

OBJECTIVES

Upon completion of this program, the home health aide will be able to:

- » Define diabetes
- » List three complications commonly seen in diabetic patients
- » Name four signs and symptoms of hypoglycemia, and
- » Describe diabetic foot care.

OVERVIEW

The incidence of diabetes mellitus is very high in the United States, affecting more than 8.2 million people. Of even greater concern, a recent study by the Centers for Disease Control and Prevention (CDC) determined that the prevalence of diabetes rose from 4.9% of the population in 1990 to 6.5% of the population in 1998. This represents a very significant increase during this eight-year period. A report by the Office of Inspector General (#OEI-02-01-00070, October 2001) ranks diabetes as the highest volume diagnosis for patients who had no inpatient facility stay within 15 days of receiving home health care.

It is clear that many homecare patients have a diagnosis of diabetes, either as the primary reason for the homecare, or as another pertinent diagnosis related to their care. Given the numerous complications and impairments associated with diabetes, many of these patients will receive home health aide services. It is therefore essential that home health aides have some understanding of the problems associated with diabetes, and most especially an understanding of their roles in the care of these patients.

CONTENT

Read the Fact Sheet	25 minutes
Read the Case Study	10 minutes
Complete "Think About It"	20 minutes
Complete the Post-test	20 minutes
Feedback Session	15 minutes

SUPPLEMENTAL LEARNING ACTIVITIES

- Provide participants with some of the patient-teaching materials your agency uses to teach new diabetics. Review the information with them.
- Discuss your agency's policies regarding the duties that may be delegated to home health aides in caring for diabetic patients.
- View "The Healing Handbook for Persons With Diabetes" online at <http://www.umassmed.edu/diabeteshandbook>. Consider downloading some sections to give to participants.
- If you personally know a staff member who is diabetic, ask that person to give a brief presentation and question-and-answer session for participants.
- Check the following sites and consider use of some of the materials for additional hand-outs for participants:

http://www.cdc.gov/diabetes	http://www.fda.gov/diabetes
http://www.lillydiabetes.com	http://www.diabetes.org

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THE FACTS ABOUT DIABETES:

Diabetes mellitus is a disease in which the body either cannot use or does not make enough of a hormone called insulin. Most of the food we eat is turned into sugar (glucose) so our bodies can use it for energy. It is insulin that helps the sugar get to the cells where it is needed. If your body doesn't make enough insulin, or if it can't use the insulin it does make as well as it should, then the sugar builds up in the blood instead of getting into the cells that need it.

Diabetes is a very serious disease, and often causes serious health problems. It is the seventh leading cause of death in the United States. There are different types of diabetes, but they all can lead to complications. The exact cause of diabetes is not known. People who are overweight have a much higher risk of developing one type of diabetes. Family history also seems to be a risk factor.

Signs and symptoms of untreated diabetes most commonly include frequent urination, excessive thirst, hunger, weight loss (dramatic in some types of diabetes), irritability, weakness and fatigue, and nausea and vomiting. All of these symptoms are caused because the blood sugar levels are too high. If the person's blood sugar reaches very high levels, there may be a "fruity" odor to the breath and the person may actually go into a coma.

Treatment of diabetes will be different for different patients. The correct diet and exercise as tolerated will be part of almost every patient's treatment. Some patients will need to have injections of insulin and some patients will take pills. The goal of all treatment is to keep the blood sugar level under control, and most patients will regularly check their blood sugar level at home. There is a lot of research being done, but at the present time there is no cure for diabetes.

COMPLICATIONS OF DIABETES:

Many diabetics will develop some complications. Over time (especially if not well-controlled), diabetes can lead to kidney failure, nerve damage, heart and blood vessel disease, eye problems (including blindness), and skin ulcers, especially on the feet. Diabetics are also much more likely to develop infections than non-diabetics.

- **Heart and blood vessel disease:**

Diabetes causes damage to the inside walls of blood vessels which can lead to scar tissue and build-up of plaques. The damage leads to poor circulation and puts the patient at much greater risk of having a heart attack or stroke.

- **Eye problems:**

Diabetes can damage the tiny blood vessels in the eyes causing a condition known as retinopathy. There may be no symptoms in the early stages, so it is very important that diabetics have regular eye exams. Retinopathy can lead to total blindness.

- **Kidney disease:**

Diabetes can damage the kidneys, so they can no longer filter the waste products and extra fluid from the body. Some of the water and waste products that normally leave the body through urine are kept inside the body and build up in the blood. This kind of damage is called nephropathy and can lead to complete kidney failure.

