

**Classification**

Nitrate Vasodilator

**LA County Prehospital Indications**

Chest Pain – Suspected Cardiac  
Chest Pain – STEMI  
Pulmonary Edema / CHF

**Other Common Indications (Not authorized for EMS administration in LA County)**

Rapid blood pressure lowering in hypertensive emergency

**Adult Dose**

Chest Pain – Suspected Cardiac / Chest Pain – STEMI

**0.4 mg SL** prn, repeat every 5 min prn x2, total 3 doses, hold if SBP < 100mmHg or patient has taken sexually enhancing medication within 48 hours

Pulmonary Edema / CHF

**0.4mg SL**, for SBP ≥ 100mmHg

**0.8mg SL**, for SBP ≥ 150mmHg

**1.2mg SL**, for SBP ≥ 200mmHg

Repeat every 3-5 min prn x2 for persistent dyspnea, assess blood pressure prior to each administration and determine subsequent dose base on SBP as listed above. Hold if SBP < 100mmHg

**Pediatric Dose**

Not recommended for pediatric administration

**Mechanism of Action**

Organic nitrate which causes systemic venous dilatation, decreasing preload. Cellular mechanism: nitrate enters vascular smooth muscle and is converted to nitric oxide leading to vasodilation. Relaxes smooth muscle via dose-dependent dilation of arterial and venous beds to reduce both preload and afterload, and myocardial oxygen demand. Also improves coronary collateral circulation. Lowers BP, increases heart rate and occasional paradoxical bradycardia.

**Pharmacokinetics**

Onset is 1-3 min SL or TM; duration is 20-30 min

**Contraindications**

Use of sexually enhancing/erectile dysfunction medications such as sildenafil, tadalafil or vardenafil within the past 48 hours  
Hypotension with SBP < 100mmHg  
Suspected cardiac tamponade

**Interactions**

Alcohol, opiates and antihypertensive agents may compound hypotensive effects. Patients taking sexually enhancing/erectile dysfunction medications are at risk for severe, prolonged hypotension leading to death.

**Adverse Effects**

Circulatory Collapse  
Dizziness  
Headache  
Hypotension / Postural Hypotension  
Syncope  
Weakness

**Prehospital Considerations**

- Caution advised in suspected intracranial hemorrhage or stroke patients