MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) The client has diabetes type 1 and receives insulin for glycemic control. The client tells the nurse that she likes to have a glass of wine with dinner. What will be the best plan of the nurse for client education include?
   A) The alcohol could cause pancreatic disease.
   B) The alcohol could cause serious liver disease.
   C) The alcohol could predispose you to hypoglycemia.
   D) The alcohol could predispose you to hyperglycemia.

2) The physician orders insulin lispro (Humalog) 10 units for the client. When will the nurse administer this medication?
   A) When the client is eating
   B) Thirty minutes before meals
   C) Fifteen minutes before meals
   D) When the meal trays arrive on the floor

3) The nurse makes a home visit to the client with diabetes mellitus. During the visit, the nurse notes that the client's additional insulin vials are not refrigerated. What is the best action by the nurse at this time?
   A) Instruct the client to label each vial with the date when opened.
   B) Tell the client there is no need to keep additional vials.
   C) Have the client place the insulin vials in the refrigerator.
   D) Have the client discard the vials.

4) The physician writes orders for the client with diabetes mellitus. Which order would the nurse validate with the physician?
   A) Use Humalog insulin for sliding scale coverage.
   B) Metformin (GlucoPhage) 1000 mg per day in divided doses.
   C) Administer regular insulin 30 minutes prior to meals.
   D) Lantus insulin 20U BID.

5) The client has diabetes mellitus type 2. The nurse has taught the client about the illness and evaluates learning has occurred when the client makes which statement?
   A) "My cells have increased their receptors, but there is not enough insulin."
   B) "My peripheral cells have increased sensitivity to insulin."
   C) "My beta cells just cannot produce enough insulin for my cells."
   D) "My cells cannot use the insulin my pancreas makes."
6) The client has been diagnosed with diabetes mellitus type 1. He asks the nurse what this means. What is the best response by the nurse? Select all that apply.
   A) "Your alpha cells should be able to secrete insulin, but cannot."
   B) "The exocrine function of your pancreas is to secrete insulin."
   C) "Without insulin you will develop ketoacidosis (DKA)."
   D) "The endocrine function of your pancreas is to secrete insulin."
   E) "It means your pancreas cannot secrete insulin."

7) The physician orders intravenous (IV) insulin for the client with a blood sugar of 563. The nurse administers insulin lispro (Humalog) intravenously (IV). What does the best evaluation of the nurse reveal?
   A) The nurse could have given the insulin subcutaneously.
   B) The nurse should have contacted the physician.
   C) The nurse should have used regular insulin (Humulin R).
   D) The nurse used the correct insulin.

8) The client injects his insulin as prescribed, but then gets busy and forgets to eat. What will the best assessment of the nurse reveal?
   A) The client will be very thirsty.
   B) The client will complain of nausea.
   C) The client will need to urinate.
   D) The client will have moist skin.

9) The nurse teaches a class for the public about diabetes mellitus. Which individual does the nurse assess as being at highest risk for developing diabetes?
   A) The 50-year-old client who does not get any physical exercise
   B) The 56-year-old client who drinks three glasses of wine each evening
   C) The 42-year-old client who is 50 pounds overweight
   D) The 38-year-old client who smokes one pack of cigarettes per day

10) The client has type 1 diabetes mellitus and receives insulin. Which laboratory test will the nurse assess?
    A) Potassium
    B) AST (aspartate aminotransferase)
    C) Serum amylase
    D) Sodium

11) The client receives metformin (Glucophage). What will the best plan of the nurse include with regard to patient education with this drug? Include all that apply.
    A) It stimulates the pancreas to produce more insulin.
    B) It must be taken with meals.
    C) It decreases sugar production in the liver.
    D) It inhibits absorption of carbohydrates.
    E) It reduces insulin resistance.

12) The client with diabetes mellitus type 1 is found unresponsive in the clinical setting. Which nursing action is a priority?
    A) Call the physician STAT.
    B) Treat the client for hypoglycemia.
    C) Assess the client's vital signs.
    D) Call a code.
13) A client with diabetes mellitus is taking oral agents, and is scheduled for a diagnostic test that requires him to be NPO (nothing by mouth). What is the best plan of the nurse with regard to giving the client his oral medications?
   A) Administer the oral agents immediately after the test.
   B) Notify the diagnostic department and request orders.
   C) Notify the physician and request orders.
   D) Administer the oral agents with a sip of water before the test.

