

HYPOGLYCAEMIA

Low Blood Sugar

WHAT IS HYPO?

Hypoglycemia happens when there is not **enough glucose, or sugar, in the blood**.

The [National Institutes of Diabetes and Digestive and Kidney Diseases \(NIDDK\)](#), note that symptoms usually appear when blood sugar levels are **below 75 milligrams per deciliter (mg/dL)**.

However, this number can **vary** between individuals.



All the body's cells, including the brain, need **energy** to function.

Glucose supplies energy to the body. **Insulin**, a hormone, enables the cells to absorb and use it.

Without enough glucose, your **body cannot perform** its normal functions.

SYMPTOMS OF HYPO

When our sugars start dropping, our brain sends **SIGNALS** to the body to warn you.

It releases:

- Epinephrine
- Adrenaline
- Growth Hormone
- Cortisol

These present in **different** forms.

Hypoglycemia Symptoms		
Mild-to-Moderate		Severe
<ul style="list-style-type: none"> • Shaky or jittery • Sweaty • Hungry • Headachy • Blurred vision • Sleepy or tired • Dizzy or lightheaded • Confused or disoriented • Pale 	<ul style="list-style-type: none"> • Uncoordinated • Irritable or nervous • Argumentative or combative • Changed behavior or personality • Trouble concentrating • Weak • Fast or irregular heart beat 	<ul style="list-style-type: none"> • Unable to eat or drink • Seizures or convulsions (jerky movements) • Unconsciousness

Some symptoms of hypoglycemia during sleep are

- crying out or having nightmares
- sweating enough to make your pajamas or sheets damp
- feeling tired, irritable, or confused after waking up

Symptoms in toddlers:

- Biting / Aggression
- Change in behaviour
- Severe lethargy
- Unable to coordinate
- Some parents ask toddler to perform regular tasks when unsure.



CAUSES OF HYPO



Skips or delays meals or snacks



During an illness (such as a stomach virus) that causes loss of appetite, nausea, or vomiting.



Taking too much insulin. Or carb not matching dose. Or Wrong kind of insulin.



Exercises more than usual without eating additional snacks or adjusting the dosage



during sleep, known as nocturnal hypoglycemia



several hours after exercise, known as delayed postexercise hypoglycemia

After someone drinks alcohol. Alcohol hurts the body's ability to keep blood glucose in a normal range, which can cause a sudden drop in blood sugar. Alcohol use also can make it hard for someone to sense low blood sugar levels.



TREATMENT

HOW TO TREAT A HYPO

A small glass
of a sugary
(non-diet) drink

Two tubes of a
glucose gel such
as GlucoGel®.

Three glucose or
dextrose tablets

A small carton
of pure
fruit juice

Five gluco
gummies

Traditions sweets such as laddu/ gulab jamun are
delicious but not great for hypo treatment.

TIP: Choose what works best for you! Which hypo treatment you choose is up to you. The type and amount depends on what works best for you. It might depend on your taste, or how easy it is to store or carry around.

RULE OF 15: 15 grams of fast acting carb,
then wait 15 minutes and check again. If still
low, repeat. Treat the hypo immediately.

DO NOT TREAT WITH :

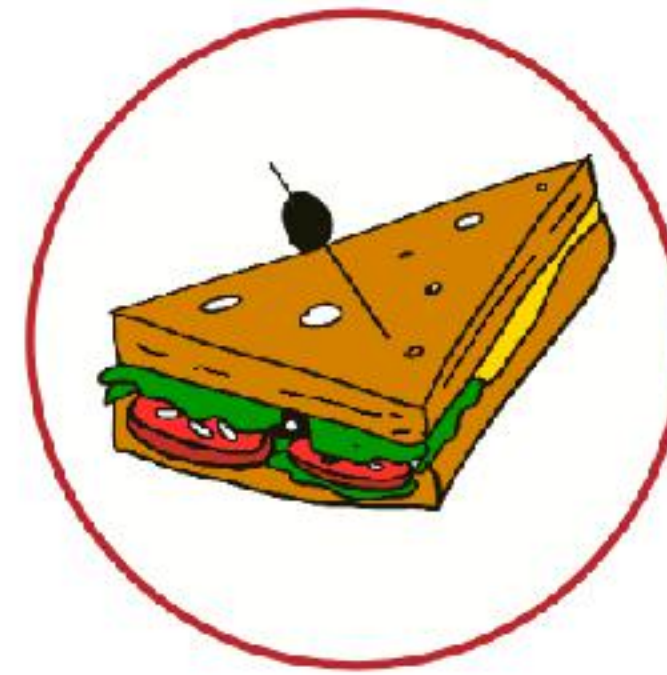
- foods that have **high fat** and **protien** as they take **longer** to raise
sugars.

