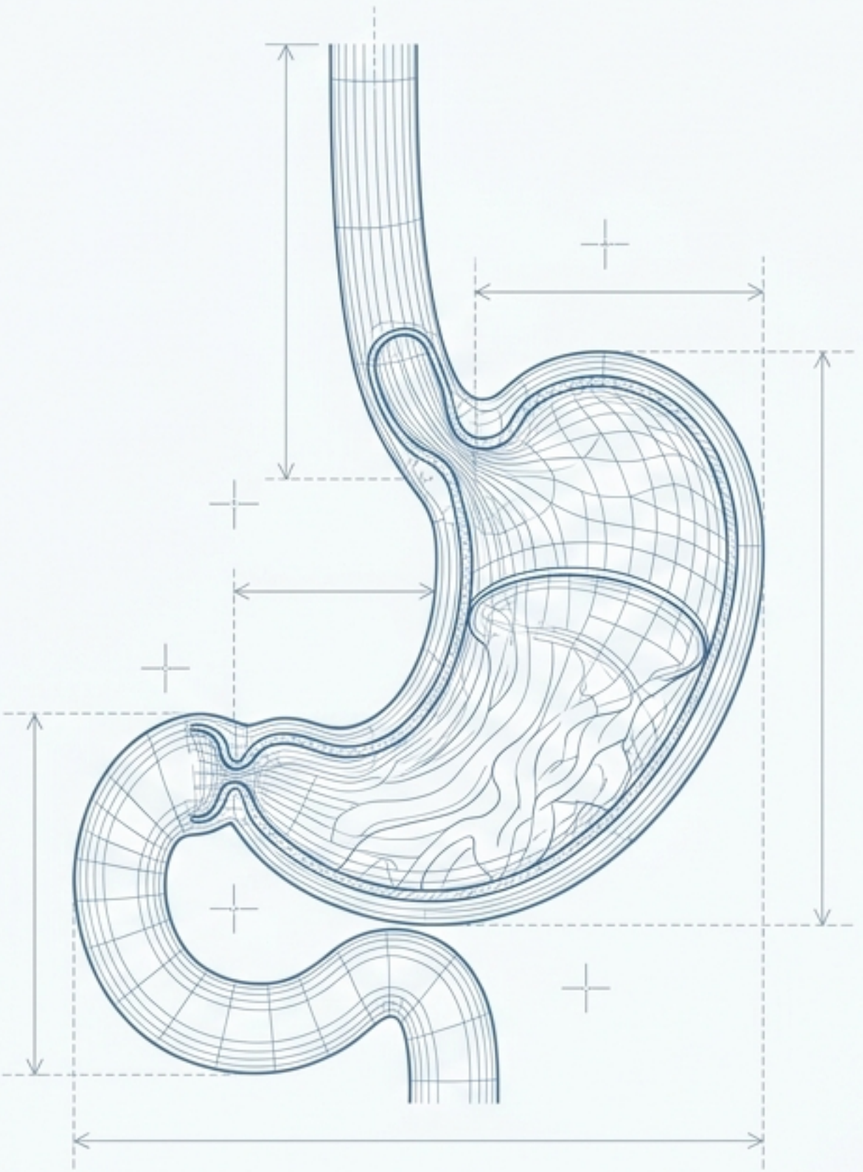
# THE GERD CLINICAL BLUEPRINT

## An Algorithmic Approach to Gastro-oesophageal Reflux Disease in Australian Primary Care

---

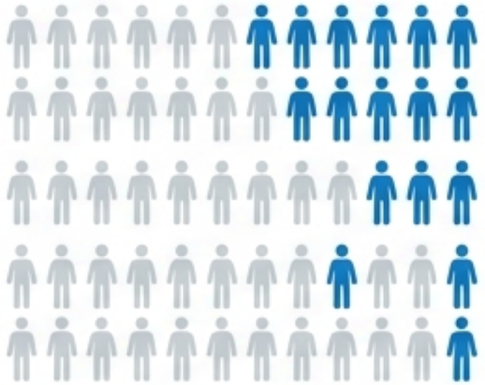
**Adapted from** Med2Date Clinical Guidelines

**Target Audience:** General Practitioners, Trainees, and Allied Health



# THE BURDEN OF DISEASE: GERD IN AUSTRALIA

## PREVALENCE



**10–15%**

of Australian adults experience at least weekly symptoms (up to 30% monthly).
Peak age: 45–65 years.

