

# Southern Illinois Regional EMS System

## JJ-22 NITROGLYCERINE

1. Class:
  - 1.1. Vasodilator.
2. Description:
  - 2.1. Nitrates and nitrites dilate arterioles and veins in the periphery (and coronary arteries in high doses). The resultant reduction in preload, and to a lesser extent in afterload, decreases the workload of the heart and lowers myocardial oxygen demand. Nitroglycerin is lipid soluble and is thought to enter the body from the gastrointestinal tract through the lymphatics rather than the portal blood.
3. Onset and Duration:
  - 3.1. Onset: 1-3 minutes.
  - 3.2. Duration: 30-60 minutes.
4. Indications:
  - 4.1. Ischemic chest pain.
  - 4.2. Congestive heart failure.
  - 4.3. Hypertensive emergencies.
  - 4.4. Pulmonary hypertension.
5. Contraindications:
  - 5.1. Volume depletion.
  - 5.2. Hypersensitivity.
  - 5.3. Hypotension.
  - 5.4. Head injury.
  - 5.5. Systolic BP less than 90 or 30 mmHg below baseline.
  - 5.6. Extreme bradycardia (HR < 50 bpm).
  - 5.7. Extreme tachycardia (HR > 100 bpm).
  - 5.8. Cerebral hemorrhage.
  - 5.9. Recent use of Tadalafil (Cialis), Vardenafil (Levitra), or Sildenafil (Viagra).
  - 5.10. Aortic stenosis.
6. Adverse Reactions:
  - 6.1. Transient headache.
  - 6.2. Reflex tachycardia.
  - 6.3. Hypotension.
  - 6.4. Nausea and vomiting.
  - 6.5. Postural syncope.
  - 6.6. Diaphoresis.
7. Drug Interactions:
  - 7.1. Other vasodilators may have additive hypotensive effects.

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## JJ-20 NITROGLYCERINE (NITOSTAT)

(continued)

8. How Supplied:
  - 8.1. Tablets; 0.15mg (1/400gr), 0.3mg (1/200gr), 0.4mg (1/150gr), 0.6mg (1/100gr), and extended-release capsules and transdermal preparations.
  - 8.2. Metered spray: 0.4mg per spray.
  - 8.3. Parenteral: 5mg/ml, 10, 20, 40mg/100ml.
9. Dosage and Administration:
  - 9.1. Adult:
    - 9.1.1. Tablet – 0.3-0.4mg sublingually; repeat twice every 5 minutes.
    - 9.1.2. Metered spray – Spray onto oral mucosa using a lingual aerosol canister for ½-1 seconds every 5 minutes for a maximum of 3 doses delivers 0.4mg/spray.
    - 9.1.3. Infusion – 200-400mcg/ml at a rate of 10-20mcg/min:
      - 9.1.3.1. Increase by 5-10mcg/minute every 5 minutes until desired effect is achieved.
  - 9.2. Pediatrics:
    - 9.2.1. Not recommended.
10. Special Considerations:
  - 10.1. Pregnancy Category C.
  - 10.2. Nitroglycerine is associated with increased susceptibility to hypotension in the elderly.
  - 10.3. Nitroglycerin decomposes when exposed to light or heat.
  - 10.4. Nitroglycerine must be kept in airtight containers.
  - 10.5. Active ingredient of nitroglycerine will “sting” when administered sublingually.
  - 10.6. Use with extreme caution in patients with inferior acute myocardial infarction with possible right ventricular involvement.
  - 10.7. Administer IV nitroglycerine by infusion pump to ensure precise flow rate.
  - 10.8. PVC tubing may absorb up to 80% of available medication; non PVC tubing should be used.