

GLUCAGON

Brand name GlucaGen

Used in the following combined preparations None

GENERAL INFORMATION

Glucagon is a hormone produced by the pancreas. A synthetic injectable form of glucagon is used as an emergency treatment for low blood sugar (hypoglycaemia) in unconscious diabetic patients on insulin. It has the opposite effect on blood sugar to insulin: it raises blood sugar by mobilizing liver stores of glycogen, which is released into the bloodstream as glucose. Glucagon will not work when the liver's glycogen stores are depleted, for example, in extreme

fasting or starvation, in alcohol-induced hypoglycaemia, or if there is impaired adrenal gland function. Although usually administered by medical personnel, glucagon packs may be given to some diabetic patients for emergency use. Glucagon also blocks the activity of smooth muscle in the intestines and so may be used to test bowel motility. It can also stimulate contraction of heart muscle so may be used to treat severe beta-blocker overdoses.

QUICK REFERENCE

Drug group Drug for diabetes (p.100)

Overdose danger rating Low

Dependence rating Low

Prescription needed Yes

Available as generic No

INFORMATION FOR USERS

Your drug prescription is tailored for you. Do not alter dosage without checking with your doctor.

How taken/used



Injection.

Frequency and timing of doses

Hypoglycaemia Single intramuscular or subcutaneous injection.

Bowel motility testing Single intravenous injection.

Adult dosage range

1mg.

Onset of effect

Within 10 minutes.

Duration of action

Up to 40 minutes (intramuscular/subcutaneous injection) or 20 minutes (intravenous injection).

Diet advice

If used to treat hypoglycaemia, carbohydrates should be eaten as soon possible after the injection to prevent further hypoglycaemia.

Storage

Store at 2–8°C; do not freeze, protect from light, and keep out of the reach of children. The drug should be reconstituted from its powder form just before administration. Packs for personal use in emergencies will last up to 18 months.

Missed dose

Not applicable as the drug is for one-off use only.

Stopping the drug

Not applicable as the drug is for one-off use only.

Exceeding the dose

If the drug is used under medical supervision, overdose is unlikely. In other situations, exceeding the dose is unlikely to cause major problems but you should consult your doctor promptly.

SPECIAL PRECAUTIONS

Be sure to tell your doctor if:

- You have heart problems.
- You have a pheochromocytoma (a rare tumour of the adrenal gland).
- You have an insulinoma or glucagonoma (rare tumours of the pancreas).
- You are allergic to glucagon or lactose.
- You are taking other medicines.



Pregnancy

No evidence of risk.



Breast-feeding

No evidence of risk.



Infants and children

Reduced dose necessary.



Over 60

Increased likelihood of adverse effects.



Driving and hazardous work

If the drug has been used to treat hypoglycaemia, avoid such activities until all signs of hypoglycaemia have disappeared. If the drug has been used diagnostically, avoid such activities until after carbohydrates have been consumed.



Alcohol

Avoid until blood sugar levels are normal.

POSSIBLE ADVERSE EFFECTS

The adverse effects of glucagon vary according to its use. If used to treat hypoglycaemia (low blood sugar) in a person with diabetes, the most common effects are

nausea and vomiting. If used for diagnostic purposes, adverse effects are rare but may include symptoms of hypoglycaemia (e.g. faintness, confusion, sweating, and dizziness).

Symptom/effect	Frequency		Discuss with doctor		Stop taking drug now	Call doctor now
	Common	Rare	Only if severe	In all cases		
Used for hypoglycaemia						
Nausea	●		●			
Vomiting	●		●			
Abdominal pain		●	●			
Rash/swelling of lips/tongue		●		●	●	●
Bowel motility testing						
Hypoglycaemia		●		●	●	●
Low blood pressure		●		●	●	●
Palpitations		●		●	●	●

INTERACTIONS

Insulin counteracts the effects of glucagon.

Indomethacin may reduce the effectiveness of glucagon.

Warfarin Glucagon may increase the effects of warfarin.

PROLONGED USE

Glucagon is not used long-term.