

Name(s)

- **Generic:** esomeprazole (es oh ME pray zol) | **Brand:** Nexium

Therapeutic Category: **Proton Pump Inhibitor** | Substituted Benzimidazole

Dosage Form & Strength

- **Delayed Release (DR) Capsules:** 10 mg, 20 mg, 40 mg | **DR Granules:** 20 mg/packet, 40 mg/packet

Indication(s) & Dosing: ADULTS

1. **GERD:** Used in maintenance & tx for: **(1) Symptomatic, non erosive; (2) Erosive esophagitis; & (3) maintenance tx.**
 - (1) 20 mg PO/NG qd for 4-8 wks OR 20 mg IV qd up to 10 days.
 - (2) 20-40 mg PO/NG qd for 4-16 wks OR 20-40 mg IV qd up to 10 days.
 - (3) 20 mg PO/NG qd.
2. **H. pylori infection:** Part of multi-drug regimen (triple or quadruple regimen).
 - Triple regimen: esomeprazole + Clarithromycin + (amoxicillin OR metronidazole) x 14 days
 - **Esomeprazole 20-40 mg bid**
 - Clarithromycin 500 mg bid + (amoxicillin 1 g bid OR metronidazole 500 mg tid)
 - Quadruple regimen: esomeprazole + tetracycline + metronidazole + bismuth x 10-14 days
 - **Esomeprazole 20 mg bid**
 - Tetracycline 500 mg bid + metronidazole (250 mg qid OR 500 mg 3-4 time daily) + bismuth (subcitrate 120-300 mg qid OR subsalicylate 300 mg qid).
3. **Hypersecretory conditions:** Various and individualized tx for conditions such as Zollinger-ellison syndrome.
 - Initiate 40 mg PO/NG bid. Up to 240 mg/day have been used.
4. **NSAID-associated gastric ulcer prophylaxis:** 20-40 mg PO/NG qd for up to 6 months.
5. **Post-endoscopy gastric/duodenal ulcer rebleeding prevention:** 80 mg IV for 1 dose. Then 8 mg/h IV x 71.5h.
- OFF LABEL | Barrett esophagus; Dyspepsia; Peptic ulcer disease; & Stress ulcer prophylaxis in critically ill

Indication(s) & Dosing: PEDIATRICS

1. **GERD:** Used in maintenance & tx. **(1) Symptomatic, non erosive & (2) Erosive esophagitis**
 - (1) **1-11 years:** 10 mg PO/NG qd for up to 8 wks. | **12-17 years:** 20 mg PO/NG qd for up to 8 wks.
 - (2) Route, age, & weight based:
 - **PO | 1-11 mo | 7.6-12 kg:** 10 mg PO/NG qd for 6 wks.
 - **PO | 1-11 yo | <20 kg:** 10 mg PO/NG qd for 8 wks.
 - **PO | 1-11 yo | >20 kg:** 10-20 mg PO/NG qd for 8 wks.
 - **PO | 12-17 yo:** 20-40 mg PO/NG qd for 4-8 wks.
 - **IV | 1-11 mo:** 0.5 mg/kg/dose IV qd for up to 10 days.
 - **IV | 1-17 yo | <55 kg:** 10 mg IV qd for up to 10 days.
 - **IV | 1-17 yo | >55 kg:** 20 mg IV qd for up to 10 days.
2. **H. pylori infection:** Part of multi-drug regimen. >15 min before meals (ac). May open caps.
 - **15-24 kg:** 20 mg PO/NG qd for 10-14 days. | **25-34 kg:** 30 mg PO/NG qd for 10-14 days. | **>35 kg:** 40 mg PO/NG qd for 10-14 days.



Mechanism of Action & Pharmacology

- **MOA:** Gastric acid secretion is suppressed through parietal cell inhibition of hydrogen-potassium ATPase. Esomeprazole is the S-isomer of omeprazole (Prilosec)
- **Metabolized** hepatically primarily via the CYP2C19 pathway and to a lesser extent the CYP3A4 pathway. It is a prodrug that is converted to an active sulfenamide form. | 80% is **excreted** in the urine primarily as inactive metabolites with the other 20% excreted fecally. | **Time to peak** in infants is ~3 hours; in children 1-5 years ~1.33-1.44 hours; in 6-11 years increases to 1.75-1.79 hours; in ≥12 years to adolescents ≤17 years ~1.96-2.04 hours; and in adults ~1.5-2 hours | **Half-Life Elimination:** Infants (0.93 hours); 1-5 years (0.42-0.74 hours); 6-11 years (0.73-0.88 hours); ≥12-≤17 years (0.82-1.22 hours); adults (1-1.5 hours)

Special Populations & Considerations

- **Hepatically impaired** (Severe): AUC was 2-3 times higher. Generally max of 20 mg/day unless Child-Pugh Class A or B (6 mg/h) or Child-Pugh Class C (max 4 mg/h) | **Renally impaired:** No adjustments needed. | **Elderly:** AUC (↑25%) and Cmax (↑18%). | **Gender:** AUC and Cmax ~13% higher in women compared to men. | **Pregnancy:** Crosses placenta. GERD recommendations are available and most current data should be consulted.

