

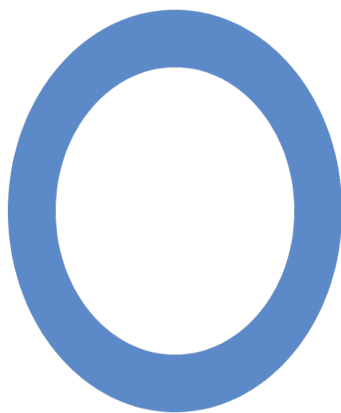
Effect of Diabetes

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the effect of diabetes

Diabetes :- is a group of metabolic diseases in which there are high or low blood sugar levels over a prolonged period.



The blue circle is the global symbol for diabetes, introduced by the International Diabetes Federation with the aim of giving diabetes a common identity, supporting existing efforts to raise awareness of diabetes and placing the diabetes epidemic firmly in the public spotlight.

Diabetes type 1 & 2

people with diabetes either have a total lack of insulin (type 1 diabetes) or they have too little insulin or cannot use insulin effectively (type 2 diabetes).

There are two main types of diabetes:

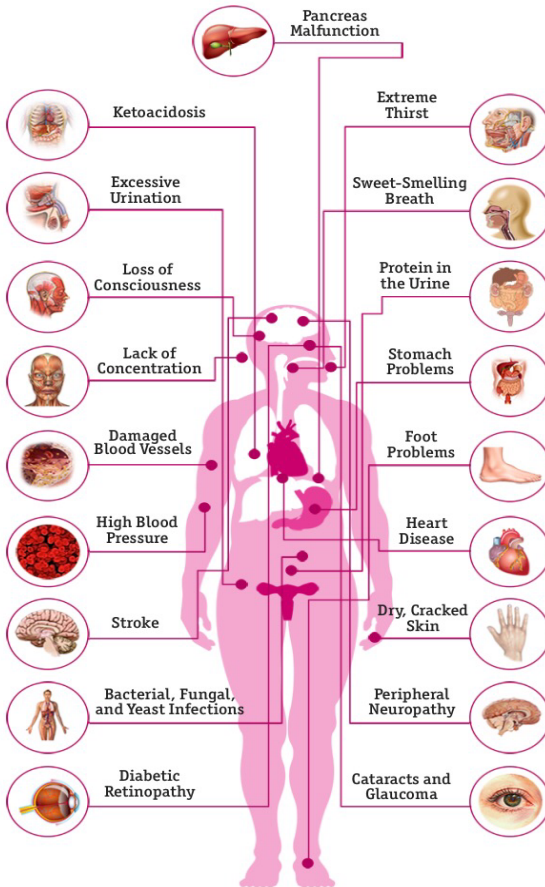
Type 1 diabetes occurs most frequently in children and young adults, although it can occur at any age. Type 1 diabetes accounts for 5-10% of all diabetes in the United States. There does appear to be a genetic component to Type 1 diabetes, but the cause has yet to be identified.

Type 2 diabetes is much more common and accounts for 90-95% of all diabetes. Type 2 diabetes primarily affects adults, however recently Type 2 has begun developing in children. There is a strong correlation between Type 2 diabetes, physical inactivity and obesity.

Blood sugar levels in diagnosing diabetes

Plasma glucose test	Normal	Prediabetes	Diabetes
Random	Below 11.1 mmol/l Below 200 mg/dl	N/A	11.1 mmol/l or more 200 mg/dl or more
Fasting	Below 6.1 mmol/l Below 108 mg/dl	6.1 to 6.9 mmol/l 108 to 125 mg/dl	7.0 mmol/l or more 126 mg/dl or more
2 hour post-prandial	Below 7.8 mmol/l Below 140 mg/dl	7.8 to 11.0 mmol/l 140 to 199 mg/dl	11.1 mmol/l or more 200 mg/dl or more

Effect of diabetes



The main problem in Type 2 diabetes is the presence of what is called insulin resistance. In this sort of diabetes, the pancreas starts off

robust in its production of insulin. However, cells that need energy don't respond normally to the usual amounts of insulin. The pancreas has to produce much higher levels of the hormone in order to manage blood glucose levels. Over time, the insulin-producing cells in the pancreas can burn themselves out due to this overproduction. At this point a person with Type 2 diabetes begins to require insulin medication. However, in earlier phases of this more common type of diabetes, the illness can be effectively managed with diet, exercise, and careful monitoring of blood sugars. Some people with Type 2 diabetes may require a variety of oral medications and eventually, as described above, some will eventually need insulin.