## PRESCRIPTION VOLUME

**> 11 MILLION**

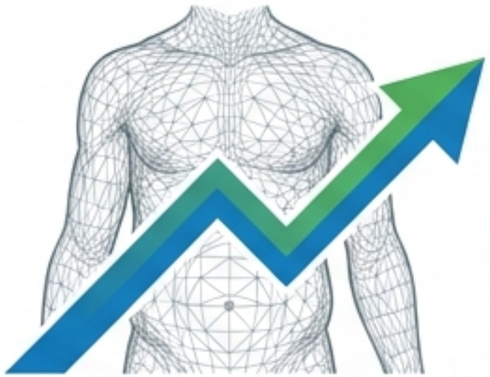
PBS prescriptions for Proton-Pump Inhibitors (PPIs) dispensed in 2022–23.

## CLINICAL INERTIA


**40%**

of Australians use PPIs beyond the recommended treatment duration without documented reassessment.

## KEY TREND



**~31%**

National adult obesity rate. Presentations are expected to rise in parallel with this modifiable risk factor.

# ANATOMICAL RISK FACTORS & THE ANTI-REFLUX BARRIER

## CONNECTIVE TISSUE DISEASE

e.g., Scleroderma

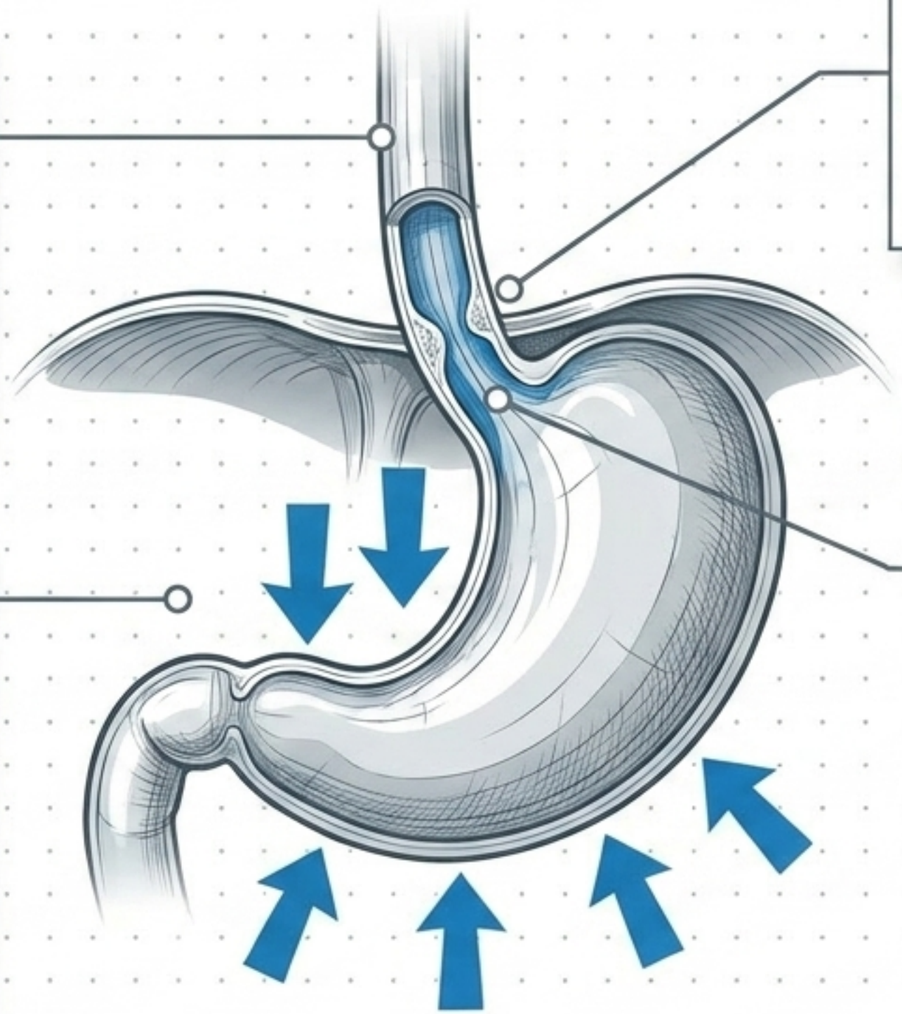
Mechanism: Severe dysmotility impeding acid clearance.