- **Nerve damage:**

Diabetes can cause nerve cells to swell and scar. This makes the cells unable to send messages to the body the way they should. This nerve damage is called neuropathy and can cause numbness, burning pain, or tingling.

- **Ulcers, especially on the lower legs and feet:**

The ulcers are caused by the poor circulation and nerve damage that diabetes causes. They often begin with a small injury that the patient doesn't feel because of numbness and can get very bad. They do not heal easily, and non-healing foot ulcers and other wounds can lead to gangrene requiring an amputation of toes, part of a foot, or leg.

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- **Infections:**

Diabetes reduces the body's ability to fight off infection. Diabetics are prone to develop skin infections, bladder infections, tooth and gum infections, as well as yeast infections. Vaginal yeast infections are very common among females. Overweight diabetics often develop yeast infections in the groin area, or abdominal folds.

CARING FOR THE DIABETIC PATIENT:

It is almost certain that your assignment sheet will give you special instructions in caring for each diabetic patient. There are some important aspects of care that will apply to any diabetic patient. Some of those include:

- » **Recognizing signs and symptoms of low blood sugar or high blood sugar**

Both the disease itself and the treatment for diabetes affect blood sugar levels, and there are different symptoms when the levels are too high or too low.

- **High blood sugar:**

High blood sugar is also known as hyperglycemia. In patients who are being treated for diabetes, it may occur because of noncompliance with diet and/or medications, but it can also occur when the patient develops an infection, his or her medications need to be adjusted, or in times of illness or emotional distress. The symptoms of high blood sugar tend to be slow and gradual. They include increased thirst and urination, loss of appetite, nausea and vomiting, or weakness and general aching.

- **Low blood sugar:**

Low blood sugar is also known as hypoglycemia. It may occur because of not eating, taking too much medicine (or taking the right medicine but waiting too long afterwards to eat), and doing a lot more exercise than usual. The symptoms of low blood sugar occur suddenly and worsen quickly. Early symptoms include shakiness or trembling, sweating, irritability or anxiety, and increased pulse rate. If untreated, the low blood sugar leads to drowsiness, loss of balance, slurred speech and the patient may even become combative. If the blood sugar drops low enough, the patient will lose consciousness and could possibly die.

- » **Your role if the patient has high or low blood sugar:**

Have the patient or caregiver check the blood sugar. It is likely that the assignment sheet will instruct you when to report the blood sugar reading. It will often include the following directions:

- **If the blood sugar is low:**

If the blood sugar is less than 70 — Immediately take whatever action has been outlined on your assignment sheet. This will usually include giving ONE of certain food items such as 4 ounces of orange juice, 1 tablespoon of jelly, 6 oz of regular soda, 2 packets of sugar or 4 sugar cubes, or 7-9 LifeSaver™ candies. After 10-15 minutes, have the patient check his or her blood sugar again. Then call the supervisor with the result. At this point you will often be asked to have the patient drink a glass of milk or eat some crackers or fruit to keep the blood sugar from dropping again.

If the blood sugar is less than 50 — Especially if the patient has slurred speech, loss of balance, or is combative, it can become a true emergency. Give one of the above food items if the patient is able and willing to swallow. Then call the office IMMEDIATELY and follow the supervisor's instructions.

If you find the patient alone and unconscious — Call 911 and tell the paramedics the patient is unconscious and a diabetic. Then call the office.

- **If the blood sugar is high:**

If the blood sugar is greater than 200 — Observe and ask the patient if he or she is having any symptoms. Then, call the

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supervisor and report the blood sugar as well as the signs or symptoms the patient may be having.

FOOT CARE:

Diabetics are very prone to foot problems. Foot problems can develop quickly, therefore good foot care will be one of your most important duties. Your agency may have specific guidelines for you to follow. Otherwise, keep the following considerations in mind:

1. Check the feet very carefully on each visit. Look for blisters, cuts, sores, red spots, swelling, cracks, corns, or callouses. Gently touch the feet in all areas to see if the patient has any loss of feeling. Check for ingrown or long, poorly trimmed toenails.
2. Wash the feet in warm (not hot) water and make certain to rinse well. Do not soak the feet (unless you have been assigned to do so), since they already tend to become dry and soaking makes them even more dry.
3. Dry the feet thoroughly, especially between the toes.
4. Apply lotion or cream on the tops and bottoms of the feet. (Do NOT put any lotion or cream between the toes.)
5. Put on a clean pair of socks, paying careful attention to smooth any wrinkles.
6. Check the patient's shoes before he or she puts them on. Look for any little objects that may be in them. Check to make certain the lining is smooth.
7. Never apply hot water bottles or ice packs even if the patient asks you to do so.
8. Do not trim the toenails, nor do anything with any corns or calluses the patient may have.