Endocrine, Excretory, and Digestive Systems

Your pancreas produces and releases insulin to help make energy out of sugars. If your pancreas produces little or no insulin, or if your body can't use it, alternate hormones are used to turn fat into energy. This can create high levels of toxic chemicals, including acids and ketone bodies, which may lead to a condition called diabetic ketoacidosis. This is a serious complication of the disease. Symptoms include extreme thirst, excessive urination, and fatigue. Your breath may have a sweet scent that is caused by the elevated levels of ketone bodies in the blood. High blood sugar levels and excess ketones in your urine can confirm diabetic ketoacidosis. Untreated, the condition can lead to loss of consciousness or even death.

Diabetes can damage your kidneys, affecting their ability to filter waste products from your blood. Elevated amounts of protein in your urine (microalbuminuria) may be a sign that your kidneys aren't functioning properly. Kidney disease related to diabetes is called diabetic nephropathy. This condition doesn't show symptoms until it advances to later stages. People with diabetes should be evaluated for nephropathy in order to avoid irreversible kidney damage and kidney failure.

Diabetic hyperglycemic hyperosmolar syndrome (HHS) occurs in Type 2 diabetes. It involves very high blood glucose levels but without ketones. Symptoms also include dehydration and loss of consciousness. It usually happens to people whose diabetes is undiagnosed or who have not been able to control their diabetes. It can also be caused by heart attack, stroke, or infection.

High blood glucose levels can make it hard for your stomach to completely empty (gastroparesis). In turn, the delay causes blood glucose levels to rise. Diabetes is the leading cause of gastroparesis. Symptoms include nausea, vomiting, bloating, and heartburn.

The circulatory system and diabetes

The circulatory system allows blood glucose levels to be regulated.

The hormone glucagon, carried in the blood, signals the liver to release

glucose into the blood and the presence of insulin in the blood instructs the cells to take in glucose from the blood.

If blood glucose levels become too high for extended periods of time, damage can be sustained by the blood vessels.

If significant numbers of blood vessels are damaged, this can have a negative effect on the functioning of the body

Integumentary System

Diabetes can affect your skin. Lack of moisture can cause the skin on your feet to dry and crack. It is important to completely dry your feet after bathing or swimming. You can use petroleum jelly or gentle creams, but be careful: creams or oils left between your toes can become so moist that it can lead to infection.

High-pressure spots under your foot can lead to calluses. If you don't take good care of them, they can become infected or develop ulcers. If you get an ulcer, see your doctor immediately to lower your risk of losing your foot.

You may also be more prone to boils, infection of the hair follicles (folliculitis), sties, and infected nails. People with diabetes have a higher incidence of bacterial infections, including staph (*Staphylococcus*), than the general population.

Moist, warm folds in the skin are susceptible to fungal or yeast infections. You're most likely to develop this type of infection between fingers and toes, the groin, armpits, or in the corners of your mouth.

Symptoms include redness, blistering, and itchiness.

A condition called diabetic dermopathy can cause brown patches on the skin. There's no cause for concern and no treatment is necessary.

Eruptive xanthomatosis causes hard yellow bumps with a red ring.

Digital sclerosis causes thick skin, most often on the hands or feet. Both of these skin conditions are signs of unmanaged diabetes. They usually clear up when you get your blood sugar under control.

Central Nervous System

Diabetes causes damage to the nerves (peripheral neuropathy), which can affect your perception of heat, cold, and pain, making you more susceptible to injury. This also makes it more likely that you'll ignore an injury, especially if it's in a difficult place to see, such as between your toes, on your heels, or the bottoms of your feet.

Swollen, leaky blood vessels in the eye (diabetic retinopathy) can damage your vision and even lead to blindness. Symptoms include floaters or spots in your field of vision. People with diabetes tend to develop cataracts at an earlier age than other people. They are also more likely to develop glaucoma. Symptoms of eye trouble can be mild at first, so it's important to see your eye doctor regularly

Reproductive System

The hormones of pregnancy can cause gestational diabetes. This also increases the risk of high blood pressure (preeclampsia or eclampsia). In most cases, gestational diabetes is easily controlled, and glucose levels return to normal after the baby is born. Symptoms are the same as other types of diabetes, but may also include repeated infections affecting the vagina and bladder. Women with gestational diabetes may have babies with higher birth weight, making delivery more complicated. Women who have had gestational diabetes should be monitored, as there's an increased risk of developing diabetes within ten years.