

PANCURONIUM

Trade Name	Pancuronium Bromide Solution for Injection (Astra-Zeneca). Pancuronium Inresa (– section 29 product from Germany sourced due to COVID19 supply chain issues)
Class	Muscle relaxant (non-depolarising, medium duration)
Mechanism of Action	Prevents depolarisation of muscle membranes and muscle contraction by competitively binding the distal neuromuscular junction cholinergic receptor. This results in parasympathetic antagonism with some sympathetic stimulation.
Indications	Inability to maintain adequate oxygenation because of infant's resistance to ventilation. Muscle relaxation improves lung compliance in ventilated newborn infants.
Contraindications	Should not be given in the neonatal setting unless an airway has been secured.
Supplied As	4mg/2mL ampoule.
Dilution	Not required.
Dosage	0.1 mg/kg/dose
Interval	Usually charted on an as required basis and may be needed and given as frequently as every 30-60minutes. Duration of effect may reduce with time.
Administration	Slow IV bolus.
Compatible With	Solutions: 5% glucose, 0.9% sodium chloride, Lactated Ringer's. Terminal Y-site: Adrenaline, amikacin, aminophylline, amiodarone, amphotericin, atenolol, azithromycin, caffeine citrate, calcium chloride, calcium gluconate, cefazolin, cefotaxime, cimetidine, dexamethasone, dexmedetomidine, dobutamine, dopamine, ephedrine, erythromycin, esmolol, famotidine, fentanyl, fluconazole, ganciclovir, gentamicin, glycopyrrolate, heparin, hydrocortisone succinate, isoproterenol, lorazepam, midazolam, milrinone, morphine, nitroglycerin, nitroprusside, noradrenaline, propofol, ranitidine, trimethoprim-sulfamethoxazole, vancomycin, zidovudine.
Incompatible With	Furosemide, pentobarbital, phenobarbital, phenytoin, sodium bicarbonate. Do not mix any other medicines in the same syringe as pancuronium as changes in pH may cause precipitation.

Monitoring	<p>Vital signs and air entry must be monitored prior to administering dose.</p> <p>Onset of action: within 2 mins; duration may be for hours in preterm neonate.</p> <p>Eye lubrication essential.</p>
Stability	Stored at 2-8°C. Discard unused portion once opened.
Storage	Refrigerate at 2-8°C; do not freeze.
Metabolism	30-45% metabolised by liver, 40% excreted unchanged in urine (reduced clearance in renal failure).
Adverse Reactions	<p>Muscle paralysis results in oedema, urine retention (bladder may need catheterisation or expressing), corneal drying (eye care essential), no swallowing of oral secretions.</p> <p>Initial tachycardia and increased blood pressure; may be bradycardia, hyper- or hypotension after repeated doses.</p> <p>Acidosis; hypokalemia; hypermagnesemia</p> <p>Skin rashes; increased noise sensitivity.</p>
Comments	<p>Initial hypoventilation (inhibition of infant's respiratory effort): may need higher airway pressure.</p> <p>Pancuronium should always be used with sedation (eg. morphine infusion).</p> <p>Duration of action increased by:</p> <ul style="list-style-type: none"> • Drugs (aminoglycosides, vancomycin, frusemide, lidocaine, suxamethonium, inhalation anaesthetics, magnesium, diazepam, phenytoin, propranolol and calcium-channel blockers) • Disease states (hypothermia, acidosis, hypokalaemia, hypocalcemia, prematurity, neuromuscular disease, renal and hepatic disease.) <p>Duration of action decreased by:</p> <ul style="list-style-type: none"> • carbamazepine, theophylline, caffeine, adrenaline, alkalosis, hyperkalaemia or hypercalcemia. <p>Antidote:</p> <p>Muscle paralysis may be reversed with neostigmine (60mcg/kg) and atropine (20mcg/kg).</p>
References	<ol style="list-style-type: none"> 1. Trissell's Handbook on Injectable Drugs 10th Edition + www.micromedexsolutions.com 2. www.medsafe.govt.nz 3. Young T.E. et al. Neofax 2000; 130.+ www.micromedexsolutions.com 4. Parfitt K (Ed), Martindale The Extra Pharmacopoeia, 32nd Edition, 1999. 5. Shann F. "Drug Doses" pocket dose guide 1998 (10th Ed.):45.
Updated By	<p>Jan Klimek, Kirsten Simonsen; June 2002.</p> <p>P Schmidt & B Robertshawe August 2005</p> <p>A Lynn, B Robertshawe August 2010</p> <p>A Lynn, B Robertshawe Dec 2012 (re-order profile)</p> <p>A Lynn, B Robertshawe Dec 2021 (COVID supply issues compatibilities)</p>