## OBESITY & PREGNANCY

Mechanism: Increased intra-abdominal pressure.

BMI ≥ 30 carries OR 2.0–3.0 for symptoms.

Affects up to 80% of 3rd-trimester pregnancies.



## SMOKING

~10% daily smoking prevalence.

Mechanism: Reduces LOS tone and relaxation frequency.

## HIATAL HERNIA

Disrupts anti-reflux barrier; found in ~60% of erosive GERD cases.

# CLINICAL PRESENTATION: TYPICAL VS. ATYPICAL

## TYPICAL SYMPTOMS

(80-90% Specificity)

- **Heartburn**: Retrosternal burning, postprandial, worse supine.
- **Regurgitation**: Effortless return of sour/bitter contents.
- **Water Brash**: Sudden hypersalivation.

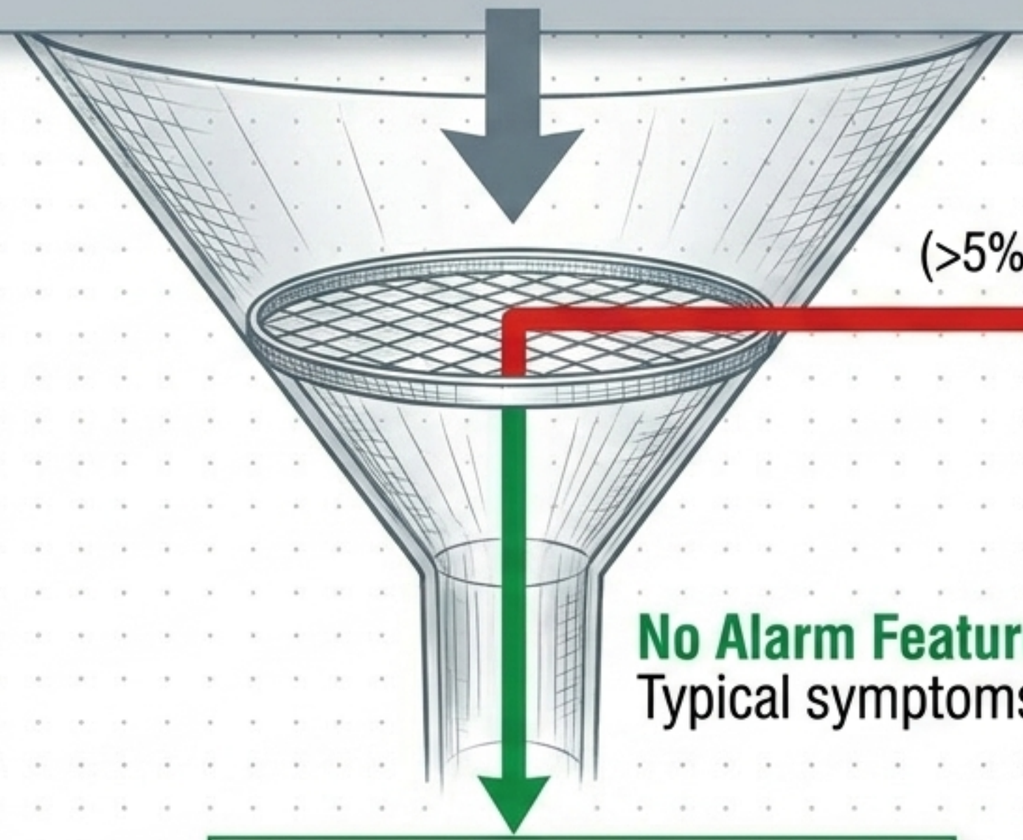
## ATYPICAL / EXTRA-OESOPHAGEAL

(Require longer 8-12 week empiric PPI trial)

- **Chronic cough** (especially nocturnal; GERD causes ~25% of referrals).
- **Laryngitis** / Hoarseness / Globus sensation.
- **Non-cardiac chest pain** (Exclude cardiac causes first via ECG/Troponin; GERD causes 30-60%).
- **Worsening asthma** (Vagal reflex bronchospasm).
- **Dental erosions**.

# THE DIAGNOSTIC TRIAGE FUNNEL

Patient presents with reflux symptoms.



**Alarm Features Present:** Dysphagia, Odynophagia, Unintentional Weight Loss (>5% in 6 mo), GI Bleeding/Anaemia, Recurrent Vomiting.

