Medical Policy

Utilization Management and Clinical Medical Policy

Policy Name:	Policy Number:	Scope:	Origination Date:	Frequently Revision:
Proton Pump Inhibitors (PPIs) - Intravenous Administration in Home Setting	**MP-ME-FP-07-25**	☒ **MMM MA** ☒ **MMM MultiHealth**	**08/22/2025** **Last Review Date:** **08/22/2025**	**Annual** **Page: 1 of 9**

Service Category:

☐ Anesthesia
☐ Surgery
☐ Radiology Procedures
☐ Pathology and Laboratory Procedures
☒ Medicine Services and Procedures
☐ Evaluation and Management Services
☐ DME/Prosthetics or Supplies
☐ Other: _____

Service Description:

This policy addresses the administration of intravenous proton pump inhibitors (PPIs) in the home setting for the management of gastrointestinal conditions that require acid suppression therapy when oral administration is not feasible or effective.

PPIs included under this policy are:

- Pantoprazole (Protonix®)
- Esomeprazole (Nexium®)
- Omeprazole (Omezol Lyo- Injection®)

General note:
Any use of the medicines listed in this policy that does not correspond to the expressly established indications must be evaluated in accordance with the Medical Policies in force and/or the pre-authorization criteria defined by the Pharmacy Department.

Background Information:

Proton pump inhibitors (PPIs) reduce the production of acid by the stomach. They work by irreversibly blocking an enzyme called H+/K+ ATPase that controls acid production. This enzyme is also known as a proton pump and is found in the parietal cells of the stomach wall.

Currently, the U.S. Food and Drug Administration (FDA) approves intravenous PPIs for the treatment of patients who cannot tolerate oral medications due to complicated erosive esophagitis and in patients with Zollinger-Ellison syndrome (ZES) with pathological hypersecretory states. In real-life practices, the use of intravenous PPIs is much more widespread. The decision to administer IV PPIs depends on several factors, including the patient's ability to swallow, gastric motility, transport, and intestinal permeability [1]. Proton pump inhibitors are widely used around the world for the treatment of gastrointestinal disorders related to acid secretion, such as peptic ulcer and dyspepsia. Another common indication for proton pump inhibitors is stress ulcer prophylaxis. Proton pump inhibitors have been shown to be effective for the treatment of acid-related gastrointestinal disorders, but there are concerns that their use may be associated with the development of significant complications, such as Clostridium difficile infection, acute kidney injury, chronic kidney disease, and hypomagnesemia [1].

Therapeutic Advances in gastroenterology conducted a study that has shown that proton pump inhibitors (PPIs) are superior to H2 receptor antagonists (H2RAs) in reducing the risk of rebleeding and the need for surgery in patients with bleeding peptic ulcers, although no significant impact on all-cause mortality has been observed. In terms of pharmacodynamics, administration of PPIs orally, intravenous bolus, or continuous intravenous infusion appears to be equipotent in achieving intragastric pH elevation when equivalent doses and intervals are used. However, intravenous infusion can achieve this goal more quickly, and combining PPIs with antacids such as baking soda could further accelerate this effect. In the clinical setting, the strategy of administering an 80 mg intravenous bolus followed by a continuous infusion of 8 mg/h over 72 hours, in combination with endoscopic therapy, has shown the lowest rates of rebleeding in high-risk peptic ulcers. Although oral PPIs and intravenous boluses could be equally effective as continuous infusion, further studies are required to validate these alternatives as equivalent in efficacy [1].

An article published by: Sandy H Pang & David and Graham: Clinical Guideline for the Intravenous Use of Proton Pump Inhibitors in Reflux and Peptic Ulcers details the following [1]:

Post-endoscopy intravenous proton pump inhibitor (PPI):
Therapy has been shown to be highly effective in preventing rebleeding in patients with peptic ulcers who present with high-risk bleeding stigmata. Several studies have documented that the combination of endoscopic hemostasis with a continuous infusion of intravenous PPIs significantly reduces rebleeding rates compared to placebo or lower doses. A pivotal study by Lau et al. (2000) evaluated patients who, following successful endoscopic hemostasis, were randomized to receive a bolus of 80 mg of intravenous omeprazole followed by a continuous infusion of 8 mg/h for 72 hours, or an equivalent placebo regimen. The results showed a significant reduction in the rebleeding rate in the PPI infusion group (6.7%) compared to the placebo group (22.5%) ($p < 0.001$). These findings were consistent with the results observed by Zargar et al. (2006), who also confirmed that high-dose PPI infusion, following endoscopic treatment, is the most effective strategy to prevent rebleeding in this high-risk group.

