# NEONATAL West of Scotland Drug Monographs
## PARENTERAL Routes

# Dinoprostone (Prostin) FIXED CONCENTRATION

**Take special care with units, calculating doses and administration volumes**
**Frequently involved in medication errors, care with similar named drugs.**

Neonatal

**FORM**

Pre-made syringe containing 50micrograms in 50ml
OR
Ampoules containing 1mg/ml dinoprostone (if no pre-made syringe is available or preparing a high concentration syringe)

**INDICATION**

Maintaining patency of the Ductus Arteriosus

SEEK CONSULTANT ADVICE BEFORE PRESCRIBING. WHERE POSSIBLE, DO NOT START OR STOP THIS TREATMENT WITHOUT FIRST CONSULTING A CARDIOLOGIST.

**DOSE RANGE**

| AGE | DOSE | FREQUENCY | ROUTE |
|---|---|---|---|
| 0-6 months | Initially 5**nanograms**/kg/MINUTE<br><br>Gradually increase as necessary in 5nanogram/kg/minute increments to 20nanograms/kg/minute.<br><br>Doses of up to 100 nanogram/kg/minute have been used but are associated with an increased incidence of side effects. | Continuous Infusion | IV |

**PRESCRIPTION OF CONTINUOUS INFUSION**

****SPECIAL CARE with PRESCRIBING**.**
Flow rates are expressed as ml/**kg**/hour NOT ml/hr

**LOW CONCENTRATION** (if doses **less than** 20nanograms/kg/min are required)

**50 micrograms in 50ml infusion fluid**

This gives:-

- 5nanogram/kg/MINUTE at 0.3ml/**KG**/hr
- 10nanogram/kg/MINUTE at 0.6ml/**KG**/hr
- 20nanograms/kg/MINUTE at 1.2ml/**KG**/hr

**HIGH CONCENTRATION** (if doses **greater than or equal to** 20nanograms/kg/min are required)

**200micrograms in 50ml infusion fluid**

This gives:-

- 20nanograms/kg/MINUTE at 0.3ml/**KG**/hr
- 50nanograms/kg/MINUTE at 0.75ml/**KG**/hr

IF NO PRE-MADE SYRINGE IS AVAILABLE PREPARE A SYRINGE OF either 50micrograms in 50ml **(low concentration)** or 200micrograms in 50ml **(high concentration)** USING A 1mg/ml AMPOULE AS FOLLOWS;

**RECONSTITUTION**

Already in solution

**DILUTION**

**Initial Dilution for both concentrations**:

| | |
|---|---|
| Dinoprostone Injection (1mg/ml) | 0.5ml |
| Water for Injection. | up to 20ml total |

This gives a 25microgram in 1ml solution.

**Final Dilution**

**LOW CONCENTRATION**

1. Draw up 2ml of DILUTED DINOPROSTONE 25micrograms in 1 ml solution.
2. Make up to 50ml with Glucose 5% or Sodium Chloride 0.9%.
3. Mix well
4. This gives a solution containing **50 micrograms in 50ml** (1microgram per 1ml)

**HIGH CONCENTRATION**

1. Draw up 8ml of DILUTED DINOPROSTONE 25micrograms in 1 ml solution.
2. Make up to 50ml with Glucose 5% or Sodium Chloride 0.9%.
3. Mix well
4. This gives a solution containing **200 micrograms in 50ml** (4micrograms per 1ml)

**METHOD OF ADMINISTRATION**

By continuous intravenous infusion, flow rate adjusted according to the baby's response (see prescription section for details).

**WARNING: DO NOT FLUSH THROUGH A LINE CONTAINING DINOPROSTONE AS IT IS A POTENT DRUG AND MAY CAUSE SERIOUS PROBLEMS.**

**COMPATIBILITY**

| | |
|---|---|
| **Solution compatibility** | Sodium chloride 0.9%, Glucose 5%. |
| **Solution incompatibility** | No information |
| **IV Line compatibility** | No other drugs or fluids in same line at same time |
| **IV Line incompatibility** | All other drugs |

**THIS LIST IS NOT EXHAUSTIVE PLEASE CONTACT PHARMACY FOR FURTHER INFORMATION ON COMPATIBILITY WITH ANY MEDICINES NOT INCLUDED**

**CAUTIONS, CONTRA-INDICATIONS AND SIDE EFFECTS**

See Summary of Product Characteristics and most recent edition of BNF for Children

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**FURTHER INFORMATION**

During the infusion of dinoprostone, monitoring of heart rate, blood pressure, respiratory rate and core body temperature are required. Respiratory depression and apnoea can also occur.

In the event of complications such as apnoea, profound bradycardia or severe hypotension consult with senior medical staff.

IV Dinoprostone can cause respiratory depression and apnoea. Facilities for intubation and ventilation must be available and should be considered for babies being transferred to another site with a Dinoprostone infusion.

**STORAGE**

Dinoprostone is stored in a refrigerator. Once diluted the injection solution is stable for 24 hours at room temperature.

**PH**

No information

**LICENSED STATUS**

Not licensed for use in children.

**APPLICABLE POLICIES**

West of Scotland Neonatal Guidelines

Consult local policy if applicable

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|---|---|---|---|
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| Prepared by/Checked By: | Lauren Williams/Anisa Patel | Final Check By: | WoS Neonatal Pharmacist Group |
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**Administer reconstituted solutions immediately.**
**All vials, ampoules and infusion bags are for single use only unless otherwise stated.**

Dose may vary depending on indication, age, renal function, hepatic function, and concomitant medications. This monograph should be used in conjunction with the terms of reference document prepared by the West of Scotland Pharmacist Network. Information is correct at the time of publication and as per local practice agreement. For further advice please contact your clinical pharmacist or pharmacy department