14) The client has type 1 diabetes and receives insulin. He asks the nurse why he can't just take pills instead. What is the best response by the nurse?
   A) "Insulin must be injected because it needs to work quickly."
   B) "Insulin can't be in a pill because it is destroyed in stomach acid."
   C) "Have you talked to your doctor about taking pills instead?"
   D) "I know it is tough, but you will get used to the shots soon."

15) The nurse has finished teaching a client with diabetes mellitus how to administer insulin. The nurse evaluates that learning has occurred when the client makes which statement?
   A) "I should check my blood sugar immediately prior to the administration."
   B) "I should provide direct pressure over the site following the injection."
   C) "I should use the abdominal area only for insulin injections."
   D) "I should only use a calibrated insulin syringe for the injections."
Diabetes

1. Alcohol can potentiate hypoglycemic effects in the client. Alcohol can potentiate hypoglycemic, not hyperglycemic, effects in the client. Alcohol can cause pancreatic disease, but the client’s pancreas is not producing any insulin currently. Alcohol can cause liver disease, but the more immediate concern is hypoglycemia.

2. The onset action for the insulin lispro (Humalog) is 10 to 15 minutes so it must be given when the client is eating to prevent hypoglycemia. The onset action for insulin is 15 minutes so it must be given when the client is eating, not when the meal trays arrive on the floor, to prevent hypoglycemia. The onset of action for insulin lispro (Humalog) is 10 -15 minutes so it must be given when the client is eating, not thirty minutes before meals, to prevent hypoglycemia.

3. Vials not in use should be refrigerated to preserve drug potency. There is no need to discard the vials. The client should always have additional vials of insulin available. Writing the date of opening on the vial is good practice, but does not address the need to refrigerate additional vials.

4. Lantus insulin is usually prescribed once-a-day so an order for BID dosing should be validated with the physician. Humalog insulin can be prescribed for sliding scale coverage. Regular insulin is administered 30 minutes before meals. Metformin (Glugophage) is often prescribed in divided doses of 1000 mg per day.

5. With Type 2 diabetes mellitus, the pancreas produces insulin, but the cells cannot use it. Peripheral cells have a decreased, not an increased, sensitivity to insulin. The beta cells continue to produce insulin with type 2 diabetes. There is a decrease, not an increase, in receptor sites with type 2 diabetes.

6. One function of your pancreas is to secrete insulin. The endocrine function of the pancreas is to secrete insulin. The endocrine, not the exocrine, function of the pancreas is to secrete insulin. Insulin is secreted by the beta, not the alpha, cells of the pancreas. A
consequence of diabetes mellitus type 1 is that without insulin, severe metabolic disturbances, such as ketoacidosis (DKA) will result.

7. Regular insulin is the only insulin that can be given intravenously (IV). The nurse did not use correct insulin as it was not regular insulin. Contact the provider to clarify the order, regular insulin is the only insulin that can be given intravenously (IV). The nurse cannot give the insulin subcutaneously when it is ordered to be given intravenously (IV).

8. Moist skin is a sign of hypoglycemia, which the client would experience if he injected himself with insulin and did not eat. Thirst is a sign of hyperglycemia; the client would experience hypoglycemia if he did not eat. Nausea is a sign of hyperglycemia; the client would experience hypoglycemia if he did not eat. Increased urination is a sign of hyperglycemia; the client would experience hypoglycemia if he did not eat.

9. Obesity increases the likelihood of developing diabetes mellitus due to over stimulation of the endocrine system. Exercise is important, but a lack of exercise is not as big a risk factor as obesity. Smoking is a serious health concern, but is not a specific risk factor for diabetes. Consuming alcohol is associated with liver disease but is not as high a risk factor for diabetes as obesity.

10. Insulin causes potassium to move into the cell and may cause hypokalemia. There is no need to monitor the sodium level. There is no need to monitor the serum amylase level. There is no need to monitor the AST (aspartate aminotransferase) level.

11. Metformin (Glugophage) reduces insulin resistance. Metformin (Glugophage) decreases sugar production in the liver. It should be taken with meals for the best absorption and effect. Metformin does not stimulate the pancreas to produce more insulin. Metformin does not inhibit the absorption of carbohydrates.

12. When a patient with diabetes mellitus type 1 is found unresponsive, the nurse should focus on and treat for hypoglycemia, as this is more likely than hyperglycemia. This is an emergency situation where the nurse must act before calling the physician. Vital signs should be
taken after the client is treated for hypoglycemia. Assessment for ABCs should precede calling a code; there is no information that the client is not breathing.