Many people like the idea of treating low blood sugar with dietary
treats such as cake, cookies, and brownies. However, sugar in the
form of **complex carbohydrates** or sugar combined with fat and
protein are much too **slowly absorbed** to be useful in acute
treatment.

Once the acute episode has been treated, a healthy, long-acting
carbohydrate to maintain blood sugars in the **appropriate range**
should be consumed. Half a sandwich is a reasonable option.

AFTER A HYPO

After a hypo, you may need to eat or drink a bit more. This is to stop your sugar levels going down again. Try to eat 15 to 20g of a slower-acting carbohydrate.



PREVENTION

- Testing your **blood glucose often**, including at night
- Checking that the glucose test strips are not **outdated** and **match** the glucose meter
- Recognizing symptoms
- Treating the condition quickly

Other ways to minimize or prevent hypoglycemia include making sure you

- Takes medicines at the **right time**
- Eats enough food
- **Doesn't** skipping meals
- Checks blood glucose **before exercising**
- **Eats a healthy snack if needed.** The snack should include complex carbohydrates and some fat, if possible.

SEVERE HYPO

- Mildly low blood sugar levels are somewhat common for people with diabetes; however, severely low blood sugar levels can be **life-threatening**. They may lead to seizures and nervous system damage if left untreated long enough. **Immediate treatment is critical.**
- Severe hypo is classified as below **45 mg/dL**
- If you are orally not able to treat yourself

GLUCAGON

[Glucagon](#) is a hormone that helps **raise blood sugar levels quickly**. Treatment with glucagon should be given as soon as severe hypoglycemia is suspected and not delayed to call a doctor or ambulance.

After receiving glucagon, you should wake up within about **10 to 15 minutes** and be able to take sugar or food by mouth to help prevent the blood sugar from falling again. **Call 108** if your care team has advised you to do so at this point.

Call the doctor after any **severe low blood sugar reaction** requiring glucagon treatment — it could be a sign that the diabetes management plan needs to be changed to help **prevent future hypoglycemia** episodes.

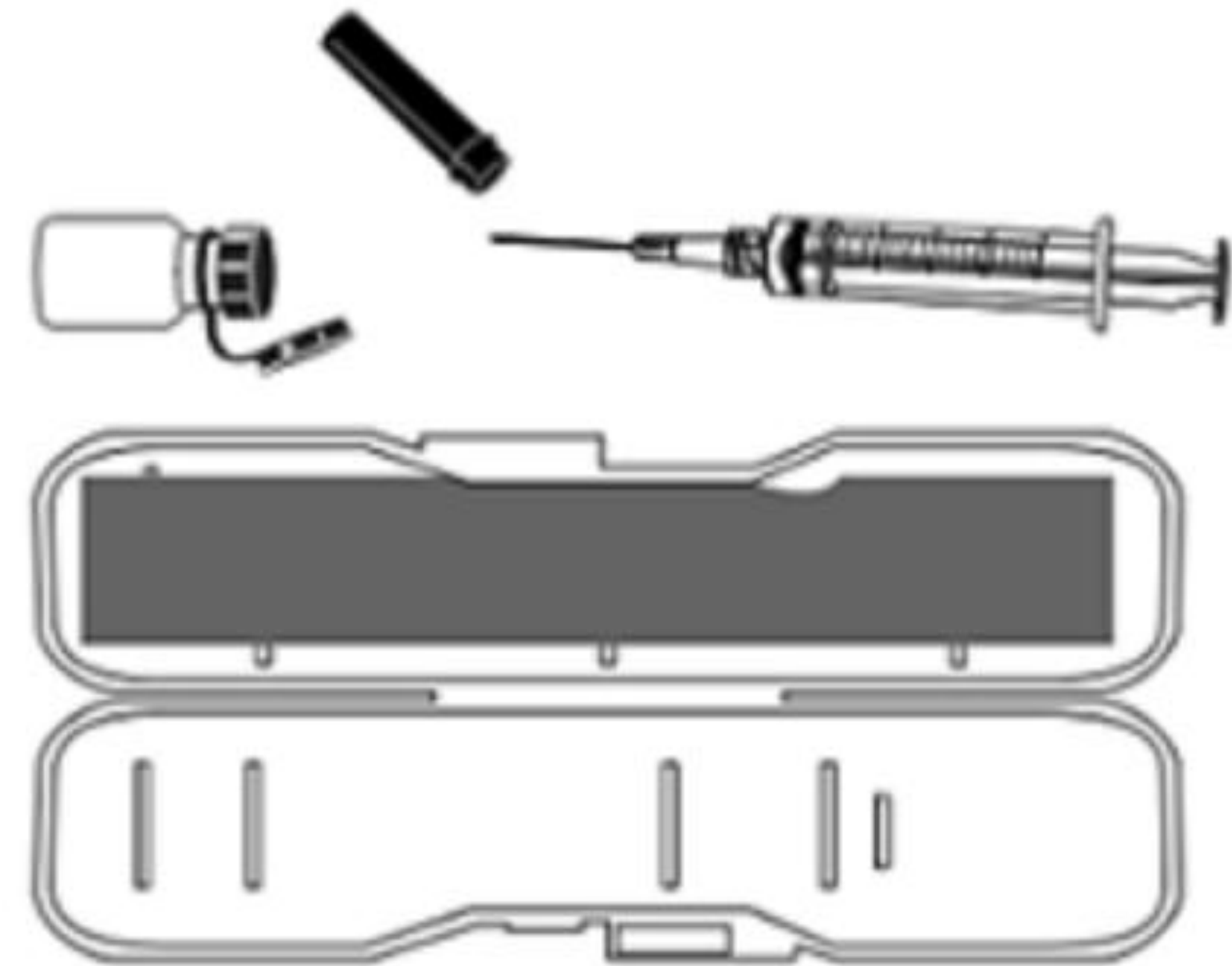
Everything you need to give a glucagon injection is in the emergency kit. It includes a **vial and syringe** (see Figure 1). The vial has **dry glucagon powder in it**. The syringe is filled with a **liquid to dilute the glucagon**. The syringe will already have a needle attached.

