



## EMS System for Metropolitan Oklahoma City and Tulsa 2023 Medical Control Board Treatment Protocols



Approved 9/14/22, Effective 1/16/23, replaces all prior versions

### 16N – EPINEPHRINE 1mg/mL (1:1000) & 0.1mg/mL (1:10,000)

EMT
EMT-INTERMEDIATE 85
ADVANCED EMT
PARAMEDIC

IM Administration 1mg/mL (1:1000) Only – 8D 8E 8F

IM Administration 1mg/mL (1:1000) Only – 8D 8E 8F

IM Administration 1mg/mL (1:1000) Only – 3C 8D 8E 8F

**Class:** Vasoconstrictor, Bronchodilator (Catecholamine)

**Actions/Pharmacodynamics:** Stimulates alpha receptors in the peripheral vasculature, producing vasoconstriction-related increases in systemic blood pressure. Stimulates beta-1 receptors in the myocardium, producing increases in heart rate, myocardial contraction, and as a result, cardiac output. Stimulates beta-2 receptors in the lower respiratory tract smooth musculature, producing bronchodilation.

**Indications:**

- Dyspnea - Asthma (Severe & Refractory to Nebulization) (3C)
- Dyspnea – Croup (3C)
- Asystole (4F)
- Ventricular Fibrillation/Pulseless Ventricular Tachycardia (4G)
- Pulseless Electrical Activity (4H)
- Bradycardia (Pediatric) (5D)
- Acute Allergic Reactions (Anaphylaxis) (8D)
- Snakebites (Anaphylaxis) (8E)
- Bee/Wasp Stings (Anaphylaxis) (8F)

**Contraindications:** None absolute in indications above.

Safety in pregnancy not firmly established, though when clinically indicated the benefits outweigh risks.

**Pharmacokinetics:** Onset of action within 2 minutes after IVP/IOP; within 5-10 minutes after IM. Duration of effect ranges from 3-5 minutes after IVP/IOP to upwards of 30 minutes after IM.

**Side Effects:** Restlessness, anxiety, generalized tremors, headache, dizziness, chest pain, palpitations, hypertension, premature ventricular contractions, tachycardia.

**Dosage:** **Dyspnea - Asthma (Severe & Refractory to Nebulization) - Adult (3C)**  
1mg/mL (1:1000) 0.3 mg IM

**\*\*OLMC Order Required if pt ≥ 50 years old, heart illness history, or blood pressure > 140/90 mmHg.**

**Dyspnea - Asthma (Severe & Refractory to Nebulization) - Pediatric (3C)**  
1mg/mL (1:1000) 0.01 mg/kg (0.01 mL/kg) not to exceed 0.3 mg (0.3 mL) IM

**\*\*OLMC Order required if heart illness history or blood pressure > 140/90 mmHg.**



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### PROTOCOL 16N: Epinephrine 1mg/mL (1:1000) & 0.1mg/mL (1:10,000), cont

#### Dosage, cont:

##### **Dyspnea – Croup – Pediatric (3M)**

1mg/mL (1:1000) 3mg/3mL via nebulizer

##### **Asystole - Adult (4F)**

##### **Ventricular Fibrillation/Pulseless Ventricular Tachycardia - Adult (4G)**

##### **Pulseless Electrical Activity - Adult (4H)**

0.1mg/mL (1:10,000) 1 mg IVP/IOP

Repeat every 3 - 5 minutes while resuscitating cardiac arrest

##### **Ventricular Fibrillation/Pulseless Ventricular Tachycardia - Adult (4G)**

0.1mg/mL (1:10,000) 1 mg IVP/IOP

Repeat every 3 - 5 minutes while resuscitating cardiac arrest, cumulative maximum 3mg

##### **Asystole - Pediatric (4F)**

##### **Ventricular Fibrillation/Pulseless Ventricular Tachycardia - Pediatric (4G)**

##### **Pulseless Electrical Activity - Pediatric (4H)**

0.1mg/mL (1:10,000) 0.01 mg/kg (0.1 mL/kg) IVP/IOP

Repeat every 3 - 5 minutes while resuscitating cardiac arrest

##### **Bradycardia - Symptomatic & Systolic BP < 70 + (2 x age in years) mmHg (Sinus, First Degree, 2nd Degree Type I) - Pediatric (5D)**

0.1mg/mL (1:10,000) 0.01 mg/kg (0.1 mL/kg) IVP/IOP

May repeat once.

##### **Acute Allergic Reactions (Anaphylaxis) - Adult (8D)**

##### **Snakebites (Anaphylaxis) - Adult (8E)**

##### **Bee/Wasp Stings (Anaphylaxis) - Adult (8F)**

1mg/mL (1:1000) 0.5 mg IM

If anaphylaxis refractory to above IM dose:

0.1mg/mL (1:10,000) 1 mg slow IVP/IOP over 3 minutes

##### **Acute Allergic Reactions (Anaphylaxis) - Pediatric (8D)**

##### **Snakebites (Anaphylaxis) - Pediatric (8E)**

##### **Bee/Wasp Stings (Anaphylaxis) - Pediatric (8F)**

1mg/mL (1:1000) 0.15 mg IM dose for EMT

1mg/mL (1:1000) 0.01 mg/kg (0.01 mL/kg) not to exceed 0.3 mg (0.3 mL) IM

If anaphylaxis refractory to above IM dose:

0.1mg/mL (1:10,000) 0.01 mg/kg slow IVP/IOP over 3 minutes

#### How Supplied:

**Epinephrine 1mg/mL (1:1000)** in 1 mg/1mL ampules or 30 mg/30 mL vial  
(Always check concentration and dose per container at time of patient medication administration)

**Epinephrine 0.1mg/mL (1:10,000)** in 1 mg/10 mL prefilled syringes  
(Always check concentration and dose per container at time of patient medication administration)

**Special Comments:** Be sure to administer correct concentration. Pulsatile patients ages 35 years or greater, particularly those with known coronary artery disease, receiving epinephrine should have ECG monitoring initiated and continued as soon as an ECG monitor is available.