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**Diabetes**

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## Diabetes

If a person has diabetes, regardless of the type, they have a relatively extraordinary amount of sugar or glycogen in their body fluid. The glucose in the blood is derived from protein, carbs, and fatty acids that people consume. During metabolism, the pancreas produces a hormone termed insulin, which aids in the movement of glucose from the blood system into cells for energy production. However, if the body cannot generate enough insulin or uses it inefficiently, glucose builds up in the blood, leading to high blood sugar (Indoria & Rathore, 2018). In addition, as time passes, the excess sugar in the blood causes inflammation and other serious health problems. This paper aims to discuss the various types of diabetes.

Type 1 diabetes is principally an ailment where the body's immunity response assaults and destroys insulin-producing cells. When these cells are damaged, a person cannot produce insulin independently and thus must depend on intravenous infusions (Indoria & Rathore, 2018). Many people with type 1 diabetes are identified when they are children or in their youth. Since this disorder is common in children, it can often be referred to as "juvenile diabetes." The disorder is generally identified between the ages of 10 and 16, although a few individuals do not develop the condition till the 30s, 40s, or 50s. Adults account for roughly one-fourth of all type 1 cases. The major cause of type 1 diabetes is unknown, but doctors opine that family history and infections or contact with toxic substances may cause the disease.

Type 2 diabetes, the most frequent condition, is not an autoimmune condition. Individuals with type 2 diabetes, also known as "elderly" diabetes, generate their insulin, but their organs do not use it properly. Type 2 diabetes is evident to up to 95% of all individuals with diabetes. (Trikkalinou et al., 2017). It typically occurs in midlife, but it can also appear in older children or teenagers. Most patients with type 2 diabetes do not require insulin, but they will still

require other drugs to help control their blood glucose levels. According to Trikkalinou et al. (2017), several factors contribute to the manifestation of type 2 diabetes. The following are some major risk factors: Ethnic background. Some ethnicities are more susceptible to type 2 diabetes. Genetic factors and family medical history. There is no solitary type 2 diabetes "genotype" to assess for, but if the disorder runs in families, one is more prone to developing it. Elevated concentrations of excess fat, particularly belly fat, have been linked with insulin endurance and amplified danger of contracting type 2 diabetes.

Momentary high blood sugar is a symptom of gestational diabetes. According to Mack and Tomich (2017), gestational diabetes occurs in pregnancy, and the experts say hormonal fluctuations cause it. During the third pregnancy, most expectant mothers are tested for gestational diabetes with a glucose load examination. During testing, patients must consume a glucose-infused drink on an empty belly before checking their blood sugar levels (Mack & Tomich, 2017). According to the number of times the doctor wants blood taken, the exam might last somewhere between one to three hours.

I chose type 1 diabetes, where insulin is the therapeutic option. Type 1 diabetics may have to test their blood sugar levels four to ten times per day to decide on insulin therapy doses, meals, and physical activity. The majority of people use a domestic sugar level meter to keep track of their thresholds. They use a highly specialized lancet marker to pierce a forefinger, then drop the blood onto a testing kit in the sensor. A continuous glucose tracker may be recommended by a physician in some instances, particularly if the patient is at significant risk of hazardous conditions such as low sugar levels or ketoacidosis (National Institute of Diabetes and Digestive and Kidney Diseases, 2016). In this scenario, a small device is implanted underneath the skin of the stomach, arms, or hips to monitor blood sugar levels in body fluids on a consistent

schedule. When a sensor confirms that a patient seeks insulin, there are several options for administering it. (Regrettably, insulin cannot be ingested as a pill since it would be dissolved and metabolized before entering the bloodstream). The most prevalent delivery mechanism is a needle injection, generally in the stomach, forearm, thigh, or buttock. Some individuals chose to use an insulin pump, which is fitted on the body. This system secretes insulin instantaneously during the day via a tiny catheter inserted underneath the skin.

A healthy eating plan is essential for type 1 diabetes therapy. A type 1 diabetes diet is intended to include adequate nutrition while still tracking carbs, protein, and fat content. There is, nevertheless, no one-size-fits-all diabetes eating plan. It entails paying attention to how one eats and how the body reacts to different foods. Carbohydrates are classified into three categories: carbs, starches, and fiber. Beans, vegetables, fruits, pasta, and bread are all examples. Carbohydrates are broken down into glucose in the digestive system and released into the blood. This causes the blood sugar level to rise. If one has type 1 diabetes, they must control their carbohydrate consumption. Some carbohydrates will increase insulin sensitivity faster than others. If somebody has low blood sugar, it is better to choose a rapid-acting carb easily digested and absorbed into the body. Even though fats and oils do not explicitly increase blood glucose levels, professionals recommend limiting the consumption of packaged or fatty foods, incorporating greater concentrations of saturated fat and calories. While these materials have no significant effect on glucose levels, consuming too many can have negative health consequences, particularly cardiovascular diseases. More important, it is just as critical to note when and how to eat as it is to remember what to consume. Eating smaller portions and snacking more frequently during the day can help a diabetic person keep track of their blood glucose levels and keep them from spiking. Nuts, vegetables, and fruits are easily absorbed in the body and are advantageous

to have on standby when needed by a diabetic person. In addition to that, balanced breakfast can help restore the desired glucose levels after a night's relaxation. Exercises can help reduce blood sugar concentration, but one should monitor their glucose levels before and after the exercise if one decides to exercise. Doing so can help one know how much food to consume to maintain a healthy lifestyle and keep the type 1 diabetic condition in check.

Type 1 diabetes health problems can have a long-term and short-term impact on someone's body parts, such as the heart, nerve cells, blood vessels, eye sockets, and kidneys. Keeping a healthy blood glucose level can lower the risk of many health problems significantly. However, diabetes complications can ultimately be debilitating or even fatal. For example, in the long run, diabetes leads to an increased risk of a variety of cardiac problems, which include heart problems (angina), cardiac arrest, hypertension, artery shrinking (atherosclerosis), and hypertension and damage to the nerves (neuropathy) (National Institute of Diabetes and Digestive and Kidney Diseases, 2016). In addition, extra sugar can cause damage to the surface of the small blood vessels (capillaries) that enrich the nerves, particularly in the limbs. This can cause numbness, loss of feeling, incinerating, or pain, which usually starts at the bottom of the foot or fingertips and propagates upward.

Moreover, Billions and billions of small circulatory clumps in the kidneys filter waste from the bloodstream. Diabetes can cause problems in this fragile filtration process. Serious damage to the kidneys can result in kidney failure or irrevocable end-stage kidney problems, necessitating dialysis or a kidney replacement. In addition, diabetes can cause damage to the blood system of the cornea (diabetic retinopathy), which can cause blindness. Diabetes also raises the risk of developing other severe sight problems, like cataracts.

To sum it up, many people with diabetes must take insulin to remain fit. Even so, insulin therapy can have several negative adverse effects. There are numerous insulin types, which determine the side effects that a patient may experience. However, the common short-term effects of using insulin include rashes, swelling of the injection point, bumps, and coughs when one uses inhaled insulin. In the long term, the prolonged use of insulin can cause weight gain as the body starts to consume glucose. In addition to that, the blood glucose level can drop too low, and the patient can experience hypoglycemia and the patient develops anxiety and depression.

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