

# **TRAINING PROTOCOL**

## **EMERGENCY GLUCAGON PROVIDERS**

**Oregon Health Authority – Public Health Division**

ORS 433.800 – 433.830;  
OAR 333-055-0000 – 333-055-0035

**For information, contact:** Oregon Health Authority - Public Health Division  
Adolescent and School Health, School Nurse Consultant  
800 NE Oregon Street  
Portland, OR 97232-2162  
(971) 288-7543

**Training protocol and instructor slides are available at:** <http://healthoregon.org/diabetes>

# TABLE OF CONTENTS

Introduction	1
Acknowledgements	1
Training Requirements	2
In the School Setting	2
Using the Glucagon Training Protocol	3
Statement of Completion/Retraining	4
Overview of Diabetes	5
Hypoglycemia	6
Intervention for Mild or Moderate Symptoms of Hypoglycemia	7
Treatment for Severe Symptoms of Hypoglycemia	8
Glucagon	8
Storage / Access / Dosage	9
Equipment for Treatment of Severe Hypoglycemia	9
Observation and Intervention Steps for Severe Hypoglycemia	10
Preparing Glucagon for Injection	11
After Administration of Glucagon	12
Follow-up and Consultation After Hypoglycemia Episode	13
Review: Assessment and Treatment of Hypoglycemia	14
References	15
Evaluation Tool	16
Evaluation Answer Key	19
Resources	20
Statute and Administrative Rules	22
Statement of Completion for Emergency Glucagon Providers	23

## **Introduction**

Oregon law (ORS 433.800-433.830) allows for “Programs to Treat Allergic Response, Adrenal Insufficiency, or Hypoglycemia”. It is the purpose of ORS 433.800-433.830 to provide a means of authorizing certain individuals, when a licensed health care professional is not immediately available, to administer lifesaving treatment to persons:

- (1) Who have severe allergic responses to insect stings and other allergens;
- (2) Who are experiencing severe hypoglycemia when other treatment has failed or cannot be initiated; and
- (3) Who have adrenal insufficiency and are experiencing an adrenal crisis.

Glucagon injections are a potentially life-saving treatment for persons suffering from severe hypoglycemia (low blood sugar). The most common applications will likely be to support school-aged children with diabetes.

The OHA-Public Health Division adopted Administrative Rules (333-055-000 - 333-055-0035) to support training emergency glucagon providers. The Public Health Division is responsible for developing training protocols for the initial training of these emergency providers and their periodic retraining. This is the training protocol for glucagon. The epinephrine training protocol and the treatment of students with adrenal crisis training protocol are available at <http://healthoregon.org/ems>.

## **Acknowledgements**

We acknowledge the American Diabetes Association's Safe at School Advisory Committee serving Oregon and SW Washington and the Oregon Department of Education's School Nurse Advisory Group for their assistance in reviewing and editing this manual.

## **Training Requirements**

1. The person providing the training (trainer) must be either a:
  - a) Physician licensed to practice in Oregon under ORS Chapter 677,
  - b) Nurse Practitioner licensed to practice in Oregon under ORS chapter 678, or
  - c) Registered Nurse licensed to practice in Oregon under ORS Chapter 678;
2. The training should be provided on behalf of persons with a known diagnosis that puts them at risk for hypoglycemia (usually a person with diabetes); and
3. The person(s) to be trained (trainee) must be at least 18 years of age and reasonably expect to have responsibility for, or contact with, a person with the potential for hypoglycemic events as previously described. People likely to fall under this requirement include public or private school employees, daycare providers, camp counselors or camp employees, youth organization staff, or volunteers in work places identified by either parent(s) or individual(s) at risk for hypoglycemia.
4. ORS 339.869 requires school personnel, designated to administer medications to students, to receive medication administration training approved by the Oregon Department of Education.

