USE OF GLYCERYL TRINITRATE (GTN)

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INDICATIONS

Acute pulmonary oedema

Uncontrolled pain of cardiac origin, including aortic dissection

Accelerated hypertension with pulmonary oedema or acute coronary syndrome

DOSAGE

Acute pulmonary oedema: glyceryl trinitrate (GTN) by continuous IV infusion, initially 20 microgram/min, increasing in increments of 20 microgram/min at 15–30 min intervals until desired response or a maximum of 200 microgram/min is achieved, provided BP remains >90/60 mmHg

Uncontrolled pain of cardiac origin: GTN by continuous IV infusion, initially 10 microgram/min, titrated upwards at 15-min intervals in increments of 5 or 10 microgram/min according to patient response to a maximum of 200 microgram/min if necessary to control pain, provided BP remains >90/60 mmHg

Accelerated hypertension: follow dosage instructions according to clinical presentation (see above); otherwise give GTN by continuous IV infusion, initially 5 microgram/min, titrated upwards at 15-min intervals in increments of 5 or 10 microgram/min according to patient response at to a maximum of 100 microgram/min

PREPARATIONS

GTN 1 mg/mL in 50 mL vial

ADMINISTRATION

- Fill a compatible 50 mL syringe (see **Notes**) with GTN solution 1 mg/mL (50 mL)
- Administer via a syringe pump, and titrate according to patient response (**Table 1**)

NOTES

Compatible syringes and tubing; rigid plastic syringes (e.g. Gillette Sabre, Brunswick Disposable, BD Plastipak); polyethylene tubing (e.g. Vygon Lectrocath, David Bull Laboratories Types A261 or A2001) or nitro extension set.

GTN is **incompatible** with polyvinylchloride (PVC) infusion bags (e.g. Steriflex, Boots, Viaflex, Travenol) and PVC tubing as up to 50% of the GTN can be lost onto the plastic requiring bigger doses.

Table 1: GTN infusion 1mg/ml via syringe pump (flow rate – mL/hr)

Dosage (microgram/min)	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**
Flow rate (mL/hr)	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3
Dosage (microgram/min)	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**95**	**100**
Flow rate (mL/hr)	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6
Dosage (microgram/min)	**105**	**110**	**115**	**120**	**125**	**130**	**135**	**140**	**145**	**150**
Flow rate (mL/hr)	6.3	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9
Dosage (microgram/min)	**155**	**160**	**165**	**170**	**175**	**180**	**185**	**190**	**195**	**200**
Flow rate (mL/hr)	9.3	9.6	9.9	10.2	10.5	10.8	11.1	11.4	11.7	12

Patient Monitoring

The patient must be attached to a cardiac monitor and have continuous heart rate, minimum of 3 lead monitoring, oxygen saturations. Blood pressure should be measured every 5 minutes for the first 30 minutes, every 15 minutes for the next 30 minutes and then every 30 minutes. If the blood pressure drops to less than 90/60, the infusion should be stopped and an urgent medical review requested. The infusion can be restarted with the rate decreased by 10 microgram/min once the blood pressure is greater then 90/60 mmHg.