**STOP.** Do NOT prescribe empiric PPI. Refer for Urgent Endoscopy within 2 weeks (Category 2). MBS Item: 30473.

**No Alarm Features:** Typical symptoms only.

Proceed to 4–8 week empiric standard-dose PPI trial.

# DIFFERENTIATING GERD FROM MIMICS

| Condition | Key Distinguishing Features | Definitive Diagnostic Approach |
|---|---|---|
| Functional Dyspepsia (Rome IV) | Epigastric burning, early satiety, postprandial fullness (no heartburn/regurgitation). | Clinical criteria; H. pylori test-and-treat. |
| Eosinophilic Oesophagitis | Young male, dysphagia, food bolus, atopic history, PPI non-response. | Endoscopy with biopsies (≥ 15 eos/HPF). |
| Cardiac Chest Pain | Exertional, dyspnoea, diaphoresis. | ECG, troponin, cardiology referral. |
| Peptic Ulcer Disease | Epigastric pain, nocturnal, relieved by food/antacids, NSAID use. | Endoscopy, H. pylori testing. |
| Gastroparesis | Nausea, vomiting, bloating, diabetic/post-surgical context. | Gastric emptying scintigraphy. |

# NON-PHARMACOLOGIC THERAPY: THE LIFESTYLE FOUNDATIONS

## TOP TIER (STRONGEST EVIDENCE)

1

### WEIGHT LOSS

Normalizing BMI drops GERD odds ratio from ~2.5 to ~1.3. A 10% weight reduction is clinically transformative.

2

### BED ELEVATION

Raise head of bed by 15–20 cm (blocks/wedge, NOT just pillows). Reduces acid clearance time.

3

### MEAL TIMING

Strict avoidance of food 2–3 hours before supine sleeping.

