

- **Diabetes Mellitus (diabetes)** is a disease in which the body does not make or properly use insulin. Insulin is a hormone produced by the pancreas. Insulin is needed to turn sugar, starches, and other food into energy. When a person has diabetes, their blood glucose (sugar) level becomes high and must be controlled. Diabetes is a chronic (long-lasting) disease.
- **Type 1 diabetes** is a condition characterized by high blood glucose levels caused by a total lack of insulin. Occurs when the body's immune system attacks the insulin-producing beta cells in the pancreas and destroys them. The pancreas then produces little or no insulin. Type 1 diabetes develops most often in young people but can appear in adults. About 5% of the people who have diabetes have type 1.
- **Type 2 diabetes** is a condition characterized by high blood glucose levels caused by either a lack of insulin or the body's inability to use insulin efficiently. Type 2 diabetes develops most often in middle-aged and older adults but can appear in young people. Type 2 is the most common type of diabetes.
- **In your role as an In-Home Aide, you can help your clients manage their diabetes as well as observe, record, and report important client information related to their diabetes management.**

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## Learning Objectives:

- Facts about Diabetes
- High and low blood sugar
- Symptoms of Diabetes
- The In-Home Aide's Role in working with a client with diabetes

## Diabetes Facts

- **Total:** 30.3 million people have diabetes (9.4% of the US population)
- **Diagnosed:** 23.1 million people
- **Undiagnosed:** 7.2 million people (23.8% of people with diabetes are undiagnosed)
- Diabetes is the 7<sup>th</sup> leading cause of death in the US
- Diabetes is the No. 1 cause of kidney failure, lower-limb amputations, and adult-onset blindness

## Diabetes can lead to many health problems including:

- **Heart disease and stroke**
- **Eye disease that can cause problems with eyesight**
- **Kidney problems- Diabetes is the leading cause of kidney disease.**
- **Nerve damage that can cause numbness and tingling in the hands and feet**
- **Gum disease and loss of teeth**

## Nutrition and Diabetes:

- Individualized meal planning is recommended for people with diabetes. Follow the meal preparation/special diet plan instructions on the client's plan of care
- A diabetes meal plan is based on the client's size, any need to lose weight, and their amount of exercise
- Carbohydrates have the greatest effect on blood glucose. Foods high in carbohydrates, such as potatoes, will contribute to elevated glucose

## Tips for Eating Healthy with Diabetes:

- ➔ Eat baked, broiled, or stewed fish and meats instead of fried
- ➔ Use nonfat or low-fat salad dressing, mayo, and margarine
- ➔ Try a food lower in fat in a favorite dish-for example, make mac and cheese with fat-free or low-fat cheese and milk
- ➔ Drink water, sugar-free soda, or unsweetened iced tea instead of fruit drinks, regular soda, or sweet tea
- ➔ Keep cold water in the fridge
- ➔ Share dessert with someone else when you're eating out, instead of having a whole dessert
- ➔ When eating out, share a meal with someone else or put half in a box to take home
- ➔ Eat slowly and take a break between bites
- ➔ Do not skip meals-when you skip a meal, it's easy to overeat at the next meal



### **Newsletter References:**

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### Symptoms of diabetes include:

- increased thirst and urination
- increased hunger
- fatigue
- blurred vision
- numbness or tingling in the feet or hands
- sores that do not heal
- unexplained weight loss

Symptoms of type 1 diabetes can start quickly, in a matter of weeks.

Symptoms of type 2 diabetes often develop slowly—over the course of several years—and can be so mild that you might not even notice them.

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.

### Treatment for Diabetes

- **Healthy Eating (diet controlled)**
- **Physical Activity**
- **Medication - Insulin injections and/or medications taken by mouth or other medication delivery methods (insulin pump, etc.)**

### Hypo (low) / Hyper (high) glycemia

- **When the blood sugar becomes too low or too high, serious problems can arise**
- **Hypoglycemia (sometimes called an insulin reaction) is low blood sugar**
- **Hyperglycemia is high blood sugar**
- **Some diabetes medicines can cause hypoglycemia, also called low blood glucose, if an individual doesn't balance medicines with food and activity. Any client taking a glucose lowering drug alone or in combination with insulin must be alert to the risks of hypoglycemia**
- **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 when their blood glucose is low.**

**Talk with your supervisor about ways to assist your client as needed if they have symptoms of hypoglycemia (such as giving your client 4 ounces (1/2 cup) of orange juice or regular soda if they are able to swallow) and when, how and to whom to report if this happens.**