What to report to the supervisor:

Notify the supervisor and record in your notes if you note any of the findings in #1 above. Also report if the patient refuses to wear shoes and socks at all times. Report to the supervisor if the patient's shoes do not fit well, or if the inside linings are rough and the patient cannot afford to purchase new ones. Record in your visit note what you observed and to whom you reported it.

SKIN CARE:

Diabetics often have problems with their skin. Some have certain areas of the skin that hurt when you touch them, even though there does not seem to be any injury. Many have problems with itching, and most tend to have dry skin. The rules of good skin care apply, and you may have special instructions on your assignment sheet. Otherwise consider the following:

1. Bathe (or assist) thoroughly with mild soap and lukewarm water. Carefully rinse to remove all soap residue.
2. During the bath, carefully observe the skin for dryness and/or cracking, any blisters, scratches, scrapes, redness or swelling. Look for any signs of yeast infections, especially in the groin, between the toes or the abdominal folds or under the breasts.
3. Apply a small amount of lotion to keep the skin soft. Do NOT use lotion in the groin area, between the toes or the abdominal folds, or under the breasts. You will likely apply a small amount of talcum powder or cornstarch in these areas.

What to report to the supervisor:

Notify the supervisor of any skin abnormalities you observe. Record in your visit note what you observed and to whom you reported it.

OTHER RESPONSIBILITIES:

A lot of information is given to all people diagnosed with diabetes. Unfortunately, some of them choose not to follow the information. If you observe your diabetic patients eating a lot of junk food, regular soda, or walking around barefoot, or if they tell you they don't check their blood sugar or take their medicines when they should, it is important that the nurse know about this. Often

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Patients will be more honest with you about these things, and will tell the nurse what they think the nurse wants to hear. It is your responsibility as a home health aide to let the nurse know. It is also important that you report to the nurse when the patient is not feeling well, especially if he or she is nauseated, or vomiting. The diabetic patient almost always has "sick day" instructions, but you still should report any illnesses to the nurse.

A FINAL POINT:

Many of the diabetic patients you care for in your role as a home health aide will suffer from complications of the disease. Keep in mind that many of them also have other conditions, and are likely to be older.

There are thousands of diabetics who are living a normal life. They play professional sports, they are actors and actresses, teachers, physicians, attorneys, nurses, and government officials. Do not mistakenly think that just because diabetes cannot be cured, that it cannot be controlled. Many of the healthy people you see everyday have diabetes, and you would never know unless they tell you.

CASE STUDY: DEALING WITH DIABETES

Martha is a home health aide who is caring for 73-year-old Mr. Sangria. The aide assignment sheet states that his primary diagnosis is congestive heart failure. He is short of breath and uses oxygen. He needs a home health aide to assist with his bath because he is too short of breath to be able to do his own. He also has had diabetes for many years. The assignment sheet notes that Mr. Sangria has diabetes and takes insulin, but there are no specific duties assigned regarding the diabetes.

Because Mr. Sangria always complains of being cold, Martha makes the bath water extra warm. Martha believes in giving a "good bath" so she vigorously scrubs Mr. Sangria. While she is washing his thigh, he tells her it hurts. She responds, "Well, I don't see anything there," and continues with the bath. Mr. Sangria says his feet are very ticklish, so Martha suggests that a nice hot foot soak would get them cleaner. She soaks his feet for 10 minutes and then dries them. She doesn't dry or even look between his toes since he is so ticklish. She figures they will be dry by the time they are finished with the bath. She does notice a scrape on the top of his left foot and mentions it to Mr. Sangria. He says he scraped it on the side of the bed and that Martha shouldn't worry-- he is always banging his feet since he prefers to go barefoot. Before they are finished with the bath, Mr. Sangria tells Martha that he is getting a little weak and trembling, maybe because he already took his insulin but didn't eat lunch before Martha came. Martha tells him it's more likely because he got tired and chilly from the bath. "We'll be finished here soon and you'll feel better with some clothes on. Then you can eat lunch," she says. Martha decides to skip the lotion since Mr. Sangria's trembling is worse so he must really be getting cold. She asks, "You really don't want lotion today, do you?" He says, "No, let's just get this done. I need to eat." He sounds a little irritated.

