

Agenda for Diabetes Training

- A. Overview of Training
- B. Understanding Diabetes
- C. Hypoglycemia/Hyperglycemia
 - 1. Signs and Symptoms
 - 2. Treatment
- D. Blood Glucose Monitoring
- E. Glucagon Administration
- F. Health Care Plan
- G. School Policy and Procedure
- H. Documentation

Diabetes Overview

Understanding Diabetes:

Diabetes is a chronic disease in which the body does not make or properly use insulin, a hormone needed to convert sugar, starches, and other foods into energy. People with diabetes have an increased blood glucose (sugar) levels because they lack insulin, have insufficient insulin, or are resistant to insulin's effect. Oral medications or insulin injections are given to help control the disease. It does not cure it.

There are two types of Diabetes, Type I and Type II. Taking care of Diabetes is very important. There are many factors involved in the day to day management of the disease. Diabetes can quickly become a life threatening emergency if not monitored and taken care of.

Hypoglycemia:

Hypoglycemia is often called "low blood sugar". It is one of the most frequent complications and can happen very suddenly. This condition can be treated easily and effectively. If not treated, this condition can lead to unconsciousness and convulsions- this is a life threatening situation.

Causes: Hypoglycemia can be caused as a result of too much insulin, skipping or delaying meals/snacks, or exercising too long or too intensely.

Signs and symptoms: shaky, sweaty, hungry, dizzy, confused, disorientated, irritable, headache, weak, inability to concentrate, blurred vision, and sleepy. **SEVERE SYMPTOMS:** seizures, unconscious, or inability to swallow.

Treatment: Give the student 4 oz of juice, reg. soda, or 3-4 glucose tabs. If lunch or snack time – follow up with lunch or snack. If at any other time, follow up with a snack (i.e.) peanut butter/crackers, 3 cheese/crackers, or half a sandwich. Recheck blood sugar in 15-20 min. If child passes out or is unable to swallow, give the Glucagon Injection immediately and call 911, the parents, and the Health Coord.

Hyperglycemia:

Hyperglycemia is when the blood sugar is too "high". If the students blood sugar is 300 or higher they must check their urine for ketones. These strips are kept in the nurse's office in your building. If no ketones are detected, the student will be given water and encouraged to "walk". If ketones are detected, the student will be sent home.

Blood Glucose Monitoring:

Blood Glucose monitoring is critical to diabetes management. Most students can check their own blood sugar, but some may need assistance. Most machines turn on automatically when a test strip is inserted, if not, then turn the machine on and insert a strip. Wear gloves to assist students. The student will have a device to obtain blood from their finger. Be careful to avoid the end of the device – there is a needle inside. Put a drop of blood on the test strip. The machine will give you a reading within a few seconds. Every monitor is different and may show different error messages. If this occurs, consult the instructions for the machine and/or contact the Health Coordinator. Test strips can be discarded in the regular trash can but needles and lancets must be discarded in a red sharps container.

Glucagon Administration:

Glucagon is given when a Diabetic student is unconscious, having seizures, or unable to swallow.

1. Remove the seal from the top of the glass vial.
2. Remove lid from the syringe and insert needle into the vial.
3. Push the plunger to force the liquid from the syringe into the bottle, remove the needle from the vial.
4. Gently shake the bottle until the solution is clear.
5. Insert the needle back into the vial and pull back the plunger to draw the fluid into the syringe – about 1 ml.
6. Turn the person on their side. Slightly pinch the skin between your fingers of one hand.
7. Hold the syringe like a pencil, bend your wrist and quickly push the needle all the way into the skin.
8. Push the plunger all the way down to ensure all the medicine goes into the skin.
9. Remove the needle at the same angle you inserted it.
10. Call 911, parents, and Health Coordinator.
11. As soon as the person is alert, give them some fast acting sugar until the ambulance arrives.










HYPOGLYCEMIA

(Low Blood Glucose)

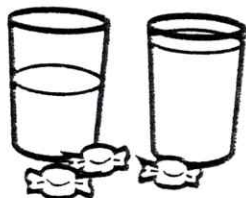
Causes: Too little food, too much insulin or diabetes medicine, or extra activity.

Onset: Sudden, may progress to insulin shock.

SYMPTOMS

 SWEATING	 DIZZINESS	 ANXIOUS	 FAST HEARTBEAT
 IMPAIRED VISION	 WEAKNESS FATIGUE	 HEADACHE	 HUNGER
			 IRRITABLE

WHAT CAN YOU DO?