## **In the School Setting**

In childcare or school settings, parents or guardians have the responsibility to notify personnel of their child's medical condition in order to appropriately address individual needs. The school nurse, school counselor or case manager are typically responsible for coordinating the support for students with diabetes. A plan (frequently called an Individualized Health Plan) should be collaboratively created to provide a safe and supportive learning environment for the student with diabetes. This plan must be consistent with the student's Diabetes Medical Management Plan (DMMP) and prescriber orders.

## Using the Glucagon Training Protocol

This training protocol may be used either for first-time training or retraining purposes. It should be used in conjunction with the OHA PowerPoint.

The following topics are covered in the protocol:

- A brief overview of diabetes;
- Recognition of the symptoms of hypoglycemia;
- Factors that lead to hypoglycemia;
- Understanding and recognition of conditions that necessitate the administration of glucagon;
- Proper administration of an injection of glucagon for severe hypoglycemia; and
- Necessary follow-up treatment.

### **The training session should allow enough time for the trainee to:**

- ✓ Read through the protocol.
- ✓ Observe the procedure for administering glucagon.
- ✓ Provide a return demonstration. (A return demonstration is required for a statement of completion of training).
- ✓ Ask questions.
- ✓ Complete the open-book evaluation tool.

The trainee's past experience with giving injections and their current comfort level should be assessed to determine how best to demonstrate the procedure and provide a practice opportunity. If the trainee is presenting for retraining, the trainer will need to determine the trainee's existing knowledge base and the degree to which certain topics within the protocol should be emphasized.

Emergency glucagon providers are strongly encouraged to obtain and maintain current training in Bloodborne Pathogens and an official First Aid and CPR course.

**The key training outcome is a person trained to recognize signs and symptoms of severe hypoglycemia and able to administer an injection of glucagon in an emergency situation.**

## Statement of Completion of Training

A “Statement of Completion of Training for Emergency Glucagon Providers” can be found at the end of this training protocol. The trainer must use his/her professional judgment to determine if the trainee has satisfactorily completed the training protocol. The trainer must then sign and date the statement of completion. (We suggest keeping a copy for the file.) The statement of completion is **provider-specific rather than person-specific**, which means that the trainee may be an emergency provider for more than one individual.

## Retraining

- The statement of completion expires three years after the date of issuance.
- Annual retraining is recommended.
- The trainee is responsible to obtain retraining when the statement of completion expires.

## **Overview of Diabetes**

Diabetes is a chronic disease in which the body does not make or properly use insulin. Insulin is a hormone that converts sugar, starches and other food into energy in the body's cells. Individuals with diabetes have increased blood glucose (blood sugar) levels because they lack insulin, have insufficient insulin or are resistant to insulin's effects. High blood sugar builds up in the body causing a variety of symptoms. In order to allow the body to maintain sugar in the cells, a healthcare provider may order injectable insulin, oral medication or sometimes both. It is important to note that in addition to carbohydrate consumption and insulin administration, other factors can affect blood glucose levels such as physical activity, stress, illness, and other medications.

### **Type 1 Diabetes**

Historically referred to as juvenile onset, type 1 diabetes is caused when the pancreas does not produce insulin. Without insulin, sugar cannot enter the cells of the body to be used for energy. Type 1 diabetes is treated with insulin injections or an insulin pump. Type 1 is the usual type of diabetes diagnosed in children and young adults. Type 1 diabetes is life-long and cannot be prevented.

### **Type 2 Diabetes**

Type 2 diabetes occurs when either not enough insulin is being produced or when a person's cells do not respond to insulin (insulin resistance). Type 2 diabetes may be treated with diet, lifestyle changes, oral medications and/or insulin injections. Type 2 diabetes is typically found in adults however it is now becoming common among children and adolescents.

### **Hyperglycemia (high blood sugar)**

Both types of diabetes can result in high levels of glucose in the blood (hyperglycemia). When glucose builds up in the blood, the following symptoms may occur:

- Increased thirst
- Irritability
- Nausea and Vomiting
- Increased hunger (since the body's cells are not getting enough energy)
- Weight loss (the body resorts to burning fat and protein for energy because the body can't process sugar in to the cells)
- Frequent urination
- Flushed, dry skin
- Weakness and fatigue

Although hyperglycemia generally happens over a few hours or days, there are exceptions, such as individuals on insulin pumps or with insufficient disease management. High blood glucose levels can lead to serious complications.

