



# Jackson Hole Fire/EMS Operations Manual

Approved by: WS  
Will Smith (Aug 18, 2025 09:28:00 MDT)  
Will Smith, Medical Director

Approved by: MM  
Mike Moyer (Aug 14, 2025 09:07:11 MDT)  
Mike Moyer, Fire Chief

Title: **Medication Protocol:  
Epinephrine 1:1,000**  
Division: 17  
Article: 1.12  
Revised: August 2025  
Pages: 2

## EPINEPHRINE 1:1,000 (Medication Protocol)

### EMR

**EMR - Auto-injector epinephrine pens only.**

### EMT

**Intramuscular Injection STANDING ORDER for anaphylaxis**

### ADVANCED EMT, EMT I, PARAMEDIC

### STANDING ORDER

**CLASS:** Sympathetic agonist (sympathomimetic)

**PHARMACOLOGY/ ACTIONS:** Epinephrine acts directly on  $\alpha$ - and  $\beta$ -adrenergic receptors. Its effect on  $\beta$ -receptors is much more profound than its effect on  $\alpha$ -receptors.

- $\beta_1$  effects include: ↑ HR, ↑ cardiac contractile force, ↑ electrical activity in the myocardium, ↑ systemic vascular resistances, ↑ BP, ↑ automaticity
- $\beta_2$  effects include dilates bronchial smooth muscle and inhibits mucous secretion.
- Alpha effects include: constricts bronchiole arterioles, inhibits histamine release, constricts arterioles in the skin, mucous membranes, and kidneys, but dilates those in the skeletal muscle.

Action is through a natural hormonal mechanism.

**ONSET/DURATION:** Onset: < 2 mins. [IV/IO/IM]  
Duration: 5-10 mins.

**USE IN FIELD/ INDICATIONS:**

- Anaphylaxis/Allergic Reaction
- Severe Asthma
- Cardiac Arrest

**CONTRAINdications:** Hypovolemic shock, severe hypertension, Relative-coronary artery disease, pregnancy, severe tachydysrhythmias, PVC's, hyperthyroidism, cerebrovascular insufficiency.

**SIDE EFFECTS:** Tachycardia, palpitation, anxiety, tremor, headache, nausea, weakness, restlessness, hypertension

**DRUG INTERACTIONS:** MAO inhibitors may potentiate effects.  $\beta$ -adrenergic antagonists may blunt inotropic response. Sympathomimetics and phosphodiesterase inhibitors may exacerbate dysrhythmia response

**ROUTE:** IV, IO, IM

<b>DOSAGE:</b>	<b>ADULT</b>	<b>PEDIATRIC (&lt;45 kg)</b>
Auto-Injector	0.3 mg IM	Auto-Injector 0.15 mg IM
Asthma & allergic reaction	0.3mg (0.3ml) IM. May repeat every 5 minutes	Asthma & allergic reaction (0.01ml/kg) IM, May repeat every 5 minutes

**PREGNANCY SAFETY:** Category C – give only if potential benefits justifies risk to fetus

**COMMENTS:** Be extremely cautious with dosage calculations and administration. Use with caution in patients with peripheral vascular insufficiency. Effects can be intensified in patients who are taking antidepressants. CAUTION in patients OVER 50 yo due to cardiovascular stress.