Drink 1/2 glass of juice or regular soft drink, or 1 glass of milk, or eat some soft candies (not chocolate).



Within 20 minutes after treatment **TEST BLOOD GLUCOSE.** If symptoms don't stop, call your doctor



Then, eat a light snack (1/2 peanut butter or meat sandwich and 1/2 glass of milk).

Treatment may vary with different medications.

HYPERGLYCEMIA

(High Blood Glucose)

Causes: Too much food, too little insulin or diabetes medicine, illness or stress.

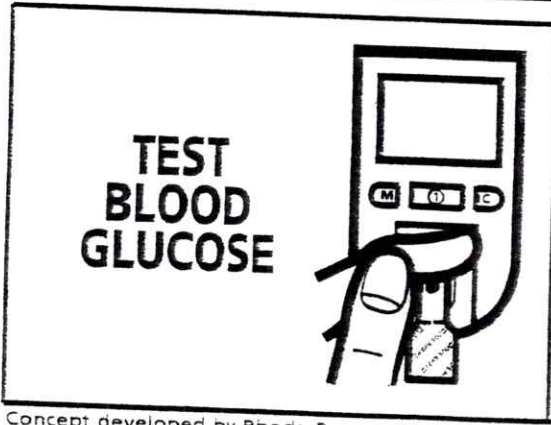
Onset: Gradual, may progress to diabetic coma.



SYMPTOMS



WHAT CAN YOU DO?



If over 200 mg/dL for several tests or for 2 days

CALL YOUR DOCTOR

GLUCAGON ADMINISTRATION A Guide for School Personnel

NovoNordisk GlucaGen®HypoKit™



Lilly Glucagon Emergency Kit™



WHAT is GLUCAGON?

- Glucagon is a hormone made by the body

WHY use GLUCAGON?

- Glucagon's primary effect is to raise blood glucose (blood sugar) levels by helping the liver produce more glucose

WHEN to use GLUCAGON?

- Use ONLY when the person is unconscious or having a seizure
- Glucagon will most likely cause nausea and vomiting
- Have another adult call 9-1-1
- If alone, administer glucagon, then call 9-1-1

HOW to use GLUCAGON?

- Open kit
- Remove the flip-top seal from the top of the glucagon vial
- Remove the needle cap from the syringe (keep plastic piece on plunger)
- Inject all of the sterile water from the syringe into the vial of glucagon (keep needle in vial)
- Gently swirl vial until the solution is clear (do not shake the vial)
- Draw all of solution from the vial into syringe

WHERE to give GLUCAGON?

- TURN person on his/her side
- CLEAN injection site if possible
- INJECT the glucagon into the upper arm (deltoid) or leg (outer thigh)
- Preferably not through clothing, however can if necessary
- WITHDRAW the needle and apply pressure at the injection site
- Discard used syringe back in kit (do not recap)

WHAT to do after giving GLUCAGON?

- EMT's should have arrived
- If not, call 9-1-1 for estimated time of arrival
- Give EMT the used GLUCAGON kit

WHEN the person becomes conscious and is able to chew and swallow:

- The person should respond in 20 to 30 minutes
- If alert and talking, give a fast-acting sugar like fruit juice or regular soda
- Then give any type of milk (chocolate, whole, skim, etc)
- If available, give a protein like cheese and crackers or a meat sandwich

**DIRECTIONS FOR USE
TO PREPARE GLUCAGON FOR
INJECTION**

- 1 Remove the flip-off seal from the bottle of glucagon. Wipe rubber stopper on bottle with alcohol swab.



- 2 Remove the needle protector from the syringe, and inject the entire contents of the syringe into the bottle of glucagon. DO NOT REMOVE THE PLASTIC CLIP FROM THE SYRINGE. Remove syringe from the bottle.



- 3 Swirl bottle gently until glucagon dissolves completely. GLUCAGON SHOULD NOT BE USED UNLESS THE SOLUTION IS CLEAR AND OF A WATER-LIKE CONSISTENCY.