## Hypoglycemia (low blood sugar)

Hypoglycemia is the most serious acute problem that can occur for people with diabetes. Hypoglycemia requires immediate attention and is the problem that this training protocol specifically addresses.

Hypoglycemia is usually mild and easy to treat if the symptoms are detected early, but it can become serious. **Low blood sugar often comes on very quickly** and must be treated immediately by the person with diabetes or trained caregiver after recognizing the symptoms of hypoglycemia. If hypoglycemia is not treated right away, it can become life-threatening. If the blood sugar level falls very low (severe symptoms), a person can become unconscious, have seizures and if not treated, may be life-threatening. When the person experiences severe symptoms, they must be treated promptly with glucagon. Regardless of the person's independence level with disease management, a person experiencing severe symptoms will most likely be unable to self-administer their glucagon injection.

The most **common causes of low blood sugar** are the result of a lack of balance between insulin, food intake, and physical activity such as the following:

- Too much diabetes medication.
- Change in meal or snack times or not enough food.
- Skipping or not finishing meals or snacks.
- Getting more physical activity or exercise than usual.
- Drinking alcohol without eating.

**Symptoms of hypoglycemia can range from mild to severe, and include any or all of the following:** (It is important to note that the symptoms of hypoglycemia vary from person to person; a given individual may not experience all symptoms)

Mild Symptoms	Moderate Symptoms	Severe Symptoms
<ul style="list-style-type: none"><li>• Hunger</li><li>• Sweating</li><li>• Feeling shaky</li><li>• Feeling nervous</li></ul>	<ul style="list-style-type: none"><li>• Headache</li><li>• Behavior changes</li><li>• Blurred, impaired or double vision</li><li>• Crabbiness or confusion</li><li>• Drowsiness</li><li>• Weakness</li><li>• Difficulty talking</li></ul>	<ul style="list-style-type: none"><li>• Unresponsive (including being unable or unwilling to take oral feeding)</li><li>• Loss of consciousness</li><li>• Seizure activity</li></ul>



## **Intervention for Mild or Moderate Symptoms of Hypoglycemia**

**Low blood sugar will not get better on its own. To avoid progression to severe symptoms, people with mild or moderate symptoms of hypoglycemia should be treated right away with a fast-acting source of sugar.** If the health care provider for the person with diabetes has outlined a plan for testing the blood sugar, do so before initiating treatment. Otherwise, if the person is able to eat and swallow, provide one of the following sources of fast-acting sugar. (School diabetes orders outline each student's treatment for hypoglycemia)

- 4-8 ounces of juice
- 6 ounces of regular soda (not sugar-free or diet)
- 3 packets or 1 tablespoon of sugar (not sugar substitute) dissolved in small amount of water
- 3-4 chewable glucose tablets or 1 dose of glucose gel (15g dose)
- 1 tablespoon of honey
- 2-4 pieces of hard candy

*Note:* Chocolate is not an appropriate form of treatment as it also contains fat which slows down the absorption of the carbohydrate and does not raise blood glucose levels as quickly. A fast-acting source such as those items listed above is necessary.

### **15 MINUTE RULE FOR MILD-MODERATE HYPOGLYCEMIA (Follow provider orders if available)**

Common practice is to observe and recheck blood glucose 15 minutes after the fast-acting sugar is given. If the recheck continues to be below the ordered level (typically 70 or 80), another fast-acting sugar treatment should be given. If the recheck is above the ordered level, but the next regular meal is more than one hour away, follow the treatment with an extra snack per medical provider's orders (usually a carbohydrate and protein.) If after two treatments, blood glucose is not above the ordered level (70 or 80) or continues to fall, call the parent or designated contact and 911.

