

GDL19

GLYCERYL TRINITRATE PRESCRIBING REGIMEN

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[Appendix 1 Glyceryl Trinitrate \(GTN\) Infusion chart](#)

1.0 Guideline Statement

Glyceryl trinitrate (GTN) is a vasodilating agent which exerts its effects through nitric oxide-mediated smooth muscle relaxation, producing a dose-related dilation of both arterial and venous beds.

Aim

To assist with the prescribing, administration, and monitoring of intravenous GTN.

2.0 Accountabilities

This is a trust-wide document but will be managed by the Cardiology directorate and Cardiothoracic directorate.

3.0 Procedure/Guidelines Detail / Actions

GLYCERYL TRINITRATE PRESENTATION

Vials containing glyceryl trinitrate **50mg in 50mL (1mg/mL)**

Indication:

- Acute pulmonary oedema
- Uncontrolled pain of cardiac origin, including aortic dissection

Dosing:

Indication	Dose
Acute pulmonary oedema	GTN by continuous IV infusion, initially 20 microgram/min, decreasing to 10 microgram/min; or 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 <i>BP remains >90 mmHg systolic and >60 mmHg diastolic</i> .
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 <i>BP remains >90 mmHg systolic and >60 mmHg diastolic</i>

Administration

- Fill a compatible 50 mL syringe (see Notes) with GTN solution 1 mg/mL (50 mL)
- Titrate according to patient response (Table 1)

Table 1 GTN infusion 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

See [appendix 1](#) for accompanying infusion chart.

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)
- GTN is incompatible with polyvinylchloride (PVC) infusion bags (e.g. Steriflex, Boots, Viaflex, Travenol)

4.0 Equipment Required

None.

5.0 Training

This guideline will be available on the Trust intranet.

1	Does the implementation of this document require any additional Capital resources	No
2	Does the implementation of this document require additional revenue resources	No
3	Does the implementation of this document require additional manpower	No
4	Does the implementation of this document release any manpower costs through a change in practice	No
5	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programs or allocated training times for staff.	No
	Other comments	

Not applicable

The Cardiology and Cardiothoracic directorates will ensure the document is reviewed at least every 3 years.

This information will be disseminated to all relevant departments.

Criterion	Lead	Monitoring method	Frequency	Evaluation
Compliance with guideline	Cardiology Governance Officer	Datix	As incidents happen	Cardiology governance meeting

- 1) SPC - Glyceryl Trinitrate [Glyceryl Trinitrate 1mg/ml solution for infusion - Summary of Product Characteristics \(SmPC\) - \(emc\) \(medicines.org.uk\)](#)
- 2) Up to date – Glyceryl Trinitrate [Nitroglycerin \(glyceryl trinitrate\): Drug information - UpToDate](#)

Part A - Document Control

Procedure/ Guidelines number and version GDL19 Version 1.0	Title of Procedure/Guidelines Glyceryl Trinitrate (IV) Prescribing regimen	Status: Final		Author: Shamma Khan Contributor: Nazish Khan For Trust-wide Procedures and Guidelines Chief Officer Sponsor: Chief Medical Officer
Version / Amendment History	Version	Date	Author	Reason
	1.0	Sept. 2025	Principal Pharmacist, Cardiac Services	Implementation
Intended Recipients: Nurses, doctors, allied health professionals				
Consultation Group / Role Titles and Date: Cardiology Governance - 26 February 2025 Medicines Management Group – 5 August 2025 HRDAG – July 2025				
Name and date of group where reviewed		Trust Policy Group – September 2025		
Name and date of final approval committee (if trust-wide document)/ Directorate or other locally approved committee (if local document)		Trust Policy Group – September 2025		
Date of Procedure/Guidelines issue		September 2025		
Review Date and Frequency (standard review frequency is 3 yearly unless otherwise indicated – see section 3.8.1 of Attachment 1)		September 2028, every 3 years		

Training and Dissemination: Email/available on the intranet	
Publishing Requirements: Can this document be published on the Trust's public page:	
Yes	
If yes you must ensure that you have read and have fully considered it meets the requirements outlined in sections 1.9, 3.7 and 3.9 of OP01, Governance of Trust-wide Strategy/Policy/Procedure/Guidelines and Local Procedure and Guidelines , as well as considering any redactions that will be required prior to publication.	
To be read in conjunction with: GTN infusion chart	
Initial Equality Impact Assessment: Completed Yes	
Full Equality Impact assessment (as required):NA If you require this document in an alternative format e.g., larger print please contact Policy Management Officer 85887 for Trust-wide documents or your line manager or Divisional Management office for Local documents.	
Contact for Review	Shamma Khan – Principal Pharmacist Cardiac Services
Monitoring arrangements	Datix
Document summary/key issues covered. A guideline to assist with the prescribing, administration, and monitoring of intravenous glyceryl trinitrate.	
Key words for intranet searching purposes	Glyceryl trinitrate

Glyceryl Trinitrate (GTN)

Infusion chart

Hospital:.....

Ward:

Surname	Unit No
Forename	NHS No
Address	DOB
Postcode	(or affix patient label)

1. Prescription

Please indicate on the EPMA drug chart that a Glyceryl Trinitrate Infusion Chart is being used

Name:..... Signature: Designation:

Date:..... Time: Stamp

2. Infusion Solution

Prepare the infusion solution by drawing up a 50mL syringe of (ready mixed) Glyceryl Trinitrate (50mg in 50mL).

As with all infusion solutions any unused portion should be discarded after 24 hours.

3. Administration of Infusion Solution (see section 4 for initial dosing guidance)

Commence Infusion at: mL per hour.

Name:..... Signature: Designation:

Date:..... Time: Stamp

Observe the patient for the first 5 minutes to watch for signs of sensitivity (↓BP, pale, faint, dizzy, unwell, NEWS).

4. Starting dose and adjustment

Select starting dose based on clinical indication. In all cases the dose administered should be adjusted according to patient response. **Always maintain systolic blood pressure above 90mmHg.**

Acute pulmonary oedema	Chest pain of cardiac origin
<ul style="list-style-type: none"> Start infusion at 20microgram/min Decrease to 10 microgram/min or increase in increments of 20microgram/min at 15-30 min intervals until desired response achieved (max rate of 200microgram/min) 	<ul style="list-style-type: none"> Start infusion at 10microgram/min Titrate upwards in increments of 5-10microgram/min at 15 min intervals according to response (max rate of 200microgram/min)
<p>Check BP – 30 minutes:</p> <ul style="list-style-type: none"> Systolic BP > 90 – Continue Systolic BP ↓ but > 90 – Increase monitoring frequency to 15 minutes Systolic BP < 90 or diastolic <60 – Titrate down and Stop Infusion 	

Administration of the infusion and titration of the dose must be documented overleaf

To be filed in the Charts and Forms Section of the Health Record

Patient Name: NHS No: Unit Number:

[illegible]