When to use your glucagon emergency kit

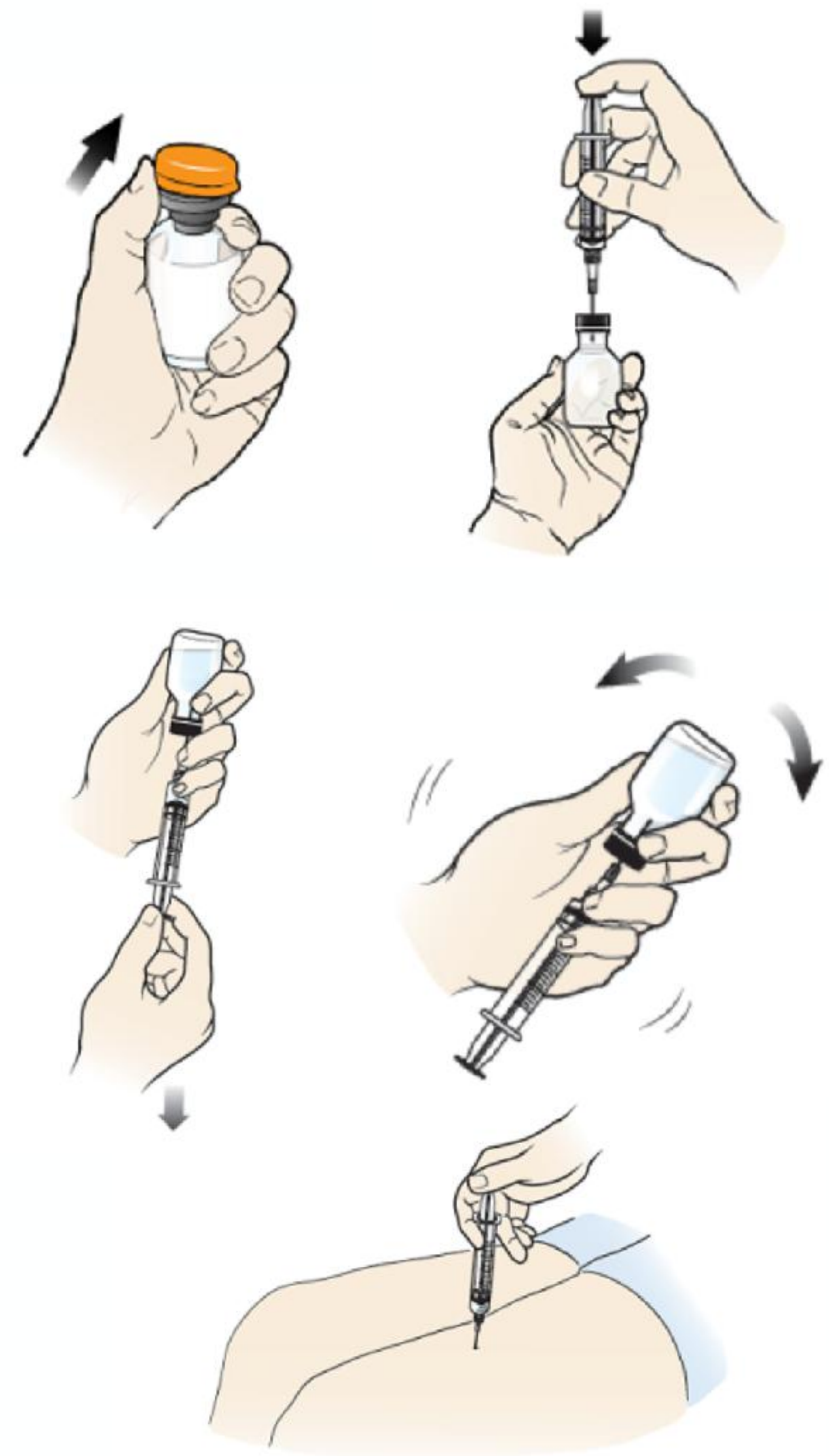
You need glucagon if your blood sugar level is **less than 50 mg/dl** and you are:

