

Nursing Performance Guidelines (5-1)

Module 5, Unit 1 Introduction

Much like a hiking trail needing a guide, the nursing care of any individual requires a systematic approach to cover all of the aspects of care. Care plans are formed using the nursing process to gather subjective and objective data about the individual. This information is organized into a systematic pattern to identify the nursing interventions, expected outcomes and goals.

The diabetic individual has multiple systems involved in their disease process requiring an effective analytical approach. A diabetic care plan will provide the guidance necessary to successfully provide care to each individual.

Objectives

By the end of this unit, you will be able to:

- Define the unique aspects of the diabetes nursing care plan which require systematic focus.

Preventing Diabetic Complications

Nursing care requirements for the diabetic can be varied and challenging. The role of the nurse will include observation, assessment, prevention and treatment. Diabetic compliance is a factor which requires actively listening to the patient, innovation and resourcefulness.

Diabetes is not one disease, but many. It is now being discussed as not a single disease but as a metabolic syndrome. The devastating effects on almost every organ are what truly make this disease have one of the highest co-morbidities. Diabetes affects many parts of the body and if left untreated or are undertreated often lead to serious complication such as blindness, kidney damage, and lower-limb amputations. Most people with diabetes die from cardiovascular conditions exacerbated by the disease. The first step in treatment is for the nurse to be aware of the wide range of co-morbidities associated with diabetes. More information on Diabetic Co-Morbidities can be found in Unit 5 of Module 3.

Areas Requiring Special Attention

In caring for those with diabetes, pay particular attention to problems associated with its complications. Of course the potential exists for issues with glycemic control resulting in hyper or hypoglycemia. Observe, document, and if required, treat issues such as fluid intake, dietary compliance, oral care, and skin issues — particularly foot care, falls and depression. Simple root cause analysis of a situation can often prevent a complication.

Take for instance the patient who tells the dietician all they want to eat is milk shakes. When the time is taken to interview the patient further and the right questions are asked; it is determined the patient is having pain with chewing. A

simple dental appointment can resolve the issue and put the diabetic patient back on a healthier eating program.

Recognizing the potential for falls from either low fluid intake or foot problems enables the nurse to make a preventative plan of care. A proactive approach reduces the risk of multiple complications which in turn provides a higher quality of life and reduction in incidents and accidents.

Glycemic Control

Avoiding either hypo- or hyperglycemia is vital to managing the diabetic. Be aware of the signs and symptoms of both, along with the protocols and procedures for treatment. Doing so will help reduce the risk of more serious adverse effects. These signs and symptoms were discussed thoroughly in Unit 4 of Module 2. For your convenience, they are reviewed in the Tip drawer here as well.

Your facility will have policies and procedures for managing hypo- and hyperglycemia. Some may include calling response teams within the facility or utilizing a 911 emergency response system. Familiarize yourself with your facility's protocols.

Tip

Signs of Hypoglycemia:

- Weakness, dizziness, or faintness
- Restlessness and/or muscle twitching
- Tachycardia or increased heart rate
- Pale, cool, moist skin
- Excessive perspiration
- Irritability or bizarre changes in behavior
- Blurred or impaired vision
- Headaches
- Numbness of the tongue and lips/thick speech
- In more severe cases stupor, unconsciousness and/or convulsion; and coma

Signs of Hyperglycemia

- Polydipsia or increased thirst
- Dry mouth
- Polyuria or increased urination
- Headache
- Lethargy
- Restlessness
- Anorexia or loss of appetite

Hypoglycemia and Morbidity

Hypoglycemia is a common complication of diabetes management. Hypoglycemia related morbidity may increase with such things as:

- Nocturnal hypoglycemia
- Cognitive and communication problems
- Falls
- Chronic cardiac or liver disease

- Adrenal or pituitary insufficiency
- Immobility

Managing Hypoglycemia

Chronic hyperglycemia is harmful to many of the organs and systems of the diabetic patient if not managed properly. It is associated with multiple organ dysfunction and failure, especially affecting the eyes, kidneys, nerves, heart, and blood vessels. Remember, aging is associated with increased insulin resistance and hyperglycemia is linked to increased morbidity and mortality.

Your facility's policy will probably include steps similar to the following:

- Determine if blood sugar is below 70 mg/dL.
- If the resident is able to swallow, administer an oral form of rapidly absorbed glucose, such as 4 oz of juice or 5-6 oz of soda.
- If the resident is responsive but unable to swallow, administer oral glucose paste, intramuscular glucagon, or IV 50% dextrose, and place resident in a comfortable safe place. Monitor vital signs.
- If the resident is unresponsive, call for help in accordance with the resident's advance directives. Remain with the resident.
- Check blood sugar again in 15 minutes.
- If blood sugar has rebounded above 130 mg/dl, administer diabetic medications
- If blood sugar remains below 70 mg/dl, repeat remedial steps and recheck blood glucose in 15 minutes.
- If there is still no improvement, notify a physician

Hyperglycemia and Morbidity

Just as with hypoglycemia, uncontrolled hyperglycemia poses a significant danger to patients with diabetes, as well as a challenge to staff members due to the difficulty in identification. It is associated with multiple organ dysfunction and failure, especially affecting the eyes, kidneys, nerves, heart, and blood vessels. Remember, aging is associated with increased insulin resistance and hyperglycemia is linked to increased morbidity and mortality. Complications of hyperglycemia include:

- Impaired cognition
- Increased risk of falls
- Functional decline in individuals with dementia
- Decreased pain threshold
- Increased cardiovascular events
- Impaired vision
- Poor wound healing
- Hyperglycemic hyperosmolar coma
- Dehydration

Certain other conditions and treatments increase the risks of hyperglycemia. These include calcium channel blockers used to treat high blood pressure, angina, chest pain, and some arrhythmias. Beta-adrenergic agonists, used to treat asthma, bronchitis, emphysema, and other airway disorders, also increase hyperglycemia

risk. In addition, risk of hyperglycemia increases if the resident is using opiates to treat acute or chronic pain.