Martha assists Mr. Sangria with his clothing and he walks with his walker to the kitchen where she fixes the lunch delivered from a mobile meal program. Mr. Sangria's hand is shaking so badly he can hardly hold his glass. While Mr. Sangria is eating, Martha tidies up the bedroom. When she returns to the kitchen, Mr. Sangria has eaten all his meal already and says he is feeling better. As Martha is getting ready to leave, Mr. Sangria asks her to fix him a hot water bottle. He says, "Since I don't like to wear shoes my feet sometimes get cold when I'm watching television, and that will help keep them warm." Martha fixes the hot water bottle and assists Mr. Sangria to his chair to watch TV.

On her visit note, Martha checks the cares assigned, adding that Mr. Sangria "refused lotion." Then Martha, confident she has done a good job, leaves to visit her next patient.

SOMETHING TO THINK ABOUT:

- » Do you agree with Martha that she did a good job?
- » What are some of the major things Martha seems to have forgotten about caring for diabetics?
- » List some of the things that might have happened as a result, as well as things that might still happen.
- » What things did she do that could harm the patient?
- » Name some of the things Martha should have reported to her supervisor about today's visit.

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DIRECTIONS: READ EACH QUESTION CAREFULLY. THEN, DETERMINE THE BEST ANSWER. CHECK THE CORRESPONDING BOX ON YOUR ANSWER SHEET. DO NOT WRITE ON THIS POST-TEST.

1. Which of the following is not usually considered a complication of diabetes?
 - a. Heart disease
 - b. Kidney disease
 - c. Gall bladder disease
 - d. Skin ulcers

2. Which of the following is the best definition of diabetes?
 - a. A disease in which the body cannot use or does not make enough Vitamin B₁₂
 - b. A disease in which the body cannot use or does not make enough red blood cells
 - c. A disease in which the body cannot use or does not make enough estrogen
 - d. A disease in which the body cannot use or does not make enough insulin

3. Which of the following is true about diabetes?
 - a. The cause of most types of diabetes is usually eating too much candy and sweets.
 - b. The cause of most types of diabetes is usually not known.
 - c. The cause of most types of diabetes is usually eating too much red meat.
 - d. The cause of most types of diabetes is usually not having enough food to eat.

4. Which of the following is not likely a sign/symptom that the diabetic's blood sugar is too low?
 - a. Pain in the knees and hips
 - b. Sweating
 - c. Shakiness or trembling
 - d. Irritability

5. You enter a diabetic patient's home and find her unconscious. You check and determine that she is breathing and has a pulse. What action should you take?
 - a. Try to get her to swallow some sugar.
 - b. Wait for about 15 minutes to see if she wakes up.
 - c. Call the office and leave a message.
 - d. Call 911 and inform them that you found a diabetic patient unconscious.

6. When giving foot care to a diabetic, which of the following should you not do?
 - a. Apply lotion between the toes.
 - b. Use warm, not hot water.
 - c. Rinse the soap off thoroughly.
 - d. Check the feet very carefully.

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POST-TEST, PAGE 2

7. It is better for diabetics to go barefoot around the house since it lets the feet get more air.
- a. True
 - b. False
8. Which of the following is not likely to cause low blood sugar?
- a. Taking too much insulin
 - b. Doing a lot more exercise than usual
 - c. Eating a lot more food than usual
 - d. All of the above
9. Which usually happens more quickly and progresses more rapidly?
- a. Signs and symptoms of low blood sugar
 - b. Signs and symptoms of high blood sugar
10. Which of the following is true about diabetes?
- a. There are different types of diabetes.
 - b. Treatment for diabetes will be different for different patients.
 - c. Most diabetics lead a normal, active life.
 - d. All of the above

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MONTHLY INSERVICE ANSWER SHEET

In-service Month _____ Year 2019

Name _____ Date _____

1. a. ___ b. ___ c. ___ d. ___

2. a. ___ b. ___ c. ___ d. ___

3. a. ___ b. ___ c. ___ d. ___

4. a. ___ b. ___ c. ___ d. ___

5. a. ___ b. ___ c. ___ d. ___

6. a. ___ b. ___ c. ___ d. ___

7. a. ___ b. ___ c. ___ d. ___

8. a. ___ b. ___ c. ___ d. ___

9. a. ___ b. ___ c. ___ d. ___

10. a. ___ b. ___ c. ___ d. ___