## Treatment for Severe Symptoms of Hypoglycemia

Prepare to treat the person for severe symptoms of hypoglycemia if any of the following occur:

- The person is unable or unwilling to take a treatment
- The person does not feel better after the second treatment
- The person is not improving after treatments outlined on physician orders
- The symptoms worsen to the point of being unable to swallow
- Loss of consciousness or seizures occur.

**Reminder:** Symptoms of hypoglycemia may vary from person to person. If the emergency glucagon provider is uncertain as to whether the person is experiencing high or low blood glucose, test blood glucose with a glucometer. If a glucometer is not available, it is safer to treat for hypoglycemia than delay treatment.

## Glucagon

Glucagon, like insulin, is a hormone made in the pancreas. It acts on the liver by converting glycogen to glucose. Glucagon products are safe to use and relatively free of adverse reactions except for nausea and vomiting. No cases of human overdose have been reported.

Glucagon is available in a package with supplies needed for administration. This is called a Glucagon Emergency Kit and can only be obtained by prescription by the person with diabetes or a child's parent/guardian. It is the responsibility of the person for whom glucagon is prescribed, or in the case of a child, the parent/guardian to provide the original and any replacement Glucagon Emergency Kits for use by the emergency glucagon provider.



The Glucagon Emergency Kit contains:

- a bottle of glucagon in powder form
- a syringe filled with special diluting liquid

## **Storage**

The Glucagon Emergency Kit should be stored at room temperature (59° - 86°). The powder should not be mixed with the diluting solution until just before it is injected during a severe hypoglycemic emergency. The glucagon solution should not be used unless it is clear and has a water-like consistency. The emergency glucagon provider is advised to check expiration dates on the Glucagon Emergency Kits periodically. Any unused portion should be discarded appropriately.

## **Access**

Plans should be in place to assure the Glucagon Emergency Kits are readily available and near the person with diabetes. Consideration of transportation activities such as field trips or other off-site functions must be considered when planning emergency measures for the person with diabetes. Depending on the age of a student, it may be advisable for them to carry their own Glucagon Emergency Kit during these special activities, so the kit is easily accessible for the emergency glucagon provider since the student will be unable to self-administer during a severe hypoglycemic emergency.

## **Dosage for Administration of Glucagon**

Glucagon is manufactured in 1-mg vials. The person's health provider will prescribe the individualized dose for the person with diabetes when the prescription is obtained.

## **Equipment for Treatment of Severe Hypoglycemia**


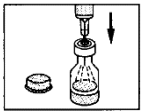
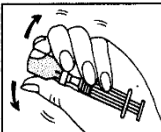
1. Glucagon Emergency Kit
2. Alcohol swab (if available, otherwise do not delay treatment.)
3. Nonsterile gloves

## Observation and Intervention Steps for Severe Hypoglycemia


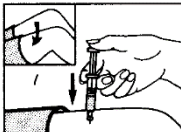
**If person is unresponsive, and they are NOT breathing, or their pulse is absent, call 9-1-1 and initiate cardiopulmonary resuscitation (CPR.)**

1. **If person is unresponsive, but breathing and pulse are present, assume the person with diabetes is experiencing severe hypoglycemia. DO NOT give any food or liquid to a person who cannot swallow or is unconscious/unresponsive.**
2. **Direct someone to call 9-1-1 or other emergency response system.**
  - a. If possible, also have someone call the affected person's parent/guardian.
3. **Retrieve Glucagon Emergency Kit**
  - a. Check person's name against kit. Verify any special physician instructions including correct dosage.
  - b. Bring supplies to the person, do not move the person. Time is critical for administering treatment to ensure recovery.
4. **Prepare and administer** glucagon injection per the instructions on the next page.
5. **If on an insulin pump, follow the Diabetes Medical Management Plan (DMMP) or individualized health plan (IHP) on whether to suspend or disconnect the pump when the person with diabetes is experiencing severe hypoglycemia.**

