# Pantoprazole

**Alert**
Short- and long-term safety data in infants are limited but there have been several safety concerns with long term usage in adults. The bioavailability of the in-house pharmacy suspension made from the contents of the capsule may be less (up to 25% less) than that of the tablet itself. Dose may need to be adjusted if no clinical response.

**Indication**
- Treatment of gastroesophageal reflux disease (GORD)
- Post-operative prophylaxis in congenital tracheoesophageal fistula and oesophageal atresia (role unclear)

**Action**
Proton pump inhibitor (PPI).

**Drug Type**
Proton pump inhibitor

**Trade Name**
- Pantoprazole Sandoz 40 mg Powder for Injection (Sandoz), Somac Injection (Powder for injection) (Takeda Pharmaceuticals)

**Presentation**
- IV: 40 mg/vial of pantoprazole in dry powder form.
- PO: 2 mg/mL dispersion (compounded by Pharmacy) Australia Pharmaceutical Formulary and Handbook formula

**Dosage / Interval**
- IV: 0.5 mg/kg/dose 12 hourly
- PO: 0.6–1.2 mg/kg/dose daily

**Maximum daily dose**
IV, PO

**Route**
- IV, PO

**Preparation/Dilution**
A) IV infusion option: Add 10 mL of sodium chloride 0.9% to 40 mg powder for reconstitution to make a volume of 10 mL with a concentration of 4 mg/mL.
- Draw up 1 mL (4 mg) and add 9 mL of sodium chloride 0.9% to make a final volume of 10 mL with a concentration of 0.4 mg/mL.

B) IV push option: Add 10 mL of sodium chloride 0.9% to 40 mg powder for reconstitution to make a volume of 10 mL with a concentration of 4 mg/mL.

**Administration**
- IV:
  - IV infusion — over 15 min
  - IV push — over at least 2 minutes.

- PO: Give ½ hour before feed. Shake well before use.

**Monitoring**
- Serum magnesium periodically during prolonged therapy.
- Consider transaminase levels

**Contraindications**
- Liver disease.

**Precautions**
Short- and long-term safety data in infants are limited but there have been several safety concerns with long term usage in adults. Current FDA’s maximum recommended duration of therapy of PPIs is up to 8 weeks.

**Drug Interactions**
- Concurrent use of ketoconazole may result in decreased ketoconazole exposure.
- Concurrent use of ampicillin may result in loss of ampicillin efficacy.

**Adverse Reactions**
- Limited data available, though appears well tolerated and to have few side effects. Uncommon reports of nausea, vomiting and skin rash.
- Reported adverse events in adults:
  - Abdominal pain (3% ), diarrhea (4% ), flatulence (4% )
  - Neurologic: Headache (5% )
  - Atrophic gastritis, *Clostridium difficile* diarrhea
  - Haematological: Thrombocytopenia (less than 1% )
  - Immunological: Stevens-Johnson syndrome, toxic epidermal necrolysis
  - Musculoskeletal: Fracture of bone, osteoporosis-related hip fracture, rhabdomyolysis
  - Renal: Interstitial nephritis, acute

**Compatibility**
- Fluids: Glucose 5%, glucose 10%, sodium chloride 0.9%.
- Y site: Acetazolamide, alprostadil, aminophylline, amoxicillin sodium-clavulanate, amphotericin B phospholipid complex, amphotericin B liposomal, ampicillin, azithromycin, ceftriaxone, ganciclovir, imipenem-cilastatin, penicillin G, piperacillin, potassium chloride, theophylline, ticarcillin disodium, ticarcillin disodium-clavulanate.
| **Incompatibility** | Fluids: Amino acid solutions and lipid emulsions. Y site: Atenolol, atracurium, atropine, caffeine citrate, calcium chloride, cefotaxime, dexamethasone, diazepam, dobutamine, ephedrine, fentanyl, fluconazole, hydralazine, indometacin, labetalol, lidocaine, meropenem, methylprednisolone, metronidazole, midazolam, mirilnzone, naloxone, pancuronium, phenytoin, propranolol, ranitidine, rocuronium, vecuronium. |
|**Stability** | IV: Reconstituted solution is stable for 24 hours at 2 to 8°C. Diluted solutions must be used within 12 hours of preparation. Oral: 28 days shelf-life from date of manufacture. |
|**Storage** | IV: Store below 25°C. Protect from light. Oral: Store at 2–8°C. Protect from light. |
|**Special Comments** | Bioavailability of oral dispersion is approximately 75% of intact tablets. |
|**Evidence summary** | As per NMF Consensus Group. Refer to reference manual or electronic version. |
|**References** | As per NMF Consensus Group. Refer to reference manual or electronic version. |

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