### How Do Our Bodies Work?

- Food that we eat is broken down in the stomach and bowels to form glucose
- The glucose is absorbed into the blood and carried to the cells in the body
- The glucose is then burned to produce energy
- Any glucose not used is stored in the cells

### Insulin and its Role:

- Insulin is produced by the pancreas which is an organ located behind the stomach
- The insulin helps the glucose get into the body's cells
- If there is not enough insulin, or the body does not use the insulin correctly, the glucose stays in the bloodstream
- **High levels of glucose in the bloodstream causes diabetes**

### Hyperglycemia (high blood sugar) can be caused by:

- Not taking insulin or not taking enough insulin
- The insulin in the body is not working properly
- Eating too much
- Less exercise than planned
- Stress
- Illness

### Symptoms of Hyperglycemia:

- High blood sugar
- The urine has high sugar levels
- Increased thirst
- Frequent urination

### Hypoglycemia (low blood sugar) can be caused by:

- Taking too much insulin
- Not eating enough
- Not eating on time
- Exercising too much

### Symptoms of Hypoglycemia:

- Pale and sweating skin
- Dizziness and/or shakiness
- Headache
- Hunger
- Confusion
- Sudden mood or behavior changes
- Clumsy or jerky movements
- Feeling weak
- May appear "drunk"
- ❖ ***Severe hypoglycemia has the potential to cause accidents, injuries, coma, and death.***

**Assisting clients with blood glucose monitoring and medication reminders may be something you will be assigned in your role as an In-Home Aide.**

**Follow the instructions and plan of care for your individual client and discuss what you are to observe, record, and report with you supervisor.**

**You play an important role in working with clients who have diabetes and are a valuable member of the client's health care team!**

## The In-Home Aide's Role:

- Encourage your client to follow their prescribed diet. Be sure to know what type of diet to prepare and how to prepare it if meal preparation is one of the assigned tasks on the plan of care
- Report any deviations from diet (ex. eating large amounts of sugary food, frequent alcohol use)
- Encourage/remind your client to take medications as ordered. With many diabetes medications, it is important that the client understand the relationship between the drug action, food intake and activity
- Report missed medication doses to your supervisor
- Report any signs of improper storage of medications (ex. insulin sitting in direct sunlight or in the freezer)
- Inform your supervisor if your client is not eating or has diarrhea, vomiting etc.
- Inform your supervisor if your client is "sick"
- Report any signs and symptoms of hypo/hyperglycemia immediately and know the plan for your client if this were to occur
- Report any new shortness of breath immediately
- Encourage your client to keep regular doctor appointments
- Provide good foot care: (be sure to follow the plan of care); with diabetes there can be a decrease in blood flow to the feet so foot care is very important!
- Wash feet carefully and dry between the toes well
- Inspect feet for blisters, cuts, redness, swelling
- Check for hot or cold feet
- Encourage client to wear socks and comfortable shoes and avoid bare feet
- Avoid restrictive garters or knee high stockings
- Avoid things that increase skin dryness such as hot water, bubble bath, scented soaps
- Use moisturizing soaps and skin cream (according to the plan of care)



### **Common Terms used with Diabetes:**

**Blood glucose** -the main sugar found in the blood and the body's main source of energy. Also called blood sugar.

**Blood glucose level** -the amount of glucose in a given amount of blood. It is noted in milligrams in a deciliter, or mg/dL.

**Blood glucose meter** -a small, portable machine used by people with diabetes to check their blood glucose levels. After pricking the skin with a lancet, one places a drop of blood on a test strip in the machine. The meter (or monitor) soon displays the blood glucose level as a number on the meter's digital display.

**Blood glucose monitoring** -checking blood glucose level on a regular basis in order to manage diabetes. A blood glucose meter (or blood glucose test strips that change color when touched by a blood sample) is needed for frequent blood glucose monitoring.

**Brittle diabetes** -a term used when a person's blood glucose level moves often from low to high and from high to low.

**Diabetic ketoacidosis (DKA)** -an emergency condition in which extremely high blood glucose levels, along with a severe lack of insulin, result in the breakdown of body fat for energy and an accumulation of ketones in the blood and urine. *Signs of DKA are nausea and vomiting, stomach pain, fruity breath odor and rapid breathing. Untreated DKA can lead to coma and death.*

### **OBSERVE, RECORD and REPORT the following:**

- 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.
- Signs and symptoms of high or low blood sugar.
- Your client not checking their blood sugar as prescribed due to being out of test strips, forgot, or not sure how to do use their glucose meter.
- If your client is not following their diet plan due to lack of funds for healthy food such as fruits and vegetables; lack of ability to prepare healthy meals when the home care services are not in the home; not eating regularly, or skipping meals and snacks.