## Preparing Glucagon for Injection

1. Put on gloves.
2. Remove the flip-off seal from the bottle of powdered glucagon. 
3. Remove the needle cover from the syringe filled with diluting fluid. **DO NOT REMOVE THE PLASTIC CLIP FROM THE SYRINGE.**
4. Insert the needle into the center of the rubber stopper on the vial of powdered glucagon. 
5. Push the plunger on the syringe to inject the entire contents of the liquid solution into the vial of powdered glucagon.
6. Leave the needle and syringe in the vial.
7. Shake bottle gently until glucagon powder dissolves and the solution becomes clear. 

**If the glucagon solution is not clear and water-like, do not administer. Monitor the person for absent pulse/respiration, or seizure activity until rescue personnel arrive.**

8. Withdraw the prescribed amount of medication per provider's order. 
9. Stabilize the upper arm or thigh and insert the needle at a 90-degree angle into the upper arm or thigh and administer all of the prescribed medication. 
10. Carefully withdraw the needle at the same angle without releasing the person's limb.

**Warning: It may be difficult to give an injection to a person who is having a seizure or is demonstrating combative behavior. In this situation, it is best to get assistance from another person to help stabilize the limb of the person being treated.**

## **After Administration of Glucagon**

1. Turn the person on his/her side. One of the most common side effects of glucagon is vomiting. Positioning the person on his/her side will prevent possible choking and allow for drainage of secretions from the mouth.
2. Continue to monitor for signs of absent pulse/breathing or seizure activity. If absent pulse/breathing or seizure activity is noted, treat accordingly.
  - a. The time to complete recovery from a severe hypoglycemic episode varies according to how low the blood glucose level was and for how long prior to treatment.
  - b. Some signs and symptoms, such as a headache, may persist for several hours, even after the blood glucose level is satisfactory.
3. Glucagon is a fast-acting drug and the person will usually improve within 10-15 minutes.

**Warning:** Although rare, the person may be unresponsive for other reasons (i.e. head injury, drug overdose, high blood sugar level). In such a case, the person will NOT respond to administration of glucagon and will require immediate medical attention.

4. When the person responds and can eat and swallow without difficulty, give the individual a fast-acting source of sugar such as those listed on page 7. Many times, after a person has received glucagon or experienced severe hypoglycemia, he/she may be nauseated and vomit, and be unable to keep foods/ liquids down. After administration of glucagon, it is best to start a person on small sips of clear, sugar-containing liquids before providing solid foods. Options include:
  - sugar dissolved in water
  - 6 ounces regular soda pop (7-up, ginger ale, Sprite, etc.)
  - honey and water
5. Once the person can safely swallow clear, sugar-containing liquids without vomiting, provide a longer-acting source of sugar (carbohydrate with protein) such as cheese and crackers or a meat sandwich.
6. The person who has recovered from being treated with glucagon for severe hypoglycemia should receive immediate and continuing medical attention. Emergency responders will make the decision if the person needs to be transported to a medical facility.

## **Follow-up and Consultation after Hypoglycemia Episode**

Once a person has been given emergency treatment for hypoglycemia, the person or parent/guardian should seek consultation with the health care provider for direction in preventing future episodes of hypoglycemia.

When a Glucagon Emergency Kit is used for a hypoglycemic emergency, the person or parent/guardian of the child with hypoglycemia is responsible for obtaining and providing another kit for use when needed either in the work place, at school or daycare center.

DRAFT

## **Review: Assessment and Treatment of Hypoglycemia**

1. Observe and determine whether the person is experiencing symptoms of hypoglycemia.
  - i. Test blood sugar if possible and if trained to do so by a licensed health care provider.
  - ii. Prepare to treat the person for low blood sugar.
  
