

VASOPRESSIN (Argipressin) **This drug must be guardrailed**

Trade Name	IV: Pitressin® (Link Pharmaceuticals)						
Class	Antidiuretic hormone analogue						
Mechanism of Action	<p>Vasopressin is a posterior pituitary hormone that stimulates V₂ cells in the kidney resulting in increased water absorption from the distal tubules and collecting ducts leading to decreased urine output. It also stimulates V₁ receptors in the smooth muscle of the walls of peripheral blood vessels resulting in vasoconstriction and promoting an increase in blood pressure.</p> <p>In addition to its vasoconstricting effect vasopressin can also promote vasodilation in some vascular beds due to its effect on oxytocin receptors.</p> <p>Vasopressin also causes increased peristalsis due to stimulation of V₁ receptors in the GI tract</p>						
Indications	<p>Indication 1: Hypotension</p> <p>Indication 2: Pulmonary Hypertension</p> <p>Also indicated for diabetes insipidus and severe gastric bleeding but refer to ANMF ² for dosing in the rare instance this may be required (see comments)</p>						
Contraindications	<p>Hypersensitivity to vasopressin</p> <p>Use with caution in patients with known vascular disease, nephritis,</p>						
Supplied As	<p>IV: 20 units / 1mL vasopressin for injection</p> <p>Clear solution in a glass ampoule (preservative free)</p>						
Dilution	<p>See infusion sheet</p> <p>Draw up 2.5 unit/kg (= 0.125mL/kg) of Vasopressin 20 unit / mL and make up to a final volume of 50 mL with sodium chloride 0.9% or glucose 5% to make a 0.05 units / kg / mL solution</p> <p>1mL/hour = 0.05 units / kg / hr</p>						
Dosage *Must chart guardrail and use Alaris pump*	<p>Indication 1: Hypotension 0.01 - 0.05 units/kg/hour</p> <p>Indication 2: Pulmonary Hypertension 0.01-0.02 units/kg/hour</p> <p>Higher doses would be at the advice of PICU/Starship as this is not a common drug to be used in NICU</p>						
Guardrails	<table border="0"> <tr> <td>Min Concentration: 0.02 units/mL</td> <td>Max Concentration: 1 unit/mL</td> </tr> <tr> <td>Soft Alert Min: 0.01 units/kg/hr</td> <td>Hard Alert Max: 0.1 units/kg/hr</td> </tr> <tr> <td>Soft Alert Max: 0.05 units/kg/hr</td> <td>Default Setting: 0.01 units/kg/hr</td> </tr> </table>	Min Concentration: 0.02 units/mL	Max Concentration: 1 unit/mL	Soft Alert Min: 0.01 units/kg/hr	Hard Alert Max: 0.1 units/kg/hr	Soft Alert Max: 0.05 units/kg/hr	Default Setting: 0.01 units/kg/hr
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Interval	Continuous IV infusion						
Administration	IV infusion						

Compatible With	<p>Solution: glucose 5%, sodium chloride 0.9% - not tested with other IV fluids</p> <p>Terminal Y-site: Acyclovir, adrenaline, amikacin, aminophylline, amiodarone, ascorbic acid, atenolol, atropine, benzyl penicillin, buprenorphine, calcium chloride, calcium gluconate, cefazolin, cefepime, cefotaxime, cefotetan, cefoxitin, cefuroxime, chloramphenicol, ciprofloxacin, clindamycin, dexamethasone, dexmedetomidine, digoxin, dobutamine, dopamine, epoetin alfa, erythromycin, fentanyl, fluconazole, folic acid, ganciclovir, gentamicin, heparin, hydrocortisone, imipenem, lactated ringers, lidocaine, magnesium sulphate, meropenem, methylprednisolone, milrinone, morphine, noradrenaline, octreotide, ondansetron, pamidronate, phenobarbital, phenylephrine, piperacillin/tazobactam, potassium chloride, potassium dihydrogen phosphate, pyridoxine, ranitidine, sildenafil, sodium acetate, sodium bicarbonate, sodium dihydrogen phosphate, thiamine, ticarcillin, tobramycin, vancomycin, voriconazole, zidovudine.</p>
Incompatible With	<p>Amphotericin, diazepam, diazoxide, furosemide, haloperidol, hydralazine, indometacin, insulin, phenytoin, sulphamethoxazole/trimethoprim</p> <p>There is no information on compatibility with TPN and lipid solutions - use a separate line.</p>
Interactions	<p>Alpha and beta -blockers can enhance the hypertensive effects of vasopressin.</p> <p>Desmopressin can increase the hyponatraemic effects of vasopressin.</p> <p>Indometacin can enhance the therapeutic effects of vasopressin.</p> <p>Medicines that are known to cause SIADH e.g. carbamazepine, lamotrigine, phenobarbital, phenytoin, sodium valproate and thiazide diuretics can also increase the therapeutic effects of vasopressin.</p>
Monitoring	<p>Monitor blood pressure, heart rate, fluid balance, urine output and electrolytes, vasopressin can cause hyponatraemia</p>
Stability	<p>Discard any unused solution in the ampoule immediately after use.</p>
Storage	<p>Store in the Fridge at 2 – 8 °C. Protect from light</p>
Adverse Reactions	<p>Fluid retention, rash, pallor, tremor, sweating, headache, nausea, vomiting, abdominal cramps, flatulence and burping, constriction of cardiac blood vessels resulting in angina and myocardial ischaemia, arrhythmias, rhabdomyolysis, bronchial constriction, anaphylaxis.</p>
Metabolism	<p>Onset of action occurs within 15 minutes of starting infusion Metabolised by the liver and excreted by the kidneys</p> <p>Half life = 10 – 20 minutes (adults)</p>

Comments	<p>Note: Outside of NICU, vasopressin is not usually recommended to be given by intravenous infusion and is more commonly administered subcutaneously or intramuscularly.</p> <p>Refer to the Australian National Medical Formulary for dosing for diabetes insipidus, GI bleeding and for other strength recipe infusions https://www.anmfonline.org/clinical-resources/</p>
References	<ol style="list-style-type: none">1. www.uptodate.com2. www.anmfonline.org3. www.nzf.or.nz4. www.micromedexsolutions.com5. BNF for Children 2017
Updated By	A Lynn, B Robertshawe June 2022