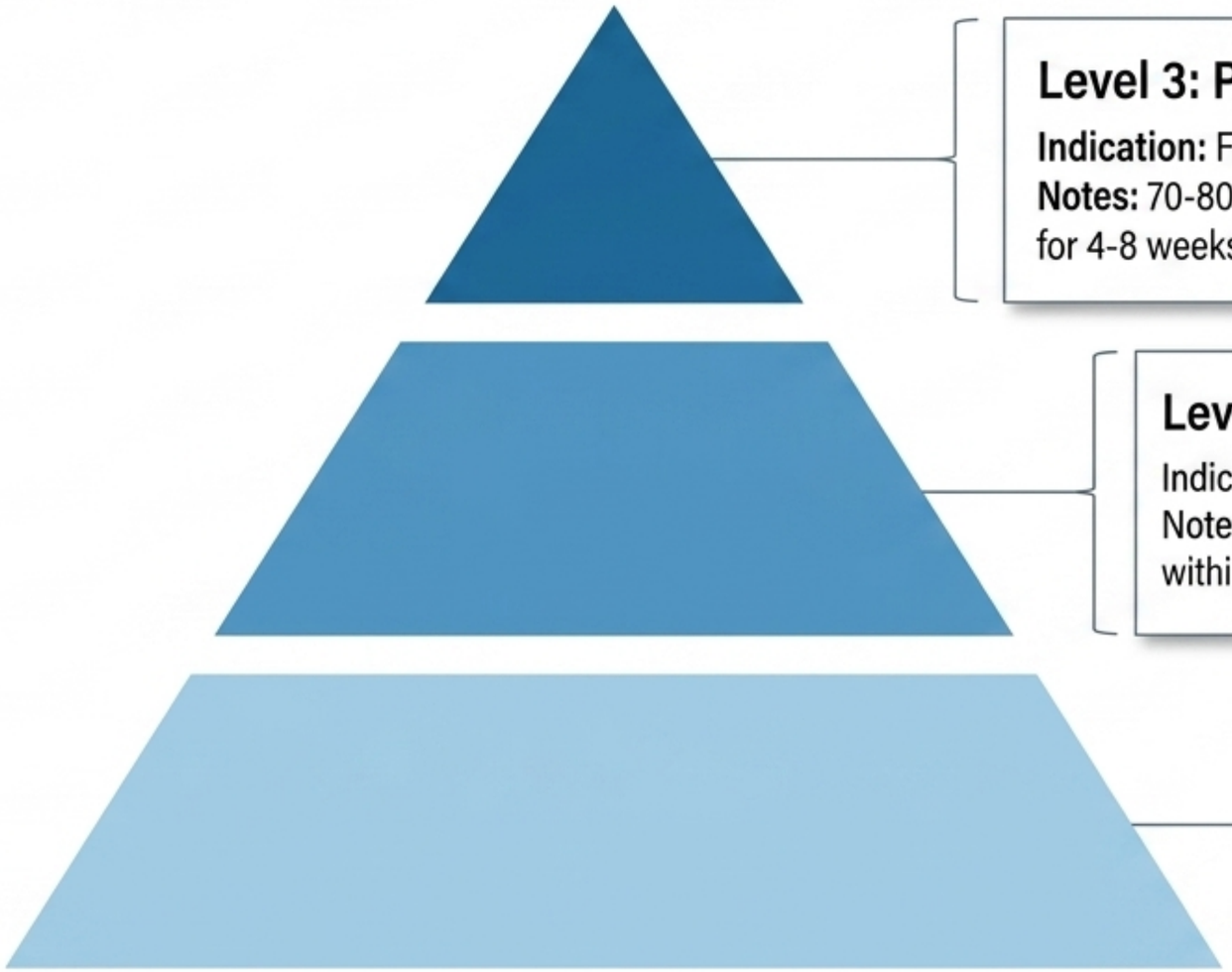
## SECONDARY ADJUNCTS

- Smoking cessation (Quitline 13 7848).
- Left lateral decubitus sleeping posture.
- Alcohol reduction (≤ 10 standard drinks/week).
- Trigger avoidance (identify via food diary rather than universal restriction of spicy/acidic foods).

# IATROGENIC TRIGGERS: MEDICATION REVIEW

| Drug Class | Mechanism | Action |
| --- | --- | --- |
| Calcium-channel blockers (amlodipine) | Reduces LOS tone. | Consider ARB/ACEi. |
| Nitrates | Reduces LOS tone. | Often unavoidable; counsel and increase PPI. |
| NSAIDs / Aspirin ⚠ | Mucosal irritation/injury. | Use with food; consider topical or paracetamol; co-prescribe PPI. |
| Anticholinergics | Impairs motility / LOS tone. | Lowest effective dose. |
| Bisphosphonates (alendronate) ⚠ | Direct oesophageal injury. | Strict upright posture; consider denosumab. |
| Theophylline | Reduces LOS tone. | Consider alternative bronchodilators. |

# THE PHARMACOLOGIC STEP-UP APPROACH



## Level 3: Proton-Pump Inhibitors

**Indication:** First-line for Moderate-Severe GERD / Typical symptoms.
**Notes:** 70-80% symptom relief in erosive disease. Standard-dose once daily for 4-8 weeks.

## Level 2: $H_2$-Receptor Antagonists

Indication: Mild-moderate symptoms or nocturnal acid breakthrough.
Notes: Famotidine 20mg BD or 40mg nocte. Beware tachyphylaxis within 2-6 weeks of regular use. Ranitidine discontinued.