- **Unable** to eat or drink safely because you're confused or disoriented
- **Unconscious**
- Having **seizures**

If possible, someone will need to check your blood sugar level to make sure it's low. This is because having high blood sugar can also make you unconscious. In that case, **glucagon won't help**.



1. Open the glucagon kit.
2. Flip off the cap of the vial containing the glucagon powder
3. Remove the cap covering the syringe needle.
4. Insert the needle into the rubber stopper on the top of the vial.
5. Push down on the syringe plunger to inject all of the fluid into the glucagon vial
6. Without removing the needle from the vial, gently shake or roll the vial to mix it. Mix until all the powder is completely dissolved. The solution should be clear and colorless.
7. Draw up the glucagon into the syringe. To do this, hold the vial and syringe so that the vial remains on top and the tip of the syringe is towards the bottom of the vial. Pull the plunger of the syringe back to draw the Glucagon into the syringe.
8. You will inject the glucagon into the person's thigh or buttock. Clean the injection site with an alcohol swab. If you don't have an alcohol swab, skip this step.
9. Insert the needle into the person's skin in one quick motion at a 90 degree angle . Use your thumb to push the plunger all the way down until all the medication is injected.
10. When the syringe is empty, pull it straight out of the skin.
11. After injecting, turn the person onto their side. They may vomit after the injection and turning them on their side will keep them from choking.



HYP0 UNAWARENESS

Those with ***hypoglycemia unawareness*** have reduced ***warning signals*** and do not ***recognize*** they are low.

Hypoglycemia unawareness may be triggered by:

- A recent history of frequent low blood sugars
- A rapid drop in blood sugar
- Having diabetes for many years
- Stress or depression
- Situations where self-care is a low priority
- Alcohol consumption in the last 12 hours
- A previous low blood sugar in the last 24 to 48 hours
- Use of certain medications like beta blockers

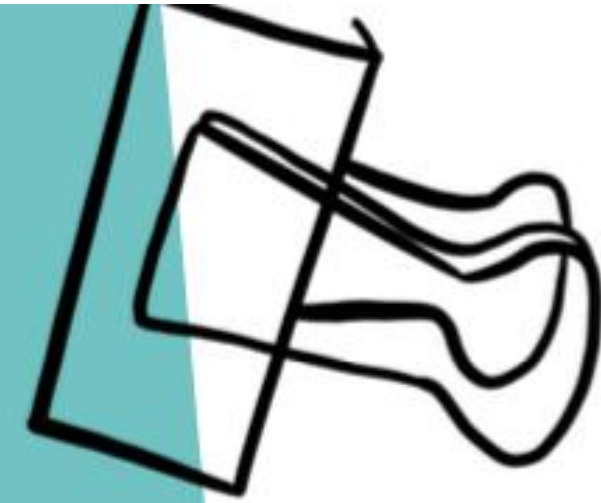
Research has shown that people who have hypoglycemia unawareness can become ***aware again of low blood sugars by avoiding frequent lows***. Preventing all lows for two weeks resulted in increased symptoms of a low blood sugar and a return to nearly ***normal symptoms after 3 months***.

HYP0 IN LIFE

When you're doing any sort of high risk activity like Swimming - have someone watch over you!

DRIVING AND DIABETES

- Know the symptoms of a hypo – if you've lost hypo awareness, you shouldn't drive alone.
- Keep spare test strips in the car and bring your meter with you.
- Check your blood sugar levels before you set off and every two hours on long journeys.
- Your blood sugars should be 100 mg/dL or above before you drive. If they are less than that, eat some carbs before heading out.
- If they're under 75 mg/dL – treat your hypo and check your levels again before driving.
- Always keep hypo treatments where you can easily reach them in the car.
- Take breaks on long journeys.
- Don't delay meals or snacks.



MORE TIPS

- some get hypo anxiety (fear of hypos)
- **TALK IT OUT**
- Check more often (but **not paranoid**)
- Inform those around you
- Maintain a **timetable**
- **Educate** your peers about Glucagon
- Always have supplies
- Always **CARRY** hypo treats
- **Don't take it lightly.**

QUESTIONS?