UNIVERSITY HOSPITALS OF DERBY & BURTON NHS FOUNDATION TRUST
DRUG MONOGRAPH FOR USE ON ADULT INTENSIVE CARE UNITS

Nebulised Epoprostenol (FLOLAN®)

DERBY ONLY

Indication	To improve oxygenation and V/Q mismatch caused by ARDS. Use should be on Consultant Intensivist instruction, if other management strategies have failed.
Dose	10 – 50 nanograms/Kg/min; usual starting rate of 30 nanograms/Kg/min. Titrate dose to effect; dose adjustments should be made at 15-minute intervals. See the dosing table on the second page of this monograph. Doses should be based on ideal body weight: • Males: Height (cm) – 100 • Females: Height (cm) – 105
Preparation	Epoprostenol vials (Flolan®) contain 500 micrograms 1. Using a BD syringe, draw up 10mL of the provided solvent and use this to reconstitute the vial containing the Flolan® (epoprostenol) powder, then shake gently until the powder is dissolved. 2. Draw up the resulting solution into a 50mL BD syringe. 3. Make up to 25mL using the remaining solvent, then mix thoroughly. 4. Transfer this solution from the BD syringe into the blue 'Aerogen® Solo Continuous Nebulisation Syringe'. This gives a concentration of 20,000 nanograms/mL
Administration	See the 'Inhaled Prostacyclin (Epoprostenol) - ICU Clinical Guideline' on Koha for full instructions. Use only with the Aerogen® Solo nebuliser. The drug must be administered via the blue Aerogen® syringe to avoid inadvertent intravenous administration.
Shelf-life	Applies to the **FLOLAN®** product only: 72h at room temperature, once reconstituted Reconstituted solution can be stored in the vial for up to 8 days at 2-8°C The unopened vials and reconstituted solution must be protected from light.
Common Compatibility Issues	N/A

Additional information	Epoprostenol should be discontinued if no beneficial clinical effect is seen after 15 minutes. Epoprostenol should not be stopped suddenly, to avoid rebound pulmonary hypertension – titrate dose down by 10nanograms/Kg/min every 2 hours before stopping. Flow rates >12mL/h may lead to accumulation of drug in the nebuliser reservoir (6mL volume). Filters will become saturated with glycine – change every 8h at flow rates ≤10 mL/h and every 4h at rates >10 mL/h
Sample Label	**DRUGS ADDED TO THIS INFUSION** PATIENT *A.patient (A.number)* — Ward *ICU* Drug *Epoprostenol in 25mL diluent* — Amount *500 micrograms (20,000 nanograms/mL)* — Add By — Checked By Date Added / Time Added — Exp. Date / Exp. Time — Batch No. **DISCONTINUE IF CLOUDINESS OR PRECIPITATE DEVELOPS**

Appendix 1: Nebulised Epoprostenol Dosing Table

Epoprostenol Concentration: 20,000 nanograms/mL (0.5mg vial in 25mL solvent)						
Height (cm)		**Dose (nanograms/Kg/min)**				
Male	**Female**	**≈10**	**≈20**	**≈30**	**≈40**	**≈50**
<150	<155	1.4	2.7	4.1	5.4	6.8
150-159	155-164	1.5	3.3	5.0	6.6	8.3
160-169	165-174	1.8	3.9	5.9	7.8	9.8
170-179	175-184	2.1	4.5	6.8	9.0	11.3
180-189	185-194	2.4	5.1	7.7	10.2	12.0*
>190	>195	2.7	5.7	8.6	11.4	12.0*
		Values above give the required flow rate (mL/h). Values followed by * have been capped at this rate.				

Documentation Controls

Development of Guideline:	Pharmacist – Critical Care & Theatres
Consultation with:	Pharmacy Department, Critical Care Nursing & Medical teams
Approved By:	Adult Drug Monograph Process Written/Reviewed by Munthar Miah December 2023 Checked By: Tien Vu December 2023
Review Date:	December 2026
Key contact:	Pharmacist – Critical Care & Theatres

References

GlaxoSmithKline UK. Summary of Product Characteristics (SPC) - Flolan 0.5 mg Powder and Solvent for Solution for Infusion (with pH 12 solvent). medicines.org.uk. [Online] [Accessed: 12/12/23] https://www.medicines.org.uk/emc/product/7396/smpc.

Aerogen. Aerogen Solo Instruction Manual. Aerogen.com. [Online] [Accessed: 12/05/20] https://u5i6p3z8.stackpathcdn.com/wp-content/uploads/2019/11/30-354-Rev-T-Aerogen-Solo-System-UK_WEB.pdf.

Buckley, M. S., Agarwal, S. K., Garcia-Orr, R., Saggar, R., & MacLaren, R. (2020). Comparison of Fixed-Dose Inhaled Epoprostenol and Inhaled Nitric Oxide for Acute Respiratory Distress Syndrome in Critically Ill Adults. Journal of intensive care medicine. https://doi.org/10.1177/0885066620906800

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