

Neonatal Drug Guideline

PANCURONIUM

DESCRIPTION AND INDICATION FOR USE

Pancuronium is a long-acting, non-depolarising muscle relaxant. It blocks transmission of motor nerve impulses to the striated muscle receptors causing muscle relaxation and paralysis. Pancuronium is used for unstable babies prior to transfer who require paralysis to assist with ventilator compliance.

DOSE

1 mg = 1000 micrograms

IV: 50 to 100 microg/kg/dose. Repeat every 1 to 2 hours as necessary. Adjust dose as needed based on duration of paralysis.

RECONSTITUTION/DILUTION

Ampoule = 4 mg in 2 mL (2 mg/mL)

(NB: stored in refrigerator)

IV: Dilution required to enable measurement of dose. Large doses may be given undiluted

DILUTION:

1. Withdraw 0.5 mL of 2 mg/mL solution in a 1 mL syringe
2. Add to 0.5 mL of 0.9% sodium chloride in a second 1 mL syringe (total volume = 1 mL)
(concentration = **1 mg in 1 mL = 1000 microg/mL**)
Shake gently to ensure thorough mixing
3. Withdraw required dose

Discard remaining diluted solution immediately after use.

Not for IM or subcut use.

ROUTE AND METHOD OF ADMINISTRATION

TO BE ADMINISTERED BY EXPERIENCED PAEDIATRIC OR ANAESTHETIC STAFF SKILLED IN ADVANCED AIRWAY MANAGEMENT OF A PARALYSED NEONATE

IV: Give as a rapid intravenous push over at least 1 minute.

COMPATIBILITY INFORMATION

Please contact your clinical pharmacist for information on drugs or fluids not appearing in the table below. Medications that are not routinely used in the Special Care Nursery have not been included in this table and may be incompatible.

	Compatible	Incompatible
Fluids	Dextrose 5%, Sodium chloride 0.9%	No information
Drugs (Y-site only)	Adrenaline, dobutamine, dopamine, fentanyl, gentamicin, heparin, midazolam, morphine, vancomycin	Frusemide, phenobarbitone

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SIDE EFFECTS

- Tachycardia, hypertension, hypothermia
- Hypoxaemia may occur due to inadequate mechanical ventilation and deterioration in pulmonary mechanics
- Peripheral oedema may increase if used for > 24 hours

SPECIAL PRECAUTIONS

- Non-ventilated patients (unless for intubation)
- Fluid and electrolyte imbalances may increase the action of pancuronium – correct prior to administration where possible
- Encephalopathy – muscle relaxation may mask seizures masking assessment difficult

DRUG INTERACTIONS

Aminoglycosides (amikacin, gentamicin, tobramycin), frusemide, metronidazole, phenytoin

May enhance the action or prolong the effect of pancuronium

Medicines contributing to hypokalaemia e.g. amphotericin B, loop diuretics (frusemide), thiazide diuretics

Hypokalaemia potentiates neuromuscular blockade and may enhance the action of pancuronium

Carbamazepine, Phenytoin (chronic use)

May reduce effectiveness or duration of action of pancuronium

NURSING RESPONSIBILITIES

- Observations/Monitoring:
 - With the initial dose apply pulse oximeter
 - Continuous cardio-respiratory and SaO₂ monitoring
 - Observe chest movement
 - Observe for signs of waking in the infant – notify medical staff immediately
 - Monitor urine output
 - Ensure the infant is comfortable and administer analgesics and/or sedatives as necessary as pancuronium does not alter pain threshold
 - Lubricating eye drops required every 2 hours during paralysis
- Vials are stored in the refrigerator however are stable for up to 6 months at room temperature
- Do not mix pancuronium with other drugs in a syringe as precipitation may occur
- Use neostigmine (50 microg/kg) with atropine (20 microg/kg) to reverse the effects of pancuronium