

CONSIDERATIONS:

1. Glucagon purpose and actions:
 - a. Only use in treatment of severe hypoglycemia, i.e., patient is unconscious or cannot swallow
 - b. Increases blood glucose; response occurs in 5 – 15 minutes after injection
 - c. Natural hormone produced by the alpha cells of the pancreas, which signals the liver to convert stored glycogen into glucose and release it into circulation. Thus, glucagon is helpful only if liver glycogen is available
 - d. Prescribed to patients with diabetes who take insulin
 - e. Include on the Medication Profile/Plan of Care
2. Glucagon storage and preparation:
 - a. Store at room temperature away from heat, light and direct moisture
 - b. Consists of a kit
 - i. Vial of powdered glucagon
 - ii. Syringe with dilutant
 - iii. Directions for mixing
 - c. Check the glucagon kit and vial for expiration date and renew before expiration
3. Patient/caregiver education:
 - a. A caregiver must be available/prepared to give the medication, as the only time it is given is when the patient cannot self-administer
 - b. If patient is found unresponsive, call 911 and then administer the glucagon
 - c. A common adverse effect of glucagon is nausea and vomiting. Turn patient on his/her side after glucagon administration to prevent aspiration
 - d. When the patient responds, give supplemental carbohydrates to restore the liver glycogen and prevent further hypoglycemia
 - e. Renew prescription as soon as possible after medication used
2. If patient is confused, obtain a blood glucose measurement.
3. If patient's blood glucose is less than 70 and patient cannot swallow, obtain the patient's glucagon emergency kit.
4. Remove the flip-off seal from the bottle of glucagon and wipe the rubber stopper with alcohol wipe.
5. Remove the needle protector from the syringe and slowly inject the entire contents of the syringe into the bottle of glucagon.
6. Holding syringe in place, agitate bottle gently until glucagon dissolves and the solution becomes clear:
 - a. Glucagon should not be used unless the solution is clear and of water-like consistency
 - b. Once mixed, the solution must be used within minutes or thrown away
7. Using the same syringe, withdraw all of the solution (1 mg mark on the syringe) or the amount prescribed by the physician.
8. Clean a subcutaneous injection site (such as arm, leg, or abdomen) with alcohol wipe.
9. Inject needle into the subcutaneous tissue and inject the prescribed amount of glucagon.
10. Apply light pressure at the injection site and withdraw the needle.
11. Turn the patient on his/her side - vomiting may occur as the person responds.
12. As soon as the patient responds and is able to swallow, give him/her a fast-acting carbohydrate such as regular soda or fruit juice. (See *Hypoglycemia - Assessment & Management*)
13. Follow with a longer acting carbohydrate such as cheese and crackers or meat sandwich.
14. Obtain a blood glucose level and record results.
15. Determine, if possible, the cause of the hypoglycemia.
16. Notify patient's physician of the incident, including the cause, if known, so that treatment regimen may be reviewed and adjusted.

EQUIPMENT:

Blood glucose meter
Glucagon emergency kit
Gloves
Alcohol wipe
Puncture-proof container
Impervious trash bag

PROCEDURE:

1. If patient is found unconscious or having seizures:
 - a. Call 911
 - b. Obtain blood glucose (See *Endocrine – Blood Glucose Testing*)
 - c. If blood glucose low, administer glucagon, following steps 4-16
1. Contact the physician responsible for diabetes care and report occurrence of severe hypoglycemia, actions take, patient response, and obtain and document verbal change orders as necessary for home care services and diabetes self-care management.
2. Instruct patient/caregiver on changed orders for diabetes management as received from the physician.
3. Instruct patient/caregivers to monitor patient's blood glucose level more closely for at least the next 24 hours as additional treatment may be necessary.
4. Instruct patient/caregiver on signs/symptoms of hypoglycemia (See *Hypoglycemia - Assessment & Management*.)

5. Instruct the patient/caregiver to obtain a new glucagon prescription from the doctor as soon as possible.
6. Document in patient's record:
 - a. Initial assessment
 - b. Time and results of all blood glucose tests
 - c. Treatment given, position change and patient's response to the treatment
 - d. Amount and type of carbohydrate given, if any, after the patient regained consciousness
 - e. Call to 911, if required
 - f. Instructions given to patient/caregiver
 - g. Communication with physician

REFERENCE:

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