

# Partners in Quality Care



## OBJECTIVES:

- \*Define Diabetes
- \*Define symptoms of Diabetes
- \*Define types of Diabetes
- \*Define ways to assist a client with Diabetes

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## References:

<https://www.cdc.gov/diabetes/about/index.html>

<https://my.clevelandclinic.org/health/treatments/17923-insulin-pen-injections>

<https://my.clevelandclinic.org/health/articles/insulin-pumps>

<https://www.cdc.gov/diabetes/treatment/treatment-low-blood-sugar-hypoglycemia.html>

## DIABETES

Diabetes Mellitus (Diabetes) is a chronic (long-lasting) disease that affects how a person's body turns food into energy. The term comes from the Greek word "diabetes," which means to siphon or to pass through, and the Latin word "mellitus," which means sweet. Diabetes occurs when a person's blood glucose, also called blood sugar, is too high. Blood glucose is a person's main source of energy and comes from the food a person eats. Insulin, a hormone made by the pancreas, helps glucose from food get into a person's cells to be used for energy. Sometimes a person's body doesn't make enough or any insulin or doesn't use insulin well. Glucose then stays in the person's blood and doesn't reach their cells. Over time, having too much glucose in the blood can cause health problems. Although diabetes has no cure, a person can take steps to manage their diabetes and stay healthy. People with diabetes are at higher risk of heart disease, poor circulation, stroke, and other serious complications like kidney failure, blindness, and amputation of a toe, foot, or leg. Over time, diabetes can affect any part of the body. A person can prevent or delay many health complications by taking good care of themselves.

With **type 1 diabetes**, a person's body does not make insulin. The immune system attacks and destroys the cells in the pancreas that make insulin. Type 1 diabetes is usually diagnosed in children and young adults, although it can appear at any age. People with type 1 diabetes need to take insulin every day to stay alive. Insulin is a hormone that helps the body use glucose for energy. The beta cells of the pancreas make insulin. When the body cannot make enough insulin, it is taken by injection or through use of an insulin pump. Each person's insulin plan (type of insulin, way it is delivered) is individualized. Symptoms of type 1 diabetes can start quickly, in a matter of weeks. Some people with type 1 diabetes use multiple daily injections, and others use insulin pumps to deliver insulin around the clock. Insulins are classified by how fast they work, when they have their onset of action, their peak effect, and their duration of action. Insulin is delivered in the subcutaneous tissue (under the skin) either by injection using an insulin syringe or pen, or with an insulin pump (continuous subcutaneous insulin infusion).

With **type 2 diabetes**, a person's body does not make or use insulin well. A person can develop type 2 diabetes at any age, even during childhood. However, this type of diabetes occurs most often in middle-aged and older people. Type 2 is the most common type of diabetes. Symptoms of type 2 diabetes often develop slowly-over the course of several years and can be so mild that a person might not even notice them. Type 2 diabetes usually begins with insulin resistance, a condition in which muscle, liver, and fat cells do not use insulin well. As a result, a person's body needs more insulin to help glucose enter cells. At first, the pancreas makes more insulin to keep up with the added demand. Over time, the pancreas can't make enough insulin, and blood glucose levels rise.

Prediabetes is when a person's blood sugar is higher than it should be but not high enough their healthcare provider to diagnose it as diabetes.

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There are tests that a person would have conducted to be diagnosed with Diabetes. They include a fasting blood sugar test that measures a person's blood sugar after an overnight fast (not eating) and the A1C test that measures a person's average blood sugar level over the previous 2 or 3 months.

Signs and symptoms of diabetes can include - fatigue, weight loss, inflammation of the vagina, sores that heal poorly and slowly, high blood glucose (sugar), sugar in the urine, frequent and large amounts of urine, excessive thirst, poor vision, having more infections than usual, very dry skin. Type 1 diabetes symptoms may include nausea, vomiting, or stomach pains. Many people with type 2 diabetes have no symptoms. Some people do not find out they have the disease until they have diabetes-related health problems, such as blurred vision or heart trouble. Gestational diabetes develops in some women when they are pregnant.

Only people with type 2 diabetes can use pills to manage their diabetes. Many people with type 2 diabetes may progress to needing insulin for effective disease management and to lower their risk for long term complications. Diabetes medicines can cause **hypoglycemia** (low blood sugar) if a person doesn't balance medicines with food and activity. Any client taking a glucose lowering drug by mouth or by insulin injection or a combination of both, must be alert to the risks of hypoglycemia. In your role, you can help your client monitor their symptoms. Hypoglycemic symptoms are important clues that someone has low blood glucose. Each person's reaction to hypoglycemia is different, so it's important that you learn your client's signs and symptoms of when their blood glucose is low.