## Level 1: Antacids & Alginates (Base)

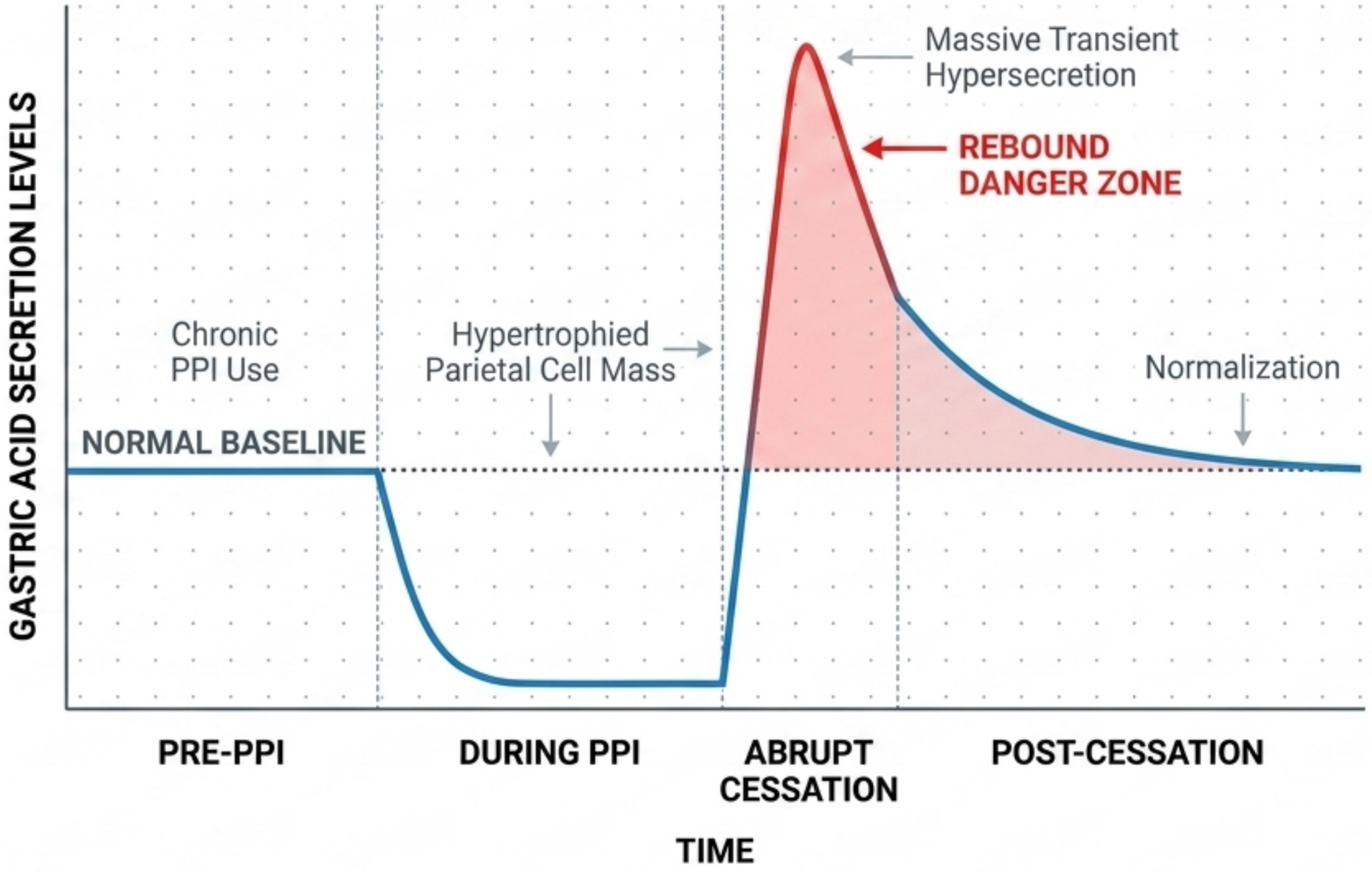
Indication: Mild/Intermittent symptoms.
Mechanism: Short-lived relief; alginates form a physical raft.
Notes: Over-the-counter only (~$8-15).

# THE PRESCRIBER'S DASHBOARD: AUSTRALIAN PBS OPTIONS

**TIMING IS CRITICAL:** Take 30–60 minutes before breakfast. PPIs only bind to active proton pumps (activated by food).

| DRUG | PBS STATUS | ADULT DOSE | RENAL/HEPATIC NOTES | KEY PEARLS |
|---|---|---|---|---|
| Omeprazole | PBS Gen Benefit | 20mg OD (40mg for erosive) | Hepatic: Reduce in severe impairment | Reduces clopidogrel absorption |
| Esomeprazole | PBS Gen Benefit | 20mg OD (40mg erosive/H. pylori) | Hepatic: Max 20mg if severe | - |
| Pantoprazole | PBS Gen Benefit | 40mg OD (20mg maintenance) | Hepatic: Max 20mg if severe | Safest with clopidogrel |
| Lansoprazole | PBS Gen Benefit | 15-30mg OD | Hepatic: Caution in severe | - |
| Rabeprazole | PBS Gen Benefit | 20mg OD (10mg maintenance) | - | - |
| Famotidine (H2RA) | PBS Gen Benefit | 20mg BD / 40mg nocte | Renal: Reduce 50% if CrCl < 30 | - |

# THE BIOLOGY OF DEPRESCRIBING: REBOUND HYPERSECRETION




## THE MECHANISM

PPIs induce physiological hypergastrinemia. Abrupt cessation unmasks a hypertrophied parietal cell mass, leading to **massive transient acid hypersecretion**.

## THE CLINICAL RISK

Rebound symptoms often convince both patient and doctor that the GERD has "returned," leading to unnecessary lifelong prescribing.

## THE SOLUTION

Tapering is biologically necessary. Taper over 2–4 weeks (reduce dose by 50% → alternate days → PRN $H_2$RA) to **allows parietal cell mass to normalize**.