IV PPI in peptic ulcers with adherent clots:
The management of peptic ulcers with adherent clots remains an area of clinical uncertainty, as there is no definitive consensus on the best therapeutic approach. Factors such as the size of the clot, the location of the ulcer, the potential risk of causing active bleeding during the procedure, and the experience of the endoscopist should be carefully considered when making therapeutic decisions. In these cases, intravenous proton pump inhibitors (PPIs) may be used as part of a conservative or complementary strategy to endoscopic intervention

Intravenous PPIs in the Prophylaxis of Stress-Induced Ulcers:
Regarding the prophylactic use of intravenous PPIs for the prevention of stress-induced ulcers, their administration should be limited to patients with documented high-risk factors, such as respiratory failure requiring mechanical ventilation or coagulopathy. The indiscriminate use of IV PPI prophylaxis in low-risk patients is not supported by current evidence and may expose to unnecessary adverse effects.

IV PPI in gastroesophageal reflux disease
Intravenous and oral PPIs appear to be equally effective in suppressing gastric acid and are useful in patients who have severe erosive esophagitis and cannot tolerate oral therapy. Intravenous infusion of PPIs can cure erosive esophagitis in a matter of days. Its clinical benefit over PPIs in IV bolus is still unknown.

Intravenous PPI:
Intravenous PPIs may be helpful in the preoperative period or in patients who cannot tolerate oral therapy . Switching from oral PPI to IV is safe. Most patients require 160 mg intravenously daily (80mg BID) Some may require 240 mg intravenously daily.

IV BP and adverse events.
Intravenous PPI has been associated with the development of nosocomial pneumonia in critically ill patients and has also been linked to the development of PBS in cirrotics. Intravenous PPIs in these patients should be used with caution and their indications should be reviewed frequently, as PPI treatment is often inappropriately continued.

Medicare Benefit Policy Manual:
The Centers for Medicare & Medicaid Services (CMS) allows coverage for the IV home service as broken down in Chapter 7: Home Health Services Therapies and indicates that the service have medically necessary, clinically appropriate, and included

in a plan of care supervised by a qualified provider. According to the Medicare Benefit Policy Manual, Chapter 7, intravenous, intramuscular, subcutaneous, hypodermoclysis, or nutrition medication administration services parenteral in home setting They require the involvement of qualified clinical staff, such as a registered nurse, for safe and effective administration or teaching [10-11].

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Medical Necessity Guidelines:

Th indications for IV administration of PPIs in the home setting at short time should be supported by documented medical necessity, and its administration should be carried out according to standardized protocols for preparation, surveillance, and transition to oral therapy [10-11]. It is considered medically necessary when it meets the following:

A. Conditions Patient Must Meet to Qualify for Coverage of Home Health Services [10]:
- Being homebound **and**;
- Under the care of a physician or licensed professional **and**;
- Receive services under an established plan of care and regularly reviewed by a physician or licensed professional **and**;
- Needing skilled nursing care intermittently **and**;

B. Documented diagnosis of an indicated condition that requires a PPI's [11] **and**;

C. Medical reason that prevents the medication from being taken by mouth [11] **and;**

D. Presentation of the Medication as indication for administration:

Medication (generic-brand)	Indication and usage	Dosage and administration	Source
Pantoprazole sodium - Protonix®	Zollinger-Ellison Syndrome or other neoplastic conditions.	• Recommended adult dose: 40 mg pantoprazole once daily by intravenous infusion. • Treatment duration: 7 to 10 days. • Discontinue PROTONIX® I.V. as soon as the patient can switch to oral therapy (Delayed-Release Tablets or Oral Suspension).	FDA Label [4]
Esomeprazole sodium - Nexium®	Indicated for short-term treatment of GERD with erosive esophagitis in adults and pediatric patients aged 1 month to 17 years, when oral NEXIUM® is not possible or appropriate. • Indicated for Zollinger-Ellison syndrome in adults. • NEXIUM® delayed-release oral suspension is indicated for: • Short-term healing of erosive esophagitis (EE) in pediatric patients aged 1 to 11 years. • Short-term treatment of EE due to acid-mediated GERD in pediatric patients aged 1 month to less than 1 year. • Short-term treatment of heartburn and other associated symptoms.	• **Adults with GERD and erosive esophagitis**: 20 mg or 40 mg esomeprazole once daily via IV injection (≥3 minutes) or IV infusion (10–30 minutes). • **Pediatric patients (1 year to 17 years)**: • <55 kg: 10 mg once daily by IV infusion (10–30 minutes) • ≥55 kg: 20 mg once daily by IV infusion (10–30 minutes) • **Infants (1 month to <1 year)**: 0.5 mg/kg once daily by IV infusion (10–30 minutes)	FDA Label [5]
Omeprazole Sodium -	Alternative therapy when oral treatment is not effective or possible. • Indicated for:	Use IV omeprazole only when oral medication is inappropriate (e.g., severely ill patients).	FDA Label [6]

Omezol Lyo-Injection®	• Duodenal ulcer • Gastric ulcer • Ulcerative esophagitis • Zollinger-Ellison syndrome	• Standard dose: 40 mg once daily. • Zollinger-Ellison syndrome: dose should be individualized based on response. • Reconstitute OMEZOL Lyo-Injection® with 10 mL of the provided solvent only. • Do not use other infusion solutions. • Incorrect reconstitution may cause discoloration. • Administer over at least 2.5 minutes, at a rate not exceeding 4 mL/min.	