2. For signs or symptoms of **Mild or Moderate Hypoglycemia:**
  - i. Give oral treatment (one fast-acting source of sugar).
  - ii. Monitor for 15 minutes to see if symptoms improve.
  - iii. Retest blood sugar.
  - iv. If symptoms did not improve, give a second fast-acting oral treatment and retest again in 15 minutes. If after the 2nd treatment, the blood glucose is not above the level in the provider's orders, if available, (typically 70 to 80) or if blood glucose continues to fall, provide 3rd treatment, call the parent or designated contact (such as in the workplace) and 911 if required by the person's DMMP or provider's orders.
  - v. If the next regular meal is more than an hour away, follow the second treatment with an extra snack.
  - vi. If on an insulin pump, treat and consult medical orders.
  
3. For signs and symptoms of **Severe Hypoglycemia:**
  - i. Tell someone to call 9-1-1 when person is unconscious or unresponsive, unwilling or unable to take oral treatment.
  - ii. Prepare and administer glucagon according to the guidelines of this training protocol and in accordance with the medical provider's instructions on patient's own Glucagon Emergency Kit.
  - iii. If on an insulin pump, follow the DMMP or IHP on whether to suspend or disconnect the pump.
  - iv. Position person on their side.
  - v. Continue to monitor person for signs of absent pulse/breathing or seizure activity. Treat as indicated.
  - vi. If the person responds and can eat and swallow safely, provide fast-acting sugar and longer acting source of food.
  - vii. The person or the parent/guardian needs to follow-up by consulting with the person's health care provider.



## References

American Diabetes Association (2016). Hypoglycemia. Retrieved from: <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/hypoglycemia-low-blood.html>

American Diabetes Association (2016). Safe at School. Retrieved from: <http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/>

American Diabetes Association (2015). Position Statement *Diabetes Care in the School and Day Care Setting*. *Diabetes Care* 2015 Oct; 38(10): 1958-1963.

Butler, S., Kaup, S., Swanson, M., & Hoffmann, S. (2013). Diabetes Management in the School Setting. In Janice Selekman (Ed.), *School Nursing: A Comprehensive Text* (2<sup>nd</sup> ed., pp. 872-898). Philadelphia, PA: F.A. Davis Company.

Centers for Disease Control and Prevention. (2016). At a Glance 2016: Diabetes. Retrieved from <https://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2016/diabetes-aag.pdf>.

Children and Adolescents: *Standards of Medical Care in Diabetes—2018* American Diabetes Association *Diabetes Care* 2018 Jan; 41(Supplement 1): S126-S136. <https://doi.org/10.2337/dc18-S012>

Hanas, R., Ludvigsson, J. (2006). Hypoglycemia and ketoacidosis with insulin pump therapy in children and adolescents. *Pediatric Diabetes*. 2006 Aug;7 Suppl 4:32-8.

Prescribers' Digital Reference (PDR). (2018). Glucagon rDNA origin – Drug Summary. Retrieved from <http://www.pdr.net/drug-summary/Glucagon-glucagon--rDNA-origin--290.2553>.



6. Symptoms of hypoglycemia or low blood sugar can range from mild to severe. Place the following symptoms under the correct category.

Headache, hunger, unresponsiveness, drowsiness, weakness, feeling nervous, difficulty talking, feeling shaky, loss of consciousness, behavior changes, sweating, seizures, blurred, impaired or double vision, crabbiness, confusion, and inability to eat or drink

**Mild/Moderate Symptoms**

**Severe Symptoms**

7. Hypoglycemia or low blood sugar should be treated promptly. For symptoms of mild or moderate symptoms, which of the following foods could be provided as one fast-acting treatment? (Circle all that apply.)
- a. 4-8 ounces of fruit juice
  - b. 3-4 chewable glucose tablets
  - c. 6 ounces of diet soda
  - d. 3 packets or 1 tablespoon of sugar dissolved in small amount of water
  - e. 2-4 pieces of hard candy containing sugar
  - f. a hamburger patty
  - g. 1 tablespoon of honey
  - h. sugar-free candy
8. After providing one fast-acting treatment for mild or moderate hypoglycemia, several actions should be taken. Place the following actions in the proper order (#1-4) for steps that should be taken after an initial fast-acting treatment is given:
- \_\_\_\_\_ Monitor for 15 minutes
  - \_\_\_\_\_ Call the caregiver
  - \_\_\_\_\_ Retest blood glucose
  - \_\_\_\_\_ If blood glucose continues to be low. Give a second fast-acting treatment.