Diabetic Ketoacidosis

Unit 2 of Module 3 provides a thorough overview of this dangerous risk of diabetes. It is a life-threatening emergency that often leads to coma. As such it requires immediate medical attention. The following signs and symptoms should be acted upon immediately:

- High blood sugar
- Ketones in the urine
- Nausea and/or vomiting
- Lethargy or drowsiness
- Weakness
- Short, labored, rapid respirations
- Abdominal pain
- Dehydration
- Oliguria or diminished urine output
- Sweet or fruity odor of breath
- Dry and/or flushed skin
- Decreased awareness/senses
- Loss of consciousness
- Coma

Individualized Care Planning

As part of the initial assessment, the physician will help identify residents who have, or are at risk for, diabetes. Pertinent tests may be ordered at that time, as well as during a follow-up period (generally one week). Once findings have been evaluated, an initial care plan will be created. The physician should address complications such as dyslipidemia, coronary artery disease, neuropathy, and nephropathy based on the individual's overall condition, prognosis, function, and treatment preference.

The care plan may include treatment of underlying conditions as well as lifestyle modifications. The plan should be consistent with applicable guidelines. For example, insulin may be indicated when diet, exercise, and oral medication fail to adequately control blood glucose levels.

Follow-up and treatment goals should remain fluid with care planning, and should reflect the input of the resident regarding their personal preferences.

Blood Glucose Testing

The purpose of obtaining a blood sample is to determine the resident's blood glucose. First, verify the physician's order and the resident's care plan. Assemble the required equipment and supplies, and ensure they are working properly by performing any calibrations or checks as instructed by the device's manufacturer.

For the resident on oral medication(s) who is well controlled: monitor blood glucose levels at least twice weekly (or more frequently if there is a change in drugs or drug dosages); monitor A1C on admission (if no results from a previous test are available) or when diabetes is diagnosed and every 3 to 6 months thereafter.

For the resident receiving insulin who is well controlled: monitor blood glucose levels twice a day if on insulin (for example, before breakfast and lunch and as necessary); monitor 3 to 4 times a day if on intensive insulin therapy or sliding-scale insulin; monitor as indicated if the individual is fasting before a medical procedure, has returned to the facility after a significant absence, or has an acute infection or illness. Monitor A1C on admission (if no results from a previous test are available) or when diabetes is diagnosed, and every 6 months thereafter. Adjust monitoring frequency depending on glucose control and resident preference.

Treatment

Depending on the blood sugar results, treatment prescribed by the physician should be initiated. Based on the patient assessment, including causes and complications, the physician will order appropriate interventions, which may include treatment of underlying conditions causing impaired glucose tolerance; diet and lifestyle modifications, where feasible and accepted by the resident; oral hypoglycemia agents; and/or insulin.

As a general rule, if short-acting ("sliding scale") insulin has to be administered frequently, the physician should consider initiating or adjusting intermediate- or long-acting insulin.

Other Evaluations

The physician will authorize pertinent periodic evaluations such as ophthalmology and nephrology, as indicated and will order desired parameters for monitoring and reporting information related to diabetes or blood sugar management.

The staff will incorporate such parameters into the Medication Administration Record and care plan as well as identify and report complications such as foot infections, skin ulceration, increased thirst, or hypoglycemia.

For example, urgent notification may be indicated if the individual has not eaten well or consumed sufficient fluids for 2 or more days and has fever, hypotension, lethargy or confusion.

The physician will help the staff clarify and respond to these episodes. In addition, the staff and physician will manage hypoglycemia appropriately.

Avoiding Over-Treatment

It is important to avoid over-treatment of hypoglycemia, which can result in rebound hyperglycemia and hamper subsequent glucose control.

For example, a borderline low blood sugar in the absence of signs and symptoms may not need any acute intervention, and may or may not suggest the need to modify oral hypoglycemia medications or insulin.

An example of appropriate treatment of hypoglycemia for a responsive individual would be 15 g to 20 g of carbohydrate in the form of glucose, sucrose tablets, or juice, combined with a sandwich, crackers, or other light snack containing protein. For someone who is lethargic but not comatose, treatment might include oral glucose paste rubbed onto the buccal mucosa, intramuscular glucagon, or intravenous 50% dextrose.

Resident and Family Education

Since diabetes is a complex disease with different types and affects many different systems it is imperative to explain not only the care, treatment and co-morbidities but also the rationale for such measures. Collaborative family planning can assist the diabetic in establishing lifestyle changes which can positively impact the disease. Patients and their families need to express their concerns about how diabetes will affect the patient, family life and their future. Resistance to changes in diet, exercise and/or understanding of preventing long term complications should be expected. Prepare how you will explain the reasoning behind changes to better facilitate difficult conversations.

For example, a resident may state that his diet includes 3 beers a day and he does not plan on changing. Explain how this can best be fit into his dietary routine. Help him to decide upon the best way to eliminate other carbohydrates or suggest that he try a light or non-alcoholic beer. Working with the resident and their family will always lead to the best compliance and outcome.

Conclusion

The nursing staff is often the "first line of defense" in a long-term care setting. Frequent interaction with the resident puts the nurse in the best position to assess the resident frequently, becoming familiar with each individual's normal state and quickly noticing deviations. In addition, that frequent interaction can also help you get to know the resident as an individual, and to tailor a treatment plan to his or her needs. An individualized plan is an enormous factor in resident compliance and treatment success.