

- ▶ Child 12–17 years: 50 mg every 8 hours, dose to be diluted to 20 mL and given over at least 2 minutes, then (by mouth) 150 mg twice daily, may be given when oral feeding commences

Reflux oesophagitis and other conditions where gastric acid reduction is beneficial

▶ BY MOUTH

- ▶ Neonate: 2 mg/kg 3 times a day (max. per dose 3 mg/kg 3 times a day), oral absorption is unreliable.
- ▶ Child 1–5 months: 1 mg/kg 3 times a day (max. per dose 3 mg/kg 3 times a day)
- ▶ Child 6 months–2 years: 2–4 mg/kg twice daily
- ▶ Child 3–11 years: 2–4 mg/kg twice daily (max. per dose 150 mg); increased to up to 5 mg/kg twice daily (max. per dose 300 mg), dose increase for severe gastro-oesophageal disease
- ▶ Child 12–17 years: 150 mg twice daily, alternatively 300 mg once daily, dose to be taken at night, then increased if necessary to 300 mg twice daily for up to 12 weeks in moderate to severe gastro-oesophageal reflux disease, alternatively increased if necessary to 150 mg 4 times a day for up to 12 weeks in moderate to severe gastro-oesophageal reflux disease

▶ BY SLOW INTRAVENOUS INJECTION

- ▶ Neonate: 0.5–1 mg/kg every 6–8 hours.
- ▶ Child: 1 mg/kg every 6–8 hours (max. per dose 50 mg), may be given as an intermittent infusion at a rate of 25 mg/hour

- **UNLICENSED USE** Oral preparations not licensed for use in children under 3 years. Injection not licensed for use in children under 6 months.

- **INTERACTIONS** → Appendix 1: H2 receptor antagonists

● **SIDE-EFFECTS**

GENERAL SIDE-EFFECTS

- ▶ **Rare or very rare** Bone marrow depression · bradycardia · breast conditions · dyskinesia · nephritis acute interstitial · pancreatitis acute · vision blurred
- ▶ **Frequency not known** Dyspnoea

SPECIFIC SIDE-EFFECTS

▶ **Rare or very rare**

- ▶ With parenteral use Anaphylactic shock · cardiac arrest

- **PREGNANCY** Manufacturer advises avoid unless essential, but not known to be harmful.

- **BREAST FEEDING** Significant amount present in milk, but not known to be harmful.

● **RENAL IMPAIRMENT**

- ▶ **Dose adjustments** Use half normal dose if estimated glomerular filtration rate less than 50 mL/minute/1.73 m².

- **DIRECTIONS FOR ADMINISTRATION** For slow intravenous injection dilute to a concentration of 2.5 mg/mL with Glucose 5% or Sodium Chloride 0.9%; give over at least 3 minutes.

- **PATIENT AND CARER ADVICE** In fat malabsorption syndrome, give oral doses 1–2 hours before food to enhance effects of pancreatic enzyme replacement. Medicines for Children leaflet: Ranitidine for acid reflux www.medicinesforchildren.org.uk/ranitidine-acid-reflux

- **EXCEPTIONS TO LEGAL CATEGORY** Ranitidine can be sold to the public for adults and children over 16 years (provided packs do not contain more than 2 weeks' supply) for the short-term symptomatic relief of heartburn, dyspepsia, and hyperacidity, and for the prevention of these symptoms when associated with consumption of food or drink (max. single dose 75 mg, max. daily dose 300 mg).

- **MEDICINAL FORMS** There can be variation in the licensing of different medicines containing the same drug. Forms available from special-order manufacturers include: oral suspension, oral solution, infusion

Tablet

▶ **Ranitidine (Non-proprietary)**

Ranitidine (as Ranitidine hydrochloride) 150 mg Ranitidine 150mg tablets | 60 tablet [PoM] £2.12 DT = £1.07

Ranitidine (as Ranitidine hydrochloride) 300 mg Ranitidine 300mg tablets | 30 tablet [PoM] £2.12 DT = £1.08

▶ **Zantac** (Omega Pharma Ltd, GlaxoSmithKline UK Ltd)

Ranitidine (as Ranitidine hydrochloride) 75 mg Zantac 75 tablets | 24 tablet [P] £5.16 | 48 tablet [P] £7.75 DT = £7.75

Ranitidine (as Ranitidine hydrochloride) 150 mg Zantac 150mg tablets | 60 tablet [PoM] £1.30 DT = £1.07

Ranitidine (as Ranitidine hydrochloride) 300 mg Zantac 300mg tablets | 30 tablet [PoM] £1.30 DT = £1.08

Solution for injection

▶ **Ranitidine (Non-proprietary)**

Ranitidine (as Ranitidine hydrochloride) 25 mg per

1 ml Ranitidine 50mg/2ml solution for injection ampoules | 5 ampoule [PoM] £2.69–£5.00 DT = £2.96

▶ **Zantac** (GlaxoSmithKline UK Ltd)

Ranitidine (as Ranitidine hydrochloride) 25 mg per 1 ml Zantac 50mg/2ml solution for injection ampoules | 5 ampoule [PoM] £2.82 DT = £2.96

Effervescent tablet

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ELECTROLYTES: May contain Sodium

▶ **Ranitidine (Non-proprietary)**

Ranitidine (as Ranitidine hydrochloride) 150 mg Ranitidine 150mg effervescent tablets | 60 tablet [PoM] £36.50 DT = £34.98

Ranitidine (as Ranitidine hydrochloride) 300 mg Ranitidine 300mg effervescent tablets | 30 tablet [PoM] £36.50 DT = £34.98

Oral solution

EXCIPIENTS: May contain Alcohol

▶ **Ranitidine (Non-proprietary)**

Ranitidine (as Ranitidine hydrochloride) 15 mg per

1 ml Ranitidine 75mg/5ml oral solution sugar free sugar-free | 100 ml [PoM] £2.07–£2.43 sugar-free | 300 ml [PoM] £21.55 DT = £6.39

Ranitidine (as Ranitidine hydrochloride) 30 mg per

1 ml Ranitidine 150mg/5ml oral solution sugar free sugar-free | 150 ml [PoM] £5.50–£7.01 DT = £6.83

▶ **Zantac** (GlaxoSmithKline UK Ltd)

Ranitidine (as Ranitidine hydrochloride) 15 mg per 1 ml Zantac 150mg/10ml syrup sugar-free | 300 ml [PoM] £20.76 DT = £6.39

PROTON PUMP INHIBITORS

Proton pump inhibitors

Overview

Omeprazole p. 60 is an effective short-term treatment for gastric and duodenal ulcers; it is also used in combination with antibacterials for the eradication of *Helicobacter pylori*. An initial short course of omeprazole is the treatment of choice in gastro-oesophageal reflux disease with severe symptoms; children with endoscopically confirmed erosive, ulcerative, or strictureing oesophagitis usually need to be maintained on omeprazole.

Omeprazole is also used for the prevention and treatment of NSAID-associated ulcers. In children who need to continue NSAID treatment after an ulcer has healed, the dose of omeprazole should not normally be reduced because asymptomatic ulcer deterioration may occur.

Omeprazole is effective in the treatment of the Zollinger-Ellison syndrome (including cases resistant to other treatment). It is also used to reduce the degradation of pancreatic enzyme supplements in children with cystic fibrosis.

Lansoprazole p. 59 is not licensed for use in children, but may be considered when the available formulations of omeprazole are unsuitable.