9. If a person with diabetes is unable to swallow or exhibits a change in level of consciousness, glucagon should be promptly injected into the upper arm or thigh.  
\_\_\_\_\_ True                      \_\_\_\_\_ False
10. Glucagon is stable and should always be mixed ahead of time before a hypoglycemic emergency occurs.  
\_\_\_\_\_ True                      \_\_\_\_\_ False
11. After administering glucagon, which of the following should you do (choose all that apply):
- a. Turn the person on his/her side in case vomiting occurs.
  - b. Continue to observe the person for signs of absent pulse/breathing or seizure activity.
  - c. Cover the person with a blanket and allow to sleep without being disturbed.
  - d. When the person responds, don't give any more food or liquids because the person may vomit.
  - e. Relinquish care to emergency responders or if a child, the parent.
12. Place the following actions in order, when responding to an individual experiencing severe hypoglycemia (unresponsive, unconscious or unable/unwilling to take oral feeding).
- \_\_\_ a) Suspend or disconnect insulin pump if instructed to do so by DMMP or IHP.
  - \_\_\_ b) Tell someone to call 9-1-1.
  - \_\_\_ c) Obtain glucagon emergency kit and check person's name against kit.
  - \_\_\_ d) Prepare and administer glucagon.
13. Place the following actions in order after administering glucagon.
- \_\_\_ a) Continue to observe for signs of absent pulse/breathing or seizure activity.
  - \_\_\_ b) When the person responds and can safely swallow, give a fast-acting sugar source.
  - \_\_\_ c) Turn the person on his/her side in case vomiting occurs.
  - \_\_\_ d) If there are doctor's orders, follow them. If there are no doctor's orders, when the person can safely swallow clear, sugar containing liquids without vomiting, provide a longer-acting sugar source (carbohydrate with protein) such as cheese and crackers.

## Evaluation Answer Key

1. b
2. True
3. Hypoglycemia (low blood sugar)
4. e. All the above
5. False

6. Mild Symptoms/Moderate Symptoms

hunger  
sweating  
feeling shaky  
feeling nervous

headache  
behavior changes  
blurred, impaired or  
double vision  
crabbiness or confusion  
drowsiness  
weakness  
difficulty talking

Severe Symptoms

unresponsive  
loss of consciousness  
seizures  
inability to eat or drink

7. a, b, d, e and g
8. 1) Monitor for 15 minutes.  
2) Retest blood glucose.  
3) If blood glucose continues to be low. Give a second fast-acting treatment.  
4) Call the caregiver.
9. True
10. False
11. a, b, and e
12. b, c, d, a
13. c, a, b, d

## RESOURCES

### **American Diabetes Association**

- American Diabetes Association's Position Statement on Diabetes Care in the School Setting
  - Read the Association's official point of view on the appropriate medical treatment and services for students with diabetes.
  
- Safe at School Program Training Services
  - The Safe at School Program offers knowledge and information about diabetes in schools. Registered Nurses provide training in Oregon and SW Washington about management of diabetes, low/high blood sugar symptoms and treatment, glucagon training as well as pump management protocols and training. All have firsthand knowledge and experience working with school-aged children with diabetes and providing school in-services.
  - Additional resources available through the Safe at School Program include:
    - Print and internet-based materials about diabetes management in schools.
    - Mentors offering support for families either newly diagnosed or experiencing rough times.
    - Safe at School Parent Workshops to provide knowledge and tips about building positive relationships with school staff, planning for contingencies and benefits of an Individual Health Plan.
  