# THE STEP-DOWN PROTOCOL & LONG-TERM MANAGEMENT

**PHASE 1: INITIAL TRIAL**
(Weeks 1-8)

Assess symptom response. If partial, check adherence/timing.

**PHASE 2: STEP DOWN**
(Weeks 8-12)

Reduce to half-dose PPI or switch to once-daily $H_2$RA. Assess for 4 weeks.

**PHASE 3: ON-DEMAND**
(Months 3-6)

Shift to PRN/as-needed therapy (Highly effective for non-erosive disease).

**PHASE 4: COMPLETE CESSATION**
(Long-term)

Stop therapy. Reassure regarding transient rebound.

**EXCEPTIONS:** WHEN TO MAINTAIN LONG-TERM PPI THERAPY

- Severe erosive oesophagitis (LA Grade C/D)
- Barrett's oesophagus
- Peptic stricture requiring dilatation
- Chronic NSAID/anticoagulant use with ulcer history

# LONG-TERM RISKS, BARRETT'S & SURGICAL REFERRAL

## LONG-TERM PPI ANNUAL REVIEW

- [x] Monitor Hypomagnesaemia
- [x] Assess for *C. difficile* infection
- [x] Check $B_{12}$ deficiency
- [x] Evaluate bone fracture risk (elderly)

## BARRETT'S OESOPHAGUS SCREENING [MBS 30473]

**Chronic GERD (≥ 5 years)** + **Risk Factors:** Male, Age ≥ 50, Central obesity, Caucasian, Smoking, or Fam history = **Screening Endoscopy**

## SURGICAL REFERRAL (LAPAROSCOPIC FUNDOPLICATION) [MBS 31575]

**Indications:** Objectively proven GERD **PLUS** medication intolerance, patient preference against meds, or large hiatal hernia.

→ **Pre-op Requirements:** Manometry [MBS 12213] and 24-hr pH monitoring [MBS 12203].

→ **Refer to Upper GI Surgeon.**

# CLINICAL DEVIATIONS IN SPECIAL POPULATIONS

## PREGNANCY

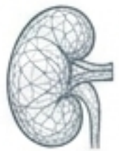
80% prevalence. Avoid **lansoprazole** & **rabeprazole**. Omeprazole/pantoprazole have best safety data. Avoid magnesium trisilicate antacids.

## PAEDIATRICS

Physiologic posseting <12mo resolves spontaneously. For **pathologic GERD**: Omeprazole 0.7–3.5 mg/kg/day. **Domperidone is NOT** recommended (QT risk).

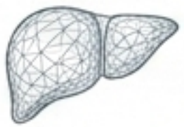
## ELDERLY (≥65)

Lower threshold for endoscopy (atypical presentation).
High risk for **fractures** and **$B_{12}$ deficiency** on PPI.
Review polypharmacy.



## RENAL IMPAIRMENT

PPIs need **no dose adjustment**, BUT monitor **$Mg^{2+}$** annually.
**Famotidine:** Reduce dose 50% if CrCl < 30.



## HEPATIC IMPAIRMENT

PPIs are hepatically metabolised. Severe impairment (Child-Pugh C) requires **dose caps** (e.g., Esomeprazole max 20mg).

## IMMUNOCOMPROMISED

High risk of *C. difficile* with PPI. Consider Candida/CMV oesophagitis if presenting with odynophagia.

# ABORIGINAL & TORRES STRAIT ISLANDER HEALTH CONSIDERATIONS

## EPIDEMIOLOGICAL REALITIES

- *H. pylori* prevalence is 70–90% in remote communities (vs. 20-30% non-Indigenous).
- Test-and-treat is critical for dyspepsia overlap.
- Ensure local antibiograms are checked (metronidazole resistance rising).

## SYSTEMIC BARRIERS

- Remote geography severely limits endoscopy access.
- Heavy reliance on visiting specialist programs (e.g., RFDS).
- High daily smoking rates (~40%) exacerbate reflux pathology.

## CULTURALLY SAFE ACTION PLAN

- Engage Aboriginal Health Workers (AHWHPs) for education and gender-sensitive care.
- Utilize Closing the Gap (CTG) PBS co-payment scripts to ensure PPI access.
- Avoid relying on OTC antacids as this masks pathology and delays late-stage cancer diagnosis.

# Master Synthesis: The GERD Clinical Algorithm