water. Avoid colas and juices



Increase physical activity and try to lose excess weight



Monitor blood glucose, blood pressure and cholesterol levels regularly



Get adequate sleep



Quit smoking



Avoid alcohol consumption



Reduce stress in your daily life

PREVENTION TIPS FOR PARENTS

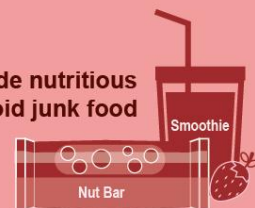
Encourage outdoor activities



Limit screen time and other sedentary activities



Provide nutritious snacks; avoid junk food



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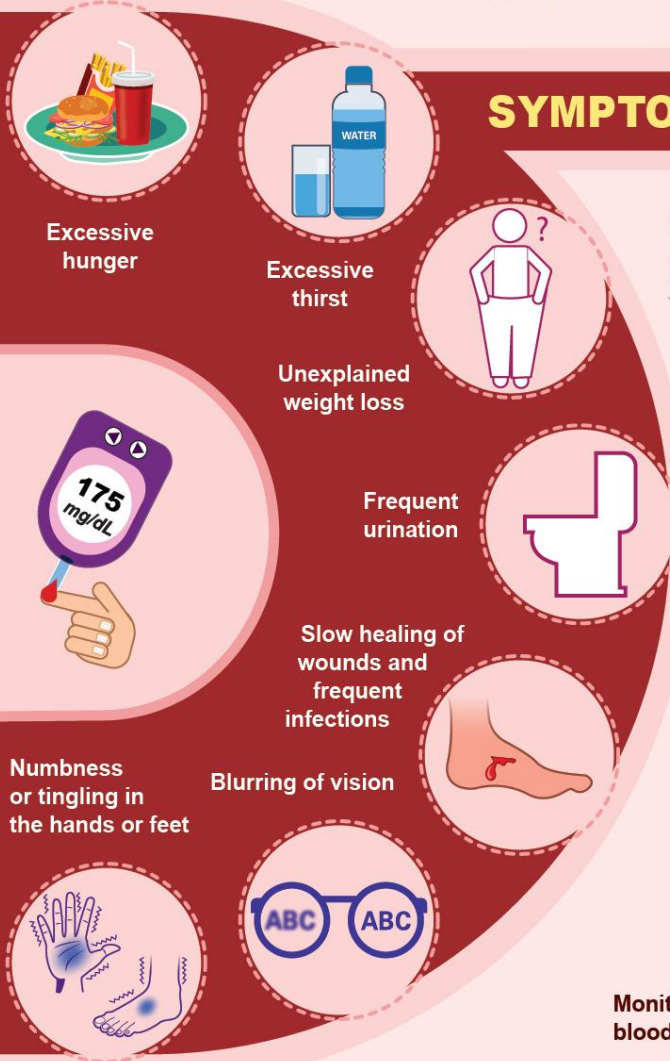
DIABETES SYMPTOMS

Diabetes is a slowly progressing disease and the symptoms can be mild and may remain unnoticed for a long time and may get ignored.

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SYMPTOMS OF DIABETES



DIABETES PREVENTION

Maintain healthy diet



Maintain ideal body weight

Increase physical activity



Quit smoking and drinking

Monitor blood glucose, blood pressure and cholesterol



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