TO INJECT GLUCAGON
Use Same Technique as for
Injecting Insulin

- 4 Using the same syringe, hold bottle upside down and, making sure the needle tip remains in solution, gently withdraw all of the solution (1 mg mark on syringe) from bottle. The plastic clip on the syringe will prevent the rubber stopper from being pulled out of the syringe, however, if the plastic plunger rod separates from the rubber stopper, simply reinsert the rod by turning it clockwise. The usual adult dose is 1 mg (1 unit). For children weighing less than 44 lb (20 kg), give 1/2 adult dose (0.5 mg). For children, withdraw 1/2 of the solution from the bottle (0.5 mg mark on syringe). DISCARD UNUSED PORTION.



**USING THE FOLLOWING DIRECTIONS,
INJECT GLUCAGON IMMEDIATELY
AFTER MIXING.**

- 5 Cleanse injection site on buttock, arm, or thigh with alcohol swab.
6 Insert the needle into the loose tissue under the cleansed injection site and inject all (or 1/2 for children weighing less than 44 lb) of the glucagon.

Delegating Glucagon Administration

School Year _____

Delegation must only be done by a registered nurse in accordance with the Missouri state law and regulations. The health, safety, and welfare of the student are the primary considerations. The school nurse is responsible for choosing, training, and providing ongoing supervision of the trained school personnel.

Successful delegation of Glucagon administration is dependent on the use of the Health Care Plan, which clearly outlines the actions to take, including proper time, dose, route, and injection site.

Steps	Initial Training Date/Initials	Return Demo	Update		
1. Gather supplies(Glucagon kit, alcohol wipes, and gloves)					
2. Wash hands and put on clean disposable gloves.					
3. Remove flip-off seal from vial (bottle) of Glucagon powder.					
4. Remove needle protector from syringe.					
5. Inject entire contents of syringe into vial of Glucagon powder.					
6. Remove syringe; swirl contents gently until Glucagon powder dissolves and solution becomes clear.					
7. Insert same syringe into vial, hold vial upside down and remove all the solution from the bottle into the syringe.					
8. Withdraw needle from the vial, hold syringe upright and remove air bubbles from syringe.					
9. Cleanse injection site on buttocks, arm, or thigh with alcohol if possible					
10. Insert needle at a 90 degree angle into selected injection site and give Glucagon injection					
11. Withdraw the needle and press gently at the injection site, rub gently.					
12. Turn student on their side					
13. Call 911, parents, and Health Coordinator.					
14. Place needle in a red sharps container					
15. Document per school policy					

Improvement Plan if Tasks not performed well:

Trained Personnel Signature _____

Registered Nurse Signature _____

Date _____

Delegating Insulin Administration

Delegation must only be done by a registered nurse in accordance with the Missouri state law and regulations. The health, safety, and welfare of the student are the primary considerations. The school nurse is responsible for choosing, training, and providing ongoing supervision of the trained school personnel.

Successful delegation of Insulin administration is dependent on the use of the Health Care Plan, which clearly outlines the actions to take, including proper time, dose, route, and injection site.

Trained School Personnel	Registered Nurse
Student	School Year

Steps	Initial Training	Return Demo	Update
1. Determine type of pen, vial, or syringes to be used.			
2. Wash Hands, gather supplies, and apply clean disposable gloves			
3. Check expiration dates on the insulin vial or pen			
4 If using a pen follow steps 5-11. If using a vial and syringe, follow steps 12-16.			
5. If using pen: If pen needle needs to be attached, twist it onto the end of the pen and remove the protective cover			
6. Holding pen upright, prime the pen by dialing 2 units: this checks insulin flow (this is sometimes called an air shot)			
7. Push end of the pen(plunger) to push out the two unit: a small drop of insulin should be seen at the end of the needle.			
8. Dial in desired insulin dose. Pens dial in ½, 1, or 2 units increments			
9. Help student choose injection site, alternating sites. Clean area with alcohol.			
10. Pinch small area of skin and insert needle into skin. Push the plunger down completely to deliver insulin.			
11. Wait five seconds while keeping pen and needle in place. Withdraw needle and wipe injection site			
12 If using vial: Insert syringe into vial holding vial upside down. Draw up the amount of Insulin needed.			
13. Withdraw the needle and hold syringe upright. Remove any air bubbles.			
14. Help student choose injection site, alternating sites. Clean area with alcohol.			
15. Pinch small area of skin and insert needle into skin. Push the plunger all the way down to give insulin.			
16. Withdraw needle and rub/wipe site. Dispose of needle properly.			

Improvement Plan if Tasks not performed well:

Trained Personnel Signature	Registered Nurse Signature	Date
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