- Diabetes Training Program through the American Diabetes Association
  - For more information or to schedule a Safe at School training call (503) 736-2770 ext. 7296 or (888) 342-2383 ext. 7296.

### **National Diabetes Education Program**

*Helping the Student with Diabetes Succeed – A Guide for School Personnel*, published by The National Diabetes Education Program, a federally sponsored partnership of the National Institutes of Health, the Centers for Disease Control and Prevention, and more than 200 partner organizations. Copies can be downloaded at <https://www.niddk.nih.gov/health-information/health-communication-programs/ndep/health-care-professionals/school-guide/pages/publicationdetail.aspx>

## **School Nurses**

The following School Nurse Associations offer continuing education opportunities, materials and publications, policy updates, and access to networking opportunities.

- **National Association of School Nurses:** [www.nasn.org](http://www.nasn.org)
- **Oregon School Nurses Association:** [www.oregonschoolnurses.org](http://www.oregonschoolnurses.org)
- **School Nurse Organization of Washington:**  
<http://www.schoolnurseorganizationofwashington.org/>

## **Global IDF/ISPAD Guidelines for Diabetes in Childhood and Adolescence (2011)**

The International Diabetes Foundation (IDF) and the International Society for Pediatric and Adolescent Diabetes (ISPAD) produced an international consensus statement on the care of children and adolescents with diabetes.

<https://www.ispad.org/page/IDFISPAD2011>

## **International Diabetes Foundation Position Statement (March 2005)**

Read the International Diabetes Foundation's position statement of the rights of children with diabetes at school. <http://www.unsafeatschool.ca/the-rights-of-the-child-with-diabetes-in-the-school>

## **Centers for Disease Control and Prevention, Helping Your Child Manage Diabetes at School**

Find guidance from the CDC about best practices for managing diabetes at school.

<https://www.cdc.gov/Features/DiabetesinSchool/>

## **Statute and Administrative Rules**

**Oregon Revised Statute 433.800 – 433.830, Programs to Treat Allergic Response, Adrenal Insufficiency or Hypoglycemia** – Available online at <https://www.oregonlaws.org/ors/433.800>

### **Oregon Administrative Rules**

**Oregon Health Authority – Public Health Division**

**OAR 333-055-0000 – 333-055-0035**

[https://secure.sos.state.or.us/oard/displayDivisionRules.action;JSESSIONID\\_OARD=35-RPHKNSguDlPk96HGwoisHywv3kMKsu5vAT0F6X5QFcWHqoAyG!-1397433681?selectedDivision=1270](https://secure.sos.state.or.us/oard/displayDivisionRules.action;JSESSIONID_OARD=35-RPHKNSguDlPk96HGwoisHywv3kMKsu5vAT0F6X5QFcWHqoAyG!-1397433681?selectedDivision=1270)

DRAFT



## STATEMENT OF COMPLETION OF TRAINING FOR EMERGENCY GLUCAGON PROVIDERS

Name of Emergency Glucagon Provider \_\_\_\_\_

This person participated in a training to become an emergency glucagon provider (according to OAR 333-55-000 through 035) and has safely demonstrated mixing and drawing up a glucagon-like solution and giving an injection in accordance with the manufacturer's instructions. In addition, the person has successfully completed the evaluation.

The emergency glucagon provider can only obtain doses of glucagon from the person diagnosed with hypoglycemia, or in the case of a child from the parent or guardian. Glucagon and the necessary equipment for its administration must be prescribed by a health care professional with appropriate prescriptive privileges licensed under ORS chapter 677 and 678 in the State of Oregon.

This statement of completion of training expires three years after the date of issuance (below). It is the responsibility of the Emergency Glucagon Provider to present for retraining by a licensed health care professional at that time. This statement of completion is in effect only for the person named above; it cannot be transferred.

Emergency Glucagon Providers may be asked to provide copies of a current statement of completion of training to their employer, or to organizations or entities for which they volunteer.

**Instructor**

\_\_\_\_\_

**Date**

\_\_\_\_\_