13. It is best to notify the client’s physician and request orders. The client should not receive the medication during NPO (nothing by mouth) status unless directed by the physician. The medications should not be given upon return unless the physician orders this; the client may still need to be NPO. The radiologist in the diagnostic department might give orders, but it would be best to check with the client’s physician first.

14. Insulin must be injected because it is destroyed in stomach acid if taken orally. Telling he will get used to shots does not answer his question and is condescending. Insulin must be injected because it is destroyed in stomach acid if taken orally; the onset of action is not the issue here. The nurse should answer the client’s question, not refer him back to the physician.

15. To insure the correct insulin dose, a calibrated insulin syringe must be used. Insulin injections should be rotated to the arm and thigh, not just the abdominal area. There is no need to apply direct pressure over the site following an insulin injection. There is no need to check blood glucose immediately prior to the injection.
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**Sutter Maternity & Surgery Center**

**Physician’s Orders Standard Sliding Scale Insulin Protocol**

**GOAL:** To maintain serum glucose between 80 and 200 mg/dl.

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>ORDER</th>
<th>VERIFICATION</th>
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<tr>
<td></td>
<td></td>
<td>1. Diet:</td>
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<td>2. IV Fluids:</td>
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<td>3. Check fingerstick BS: □ q4h □ q6h □ AC &amp; HS</td>
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<td>4. While on Insulin Drip check fingerstick BS</td>
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<td>□ q1h □ q2h</td>
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<td>5. □ Use nursing flow sheet to record all insulin given (sliding scale and maintenance doses), all FSBS’s, and administration of oral diabetic agents.</td>
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<td>6. □ If on q1h or q2h FSBS, use diabetic flow sheet to record all insulin given, all FSBS’s, and administration of oral diabetic agents</td>
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<td>7. □ Advance to next higher dose regimen if within 24 hours there are two consecutive FSBS readings &gt; 300 mg/dl and all FSBS readings are &gt; 100 mg/dl.</td>
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<td>*** Fax to Pharmacy dose range changes.</td>
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<td>8. □ Diabetic Teaching</td>
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<td>9. □ Dietary Consult</td>
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**INSULIN SLIDING SCALE REGIMENS**

*(Please check type of insulin and sliding scale regimen)*

□ Regular insulin □ Humalog (Lispro) insulin

<table>
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<tr>
<th>Glucose Level (mg/dl)</th>
<th>Low Dose Regimen</th>
<th>Medium Dose Regimen</th>
<th>High Dose Regimen</th>
<th>Very High Dose Regimen</th>
<th>Other/Custom</th>
<th>Insulin Drip (1 unit/5 ml) 50 units Reg Insulin/250 ml NS</th>
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<tbody>
<tr>
<td>Serum FBS&lt;80</td>
<td>Give 4 oz Orange Juice or 25 ml D50W &amp; recheck FSBS in 30 min. If &lt; 80 repeat above &amp; call MD.</td>
<td>Give 4 oz Orange Juice or 25 ml D50W &amp; recheck FSBS in 30 min. If &lt; 80 repeat above &amp; call MD.</td>
<td>Give 4 oz Orange Juice or 25 ml D50W &amp; recheck FSBS in 30 min. If &lt; 80 repeat above &amp; call MD.</td>
<td>Give 4 oz Orange Juice or 25 ml D50W &amp; recheck FSBS in 30 min. If &lt; 80 repeat above &amp; call MD.</td>
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<td>100-150</td>
<td>0</td>
<td>0</td>
<td>3 units SQ</td>
<td>1 units SQ</td>
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<td>151-200</td>
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<td>3 units SQ</td>
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<td>201-250</td>
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<td>6 units SQ</td>
<td>9 units SQ</td>
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<td>251-300</td>
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<td>6 units SQ</td>
<td>9 units SQ</td>
<td>12 units SQ</td>
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<td>301-350</td>
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<td>12 units SQ</td>
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<td>351-400</td>
<td>8 units SQ</td>
<td>10 units SQ</td>
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<td>&gt; 400</td>
<td>10 units SQ &amp; call MD</td>
<td>12 units SQ &amp; call MD</td>
<td>18 units SQ &amp; call MD</td>
<td>21 units SQ &amp; call MD</td>
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**MD Signature**

**Date**

**Time**

**Addressograph:**

**NOTED AND ORDERED**

DATE: ___/___/___

TIME: _______

BY: ______________________ RN