Glucagon Product Characteristics

	Gvoke HypoPen™	Gvoke™ Pre-Filled Syringe	Traditional Glucagon Kits	Nasal Glucagon Powder
Manufacturer	Xeris Pharmaceuticals[1]	Xeris Pharmaceuticals[1]	Lilly, Novo Nordisk, and Fresenius Kabi[2-4]	Lilly[5]
Active ingredient	Glucagon[1]	Glucagon[1]	Glucagon[2-4]	Glucagon[5]
Dosage strength(s)	0.5 mg/0.1 mL and 1 mg/0.2 mL[1]	0.5 mg/0.1 mL and 1 mg/0.2 mL[1]	1 mg[2-4]	3 mg[5]
How supplied	Premixed, stable liquid glucagon in a single-use autoinjector[1]	Premixed, stable liquid glucagon in a single-use prefilled syringe[1]	Lyophilized glucagon powder in a single-dose vial with diluent in a prefilled syringe[3,4,6]	Single-use intranasal device containing glucagon powder[5]
Administration site(s)	Subcutaneous injection to the lower abdomen, outer thigh, or outer upper arm[1]	Subcutaneous injection to the lower abdomen, outer thigh, or outer upper arm[1]	Intramuscular or subcutaneous injection to the upper arm, thigh, or buttock, or intravenously[2-4]	Device actuation into one nostril[5]
Shelf life	Up to 24 months[7]	Up to 24 months[7]	Up to 24 months; after reconstitution, shelf life is up to 24 hours[3,8] (Novo)	Up to 24 months
Storage	Controlled room temperature[1]	Controlled room temperature[1]	Controlled room temperature[2-4]	Store at up to 86° F[5]
Needle size and placement	27-gauge 1/2” needle, not visible[9]	27-gauge 1/2" visible needle[9]	25-gauge 5/8" visible needle[9] (Lilly)	N/A
Dose readiness	No reconstitution required[1]	No reconstitution required[1]	Needs reconstitution[2-4]	No reconstitution required[5]
Premeasured pediatric & adult dose options	Yes[1]	Yes[1]	No[2-4]	No[5]
Indication statement	GVOKE is an antihypoglycemic agent indicated for the treatment of severe hypoglycemia in pediatric and adult patients with diabetes **ages 2 years and above**.[1]		Glucagon is indicated as a treatment for severe hypoglycemia (low blood sugar) which may occur in patients with diabetes mellitus.[6] (Lilly)	BAQSIMI® is an antihypoglycemic agent indicated for the treatment of severe hypoglycemia in patients with diabetes **ages 4 years and above**.[5]

Please see Important Safety Information on next page.

xeris PHARMACEUTICALS

INDICATION AND IMPORTANT SAFETY INFORMATION

GVOKE is indicated for the treatment of severe hypoglycemia in adult and pediatric patients with diabetes ages 2 years and above.

IMPORTANT SAFETY INFORMATION

Contraindications
GVOKE is contraindicated in patients with pheochromocytoma, insulinoma, and known hypersensitivity to glucagon or to any of the excipients in GVOKE. Allergic reactions have been reported with glucagon and include anaphylactic shock with breathing difficulties and hypotension.

Warnings and Precautions
GVOKE is contraindicated in patients with pheochromocytoma because glucagon may stimulate the release of catecholamines from the tumor. If the patient develops a dramatic increase in blood pressure and a previously undiagnosed pheochromocytoma is suspected, 5 to 10 mg of phentolamine mesylate, administered intravenously, has been shown to be effective in lowering blood pressure.

In patients with insulinoma, administration of glucagon may produce an initial increase in blood glucose; however, GVOKE administration may directly or indirectly (through an initial rise in blood glucose) stimulate exaggerated insulin release from an insulinoma and cause hypoglycemia. GVOKE is contraindicated in patients with insulinoma. If a patient develops symptoms of hypoglycemia after a dose of GVOKE, give glucose orally or intravenously.

Allergic reactions have been reported with glucagon. These include generalized rash, and in some cases, anaphylactic shock with breathing difficulties and hypotension. GVOKE is contraindicated in patients with a prior hypersensitivity reaction.

GVOKE is effective in treating hypoglycemia only if sufficient hepatic glycogen is present. Patients in states of starvation, with adrenal insufficiency or chronic hypoglycemia, may not have adequate levels of hepatic glycogen for GVOKE administration to be effective. Patients with these conditions should be treated with glucose.

Necrolytic migratory erythema (NME), a skin rash commonly associated with glucagonomas has been reported postmarketing following continuous glucagon infusion and resolved with discontinuation of the glucagon. Should NME occur, consider whether the benefits of continuous glucagon infusion outweigh the risks. Glucagon administered to patients with glucagonoma may cause secondary hypoglycemia.

Adverse Reactions
Most common (≥5%) adverse reactions associated with GVOKE are nausea, vomiting, injection site edema (raised 1 mm or greater), and hypoglycemia.

Drug Interactions
Patients taking beta-blockers may have a transient increase in pulse and blood pressure when given GVOKE. In patients taking indomethacin, GVOKE may lose its ability to raise blood glucose or may even produce hypoglycemia. GVOKE may increase the anticoagulant effect of warfarin.

Click here for full Prescribing Information.

References:

1. Gvoke [prescribing information]. Chicago, IL: Xeris Pharmaceuticals, Inc; 2019. **2.** Glucagon for injection [Information for the user]. Indianapolis, IN: Eli Lilly USA, LLC; 2018. **3.** GlucaGen [prescribing information]. Plainsboro, NJ: Novo Nordisk Inc; 2018. **4.** Glucagon for Injection [prescribing information]. Lake Zurich, IL: Fresenius Kabi USA, LLC; 2019. **5.** BAQSIMI [prescribing information]. Indianapolis, IN: Lilly USA, LLC; 2019. **6.** Glucagon for injection [Information for the physician]. Indianapolis, IN: Eli Lilly USA, LLC; 2018. **7.** Stability, [G-PEN] Glucagon Injection. **8.** Jackson MA, Caputo N, Castle JR, David LL, Roberts CT Jr, Ward WK. Stable liquid glucagon formulations for rescue treatment and bi-hormonal closed-loop pancreas. *Curr Diab Rep.* 2012;12(6):705-710. doi:10.1007/s11892-012-0320-5. **9**. Data on file.