Approved 11/08/23, Effective 1/15/24, replaces all prior versions

16R – GLUCAGON

EMT-INTERMEDIATE 85	Intramuscular use only – 3A 4I 6B 6D 6E 6F 7A 8A 13D
ADVANCED EMT	Intramuscular use only – 3A 4I 6B 6D 6E 6F 7A 8A 13D
PARAMEDIC	

Class: Hormone

Actions/Pharmacodynamics: Glucagon is a hormone produced in the pancreas. When released in times of hypoglycemia, it causes a breakdown of glycogen (stored in the liver) to glucose and inhibits the subsequent synthesis of glycogen from circulating glucose. Both actions increase the blood levels of glucose. Given via the IM route, it is a useful drug in hypoglycemia when IV access is unsuccessful. Glucagon also increases heart rate, myocardial contractility and improves AV conduction in a manner similar to that produced by catecholamines. Its actions are independent of beta blockade and therefore may be useful via IV/IO administration by paramedics for reversing cardiovascular collapse effects of suspected beta blocker toxicity.

Indications:
Respiratory Arrest (3A)
Specific Causes of Cardiac Arrest (4I)
Altered Mental Status (6B)
Seizure (6D)
Syncope (6E)
Dystonic Reactions (6F)
Behavioral Disorder (7A)
Poisonings – General Management (8A)
Complications of Pregnancy (13D)

For all listed situations, indication is hypoglycemia (blood glucose <50 mg/dL) without ability to safely administer oral glucose (due to aspiration concern) and without ability to establish IV access in EMT-I85, AEMT, and Paramedic Scopes of Practice.

Additional indication for beta blocker toxicity with hypotension and bradycardia in Paramedic Scope of Practice.

Contraindications: None

Pharmacokinetics: Onset 5 – 20 minutes; peak effects in 30 minutes; duration is 1 – 1.5 hours.

Side Effects: Dizziness, headache, nausea/vomiting, hyperglycemia.

PROTOCOL 16R: Glucagon, cont.

Dosage:

Respiratory Arrest – Adult & Pediatric weight ≥ 25 kg (3A)
Specific Causes of Cardiac Arrest - Adult& Pediatric weight ≥ 25 kg (4l)
Altered Mental Status – Adult & Pediatric weight ≥ 25 kg (6B)
Seizure – Adult & Pediatric weight ≥ 25 kg (6D)
Syncope – Adult & Pediatric weight ≥ 25 kg (6E)
Dystonic Reactions – Adult & Pediatric weight ≥ 25 kg (6F)
Behavioral Disorder – Adult & Pediatric weight ≥ 25 kg (7A)
Poisonings – General Management – Adult & Pediatric weight ≥ 25 kg (8A)
Complications of Pregnancy – Adult & Pediatric weight ≥ 25 kg(13D)
All indicate hypoglycemia without safe PO access and without IV access
1 mg IM

Respiratory Arrest – Pediatric weight < 25 kg (3A)
Specific Causes of Cardiac Arrest– Pediatric weight < 25 kg (4l)
Altered Mental Status – Pediatric weight < 25 kg (6B)
Seizure – Pediatric weight < 25 kg (6D)
Syncope – Pediatric weight < 25 kg (6E)
Dystonic Reactions – Pediatric weight < 25 kg (6F)
Behavioral Disorder – Pediatric weight < 25 kg (7A)
Poisonings – General Management – Pediatric weight < 25 kg (8A)
Complications of Pregnancy – Pediatric weight < 25 kg (13D)
All indicate hypoglycemia without safe PO access and without IV access
0.5 mg IM

Specific Causes of Cardiac Arrest - Adult (4l)
Poisonings – General Management - Adult(8A)
Suspected beta blocker toxicity with arrest or hypotension/bradycardia (Paramedic only)
1 mg IVP/IOP; May be given IM if no IV access obtainable

Specific Causes of Cardiac Arrest - Pediatric (4l)
Poisonings – General Management –Pediatric (8A)
Suspected beta blocker toxicity with arrest or hypotension/bradycardia (Paramedic only)
0.5 mg IVP/IOP; May be given IM if no IV access obtainable

How Supplied: 1 mg dry powder in vial with 1 mL of diluting solute for reconstitution (Always check concentration and dose per container at time of patient medication administration)