Side Effects: **General:** Headache and abdominal pain. | **Others:** Fatigue, dry mouth, n/v/d, passing gas, & constipation

Drug Interactions

- **General:** Clopidogrel, high dose methotrexate, rifampin, St John's wort.
- Since esomeprazole decreases stomach acid it alters how well other drugs may work. For example, **amphetamine** absorption may ↑, serum concentrations of drugs may ↓ (**atazanavir, cefpodoxime, & cefuroxime**); or **clopidogrel's** antiplatelet effects may ↓.

Monitoring Parameters

- When used in H. Pylori treatment, **susceptibility testing** is recommended. | Monitor for **rebleeding** in peptic ulcer patients. | **Mg levels** in pts on prolonged therapy with **digoxin & diuretics** or other drugs that may cause hypomagnesemia.

Patient Counseling Information

- Esomeprazole is used to treat: (1) GERD & acid reflux; (2) Ulcers caused by infections, swallowing tubes, or that are NSAID-induced; (3) and other stomach acid related syndromes.
- Doses are given greater than **1 hour before meals** (ac). Best if taken before breakfast. **Caps may be opened.**

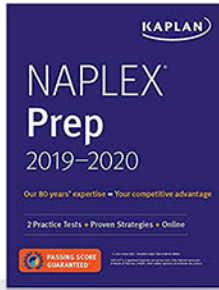
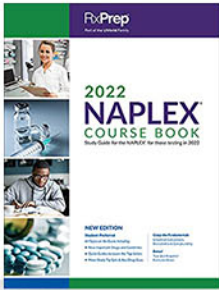
Reference(s)

- <https://online.epocrates.com/drugs/233810/esomeprazole/Monograph>
- <https://www.drugs.com/ppa/esomeprazole.html>
- <https://www.webmd.com/drugs/2/drug-20537-4143/esomeprazole-magnesium-oral/esomeprazole-delayed-release-capsule-oral/details>

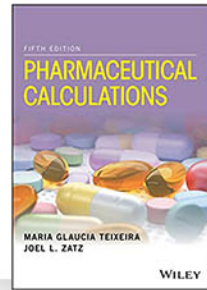
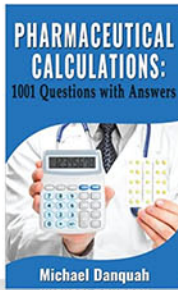
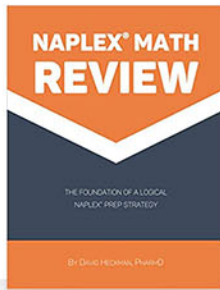
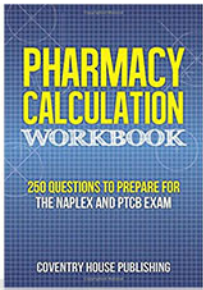


PREPARE FOR SUCCESS!

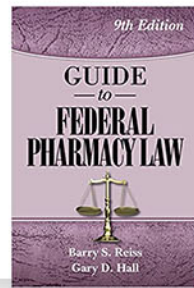
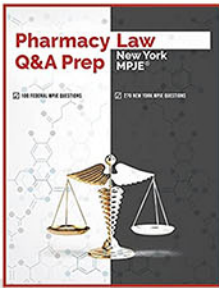
Comprehensive (NAPLEX)



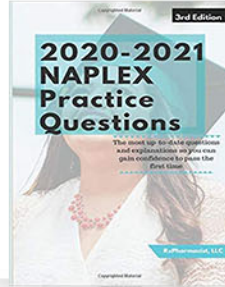
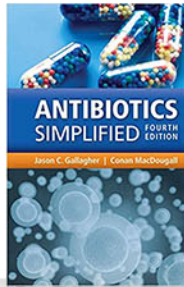
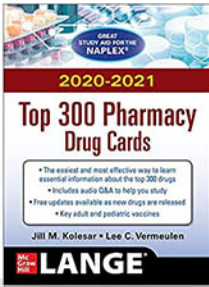
Calculations (NAPLEX)



Pharmacy Law (MPJE)



Supplemental



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Here are some NAPLEX & MPJE prep recommendations to help you do everything you can to **pass the first time!**

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This helps focus your learning and the repetition helps to retain info and indirectly prepare you for the NAPLEX



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