Discuss with your supervisor about ways to assist your client as needed if they have symptoms of hypoglycemia (examples include giving your client 4 ounces (1/2 cup) of orange juice or regular soda or a hard candy, or 1 tablespoon of sugar, honey, or syrup, *if they are able to swallow*) and when, how and to whom to report if this happens after you provide assistance. Signs of hypoglycemia: perspiration, sweating, chills or cold sweats, feeling hungry, lightheadedness or dizziness, tremors or shakiness, anxiety or nervousness, weakness or drowsiness, nausea or hunger, restless sleep or nightmares, confusion, stubbornness or combativeness (personality change), irritability, impatience, sadness, or anger, fast heartbeat, lack of coordination, blurred vision, headaches, passing out. Blood sugar below 70 mg/dL is considered low. Severe low blood sugar is below 55 mg/dL. Blood sugar this low may make a person faint (pass out). Often, they will need someone to help them treat severe low blood sugar. **Talk to your supervisor regarding when to call emergency services for a client with hypoglycemia.**

If a person has type 1 diabetes, they may take a combination of insulins. Some people with type 2 diabetes will also need to take insulin. Many types of insulin are used to treat diabetes. Insulin is classified by how fast and how long it works in a person's body. How and when to take insulin is different for each person and can change over time. A person may take just one type of insulin or different types throughout the day. Report to your supervisor according to the plan of care if your clients with diabetes report any issues with taking their insulin. A person who needs assistance with insulin syringe filling, insulin pens, or other insulin administration may qualify for services such as with a certified home health agency to assist with insulin. Syringes deliver insulin through a needle. Insulin pens come with preloaded insulin for giving insulin injections. Insulin pumps can help people with diabetes conveniently manage their blood sugar. These small, wearable devices deliver doses of insulin at specific times and are an alternative to multiple daily injections. There are several types of insulin pumps on the market, each with unique features. Inhaled insulin is taken using an oral inhaler to deliver ultra-rapid-acting insulin at the beginning of meals. Inhaled insulin is used with an injectable long-acting insulin. Brittle diabetes is a term used when a person's blood sugar level moves often from low to high and from high to low. If you assist a client with brittle diabetes, you will need to be aware of their treatment plan, how to assist, and when to call emergency services as needed, and how when and to who to report changes in the client's condition.

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It takes time and practice for a person to live well with diabetes and everything they do to take care of themselves helps. Assisting a client who has diabetes is an important part of the role of the In-home aide. It is important to follow the instructions on the client's plan of care and to observe, record and **report** changes in a client's condition according to the plan of care. Assisting a client with diabetes requires careful observations for changes that need to be reported. Every client with diabetes will have a unique plan of care specific to their type of diabetes and treatment plan. There is not a one size fits all treatment to diabetes. General ways to assist clients with diabetes may include the following:

- Encourage your client to follow their prescribed diet and to follow a healthy diet plan. Be sure to know if there is certain type of diet the client is to follow (e.g., low carbohydrates, low calorie, low salt, etc.). If you are providing meal preparation for the client as per the plan of care, you will need to know what type of meal you will need to prepare to meet dietary requirements for your client.
- Encourage your client to take their medications as ordered. Medication reminders may be a role you will be assigned in assisting your clients with diabetes. With diabetes medications, it is important that the client understand the relationship between the drug action, food intake and activity. Report to your supervisor if your client is not taking their diabetes medication (including insulin injections and medications by mouth) due to not having money to buy the medication; forgetting to take medication; confusion about what medication to take and when to take it; inability to inject their insulin, or don't feel they need it; or other issues with medications.
- People with diabetes check their blood glucose levels by poking their fingertips and using a blood glucose meter or by wearable technology called a continuous glucose monitor (CGMs) to measure the blood glucose level at that moment. Keep in mind bloodborne pathogen protocols if you are assisting a client with checking their blood sugar. It is also important that you know how, what, and to whom to report regarding client blood sugar readings. Blood sugar levels change often during the day. When they drop below 70 mg/dL, this is called having low blood sugar. You will need to know the specific parameters for reporting according to your client's plan of care.
- People with diabetes have a harder time healing due to poor circulation. Routinely observe a client's skin for early signs of skin breakdown and report this immediately. Do not cut the client's toenails or fingernails. Notify your supervisor if they need their nails trimmed for a plan to be put in place. A client may need a podiatrist to perform that procedure. Be sure to give proper foot care according to the plan of care. If assisting a client with bathing, wash the client's feet carefully and dry between the toes well. Inspect the feet for blisters, cuts, redness, or swelling. Check for hot or cold feet, check water temperature during bath or shower to ensure the water is not too hot.
  - ❖ Report according to the client's plan of care signs of hyperglycemia (high blood sugar) or hypoglycemia (low blood sugar).
- ✓ Hyperglycemia or high blood sugar is when a person's blood sugar is over 200mg/dl. Each person's plan for when to contact their healthcare provider according to their blood sugar results will vary. Help your client to follow their treatment plan. Signs of **high blood sugar (hyperglycemia)** include increased or excessive thirst, *fruity breath*, increased urination, abdominal pain, nausea, weakness or fatigue, lethargy, blurry vision, weight loss. If hyperglycemia is left untreated, it can lead to diabetes related ketoacidosis (DKA). DKA occurs when insulin isn't available to pull glucose into cells for energy, instead, the body burns fat for energy. Ketones, the byproducts of fat metabolism, build up in the bloodstream and cause a pH imbalance that can lead to serious illness or even death. Common symptoms of DKA include fast, deep breathing, dry skin and mouth, flushed face, frequent urination or thirst that lasts for a day or more, fruity-smelling breath, headache, muscle stiffness or aches, nausea and vomiting, stomach pain.

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