# GLYCERYL TRINITRATE (GTN)

## ACTIONS
- Relaxation of vascular smooth muscle - venodilation greater than arteriolar dilation
- Venous dilation results in decreased venous return to the heart and therefore decreased preload
- Arteriolar vasodilation decreases systemic vascular resistance and afterload
- Improved coronary blood flow and decreased myocardial oxygen consumption by action on coronary arteries resulting in coronary vasodilation
- Reduction in systolic, mean and diastolic blood pressure

## INDICATIONS
- Myocardial ischaemia e.g. angina pectoris
- Congestive cardiac failure associated with AMI
- Control of perioperative hypertension

## DOSAGE & ADMINISTRATION
**Not for Intravenous (IV) bolus injection**

**FOR IV INFUSION ONLY**

GTN should be prepared in glass or non-PVC containers ONLY.

- With 500ml bag Glucose 5% (**NON PVC bag**), remove and discard 10ml, total volume of the bag is now 490ml
- Aseptically transfer the contents of one ampoule of GTN Concentrate Injection (50 mg/10 mL) into the 490mL of Glucose 5%

  Final concentration of GTN 100 microgram/mL

Invert the bag several times following admixture to ensure uniform dilution. Use NON-PVC giving set.

- Commence infusion at 3mls/hr (5mcg/min) and increase by 3mls every 3-5 minutes until desired haemodynamic endpoints are met

**If used for angina:** when the patient is pain free, leave the infusion at that rate for the next 12-24hrs, then wean by 3mls/hr and watch for recurrence of chest pain. Continuously monitor Arterial blood pressure.

## MONITORING
- Continuous ECG monitoring
- Continuous arterial blood pressure monitoring
- Sp02 monitoring
- Daily ECG
- Observe for the presence of chest pain
### CRGH ICU Drug Guideline

**Concord Repatriation General Hospital**
**Intensive Care Unit Drug Guidelines**

### ADVERSE REACTIONS
- Hypotension, reflex tachycardia
- Bradycardia, arrhythmias, atrial fibrillation
- Headache, syncope
- Palpitations, nausea, vomiting, diarrhea, abdominal pain

### CONTRAINDICATIONS
- Hypersensitivity to nitrates
- Concomitant administration of phosphodiesterase -5 (PDE-5) inhibitors e.g. sildenafil
- Increased Intracranial Pressure ICP
- Severe anaemia and hypoxaemia
- Constrictive pericarditis or tamponade or restrictive cardiomyopathy

### PRECAUTIONS
- Patients with severe renal or hepatic dysfunction
- Prolonged administration may lead to tolerance
- Hypoxaemia may occur due to V/Q mismatch
- Morphine effect prolonged due to decreased metabolism of opioids
- Vasodilators – calcium channel blockers, beta blockers, diuretics and antihypertensive agents – potentiate hypotensive effects
- Tricyclic antidepressants, anticholinergic agents – potentiate antihypertensive effects
- Aspirin- increase serum nitrate concentration and decrease therapeutic response
- Alcohol- cardiovascular collapse

### COMPATABILITY
- Glucose 5%; Sodium Chloride 0.9%

### TRADE NAMES
- DBL Glyceryl Trinitrate Concentrate Injection

### REFERENCES:
- MIMS Online; Micromedix 2.0; Australian Injectable Handbook, 5th edition

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