Not Medical Necessity:

Home administration of proton pump inhibitors (PPIs) will **not be considered medically necessary** in the following circumstances:

1. Availability of functional oral route: When the patient can tolerate and absorb medications orally safely and effectively.
3. Conditions not related to gastric hypersecretion or without a validated diagnosis.
4. Request based solely on patient preference or logistical convenience, with no clinical judgment justifying home IV administration.

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Limits or Restrict

1. The most recent National *Home Infusion Association (NHIA)* listing of appropriate medications for home intravenous therapy, only IV pantoprazole is included as an accepted option for home infusion among proton pump inhibitors (PPIs). Therefore, the use of IV esomeprazole or IV omeprazole in the home setting will require additional clinical justification and its use should document the lack of response or contraindication to IV pantoprazole.
2. This service requires going through the pre-screening and pre-determination process.
3. Table of contraindication and warnings / precautions:

Medication (generic-brand)	Contraindication	Warnings and precautions	Source
Pantoprazole sodium - Protonix®	Known hypersensitivity to any component of the formulation or to substituted benzimidazoles.	• Symptomatic response to therapy with pantoprazole does not preclude the presence of gastric malignancy. • Thrombophlebitis is associated with the administration of intravenous for PROTONIX® I.V. pantoprazole • Hypomagnesemia has been reported rarely with prolonged treatment with PPIs.	FDA Label [4]
Esomeprazole sodium - Nexium®	Patients with known hypersensitivity to any component of the formulation or to substituted benzimidazoles (angioedema and anaphylaxis have occurred)	• Symptomatic response to therapy with NEXIUM® does not preclude the presence of gastric malignancy. • Atrophic gastritis has been noted with long-term omeprazole therapy. • PPI therapy may be associated with increased risk of Clostridium difficile associated diarrhea. • Bone Fracture: Long-term and multiple daily dose PPI therapy may be associated with an increased risk for osteoporosis-related fractures of the hip, wrist or spine.	FDA Label [5]
Omeprazole Sodium - Omezol Lyo-Injection®	Omeprazole is contraindicated in patients with known hypersensitivity to the drug or any ingredient in the formulation.	• Rule out malignancy before using omeprazole in patients with gastric ulcers, as it may mask symptoms and delay diagnosis. • Omeprazole may inhibit hepatic cytochrome P-450, increasing plasma levels of diazepam, phenytoin, and warfarin.	FDA Label [6]

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Codes Information:

ICD-10 Diagnostic Codes:

Codes	Description
K25.0	Acute gastric ulcer with hemorrhage
K31.84	Zollinger-Ellison syndrome
R11.2	Nausea with vomiting
K21.0	GERD with esophagitis
Z98.890	Postoperative digestive state
D13.1	Benign neoplasm of stomach/duodenum

HCPCS Codes:

Codes	Description
n/a	n/a

CPT Codes:

Codes	Description
J2550	Injection, pantoprazole sodium, 40 mg
J3490	Drug unclassified (if applicable)
A4221	Infusion supplies (if part of the bundle)
S9329	Home infusion therapy, anti-ulcer drugs, per diem
99601	Home infusion, per visit (initial)
99602	Home infusion, each additional hour
96365	Intravenous infusion, for therapy, prophylaxis, or diagnosis; initial, up to 1 hour
96368	Concurrent infusion (for multiple substances)
96374	Therapeutic, prophylactic or diagnostic injection; IV push, single or initial substance/drug

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11. Centers for Medicare & Medicaid Services. Medicare Benefit Policy Manual, Pub. 100 02, Chapter 7 – Home Health Services; section 40.1.2.4 Administration of Medications (Rev. 1, 10 01 03). Baltimore: CMS.

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Policy History:

Type of Review	Summary of Changes	P&T Approval Date	UM/CMPC Approval Date
Superseded	This policy, MP-ME-FP-07-25, supersedes version MP-ME-FP-03-24, which is archived for reference and/or auditing purposes. The policy was completely replaced to align with updated drug labeling and CMS guidelines. All sections, including medical necessity criteria, limitations, exclusions, and references, were replaced, updated, and formatted according to appropriate citation standards. The content was thoroughly reviewed to ensure clarity, consistency, and compliance with current clinical and regulatory standards.	Not Required	**08/22/2025**