RANITIDINE

<table>
<tr><td>Trade Name</td><td>Zantac® (Glaxo smith Kline); Peptisoothe® (AFT)</td></tr>
<tr><td>Class</td><td>H2 receptor antagonist</td></tr>
<tr><td>Mechanism of Action</td><td>Inhibits production of gastric acid</td></tr>
<tr><td>Indications</td><td>Acute upper GI haemorrhage.
Symptomatic gastro-oesophageal reflux oesophagitis.</td></tr>
<tr><td>Contraindications</td><td>Use with caution in patients with severe hepatic or renal dysfunction.
Long-term use may be associated with vitamin B12 deficiency.</td></tr>
<tr><td>Supplied As</td><td>IV: 50mg in 2mL ampoule
Oral: 15mg/mL oral suspension</td></tr>
<tr><td>Dilution</td><td>IV: Dilute to 1mg/mL solution
<table><tr><th>Drug</th><th>0.9% Saline
5/10% Dextrose</th><th>Total Volume</th><th>Concentration</th></tr><tr><td>12.5mg (0.5ml)</td><td>12mL</td><td>12.5mL</td><td>1mg/mL</td></tr></table>If the dose volume is <0.5mL then will need to further dilute before infusing via the T34 pump (see T34 protocol)</td></tr>
<tr><td>Dosage</td><td>IV: < 37 weeks 0.5 mg/kg/dose
≥37 weeks 1.5 mg/kg/dose
Oral: 2 mg/kg/dose</td></tr>
<tr><td>Interval</td><td>IV: < 37 weeks Q12H
≥37 weeks Q8H
Oral: Q8H</td></tr>
<tr><td>Administration</td><td>IV: Slow IV bolus over at least 5 minutes</td></tr>
<tr><td>Compatible With</td><td>Solution: Glucose 5%, glucose 10%, Hartmann’s, sodium bicarbonate 4.2%, sodium chloride 0.9%
Terminal Y site: aciclovir, adrenaline, amikacin, aminophylline, atropine, azithromycin, benzylpenicillin, calcium chloride, calcium gluconate, cefazolin, cefotaxime, cefoxitin, ceftazidime, cefuroxime, dexamethasone, dexmedetomidine, digoxin, dobutamine, dopamine, doxapram, epoetin alpha, erythromycin, fluconazole, folic acid, furosemide, ganciclovir, gentamicin, heparin, hydrocortisone, indomethacin, insulin, magnesium sulphate, meropenem, methylprednisolone, metronidazole,</td></tr>
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	midazolam, milrinone, morphine, noradrenaline, octreotide, pancuronium, paracetamol, penicillin, pentamidine, phenobarbital, piperacillin/tazobactam, potassium chloride, propofol, pyridoxine, tobramycin, vancomycin, vasopressin, zidovudine.
Incompatible With	Amphotericin, diazepam, diazoxide, phenytoin, sulfamethoxazole-trimethoprim. Information on compatibility of ranitidine with TPN and lipid is limited and conflicting, use separate lines if possible.
Interactions	Concurrent treatment with ranitidine and amiodarone may result in increased amiodarone levels. Absorption of ranitidine can be affected by concurrent i of Gaviscon. A two-hour spacing between administration of these two agents is required. Concurrent treatment with ranitidine may decrease the absorption of some medications eg. cefuroxime, diazepam, ferrous sulphate, fluconazole, ketoconazole supplements.
Monitoring	Nil needed, though pH probe may show effectiveness
Stability	**IV:** Discard remaining solution in vial after reconstitution Use a new vial for each dose Discard any unused reconstituted 1mg/mL solution immediately **Oral:** Discard 6 months after opening or manufacturer's expiry whichever is shorter.
Storage	<25 ^{o}C, protect from light
Adverse Reactions	Diarrhoea, headache, rash, Very rarely: blood dyscrasias (leucopoenia, thrombocytopaenia, pancytopenia) pancreatitis, interstitial nephritis, hepatitis, cholestatic jaundice, movement disorders, bradycardia, gynaecomastia.
Metabolism	Half life in neonates/infants = 3.3-6.6hrs. Elimination =30% renal and 70% hepatic

Comments	**March 2022:** The marketing and distribution of all prescription and over-the-counter (OTC) containing ranitidine medicines was discontinued and all stock recalled in July 2020 due to the presence of N-Nitrosodimethylamine (NDMA), which may result in exposure to unacceptable levels of this impurity. This is a worldwide problem. At this point in time there is no information available about if or when ranitidine supply will be resumed. Ranitidine suspension contains ethanol 7.5% w/v. In NICU at CWH when oral management of gastric acid secretion is required omeprazole suspension is the preferred option. Note different interval and dosing for IV vs Oral.
References	1. Trissell Handbook of Injectable Drugs 10th Edition. 2. NZHPA Notes on Injectable Drugs 5th Edition 3. Goodman & Gilman, 7th edition 4. Neofax 11th edition 1998, 206-207 and in www.micromedexsolutions.com 5. Paediatric Research 1989, 25, 4 part 2, Dev Pharmacol Ther, 1989;12:7-12; Arch Dis Child, 1989;63:88-89; J Pediatrics 1989,114;472-474 6. www.anmfonline.org 7. Taketomo et. al. Paediatric & Neonatal Dosage Handbook 19th Edition Lexicomp 2012. 8. www.nzf.org.nz
Updated By	P Schmidt, B Robertshawe, October 2004 A Lynn, B Robertshawe, F Robertson May 2009 (new pumps) A Lynn, B Robertshawe September 2009. June 2010 Guardrail off A Lynn, B Robertshawe Nov 2012 (re-order profile, discard vial) A Lynn, B Robertshawe March 2022 (dose review, update compatibilities, update availability)