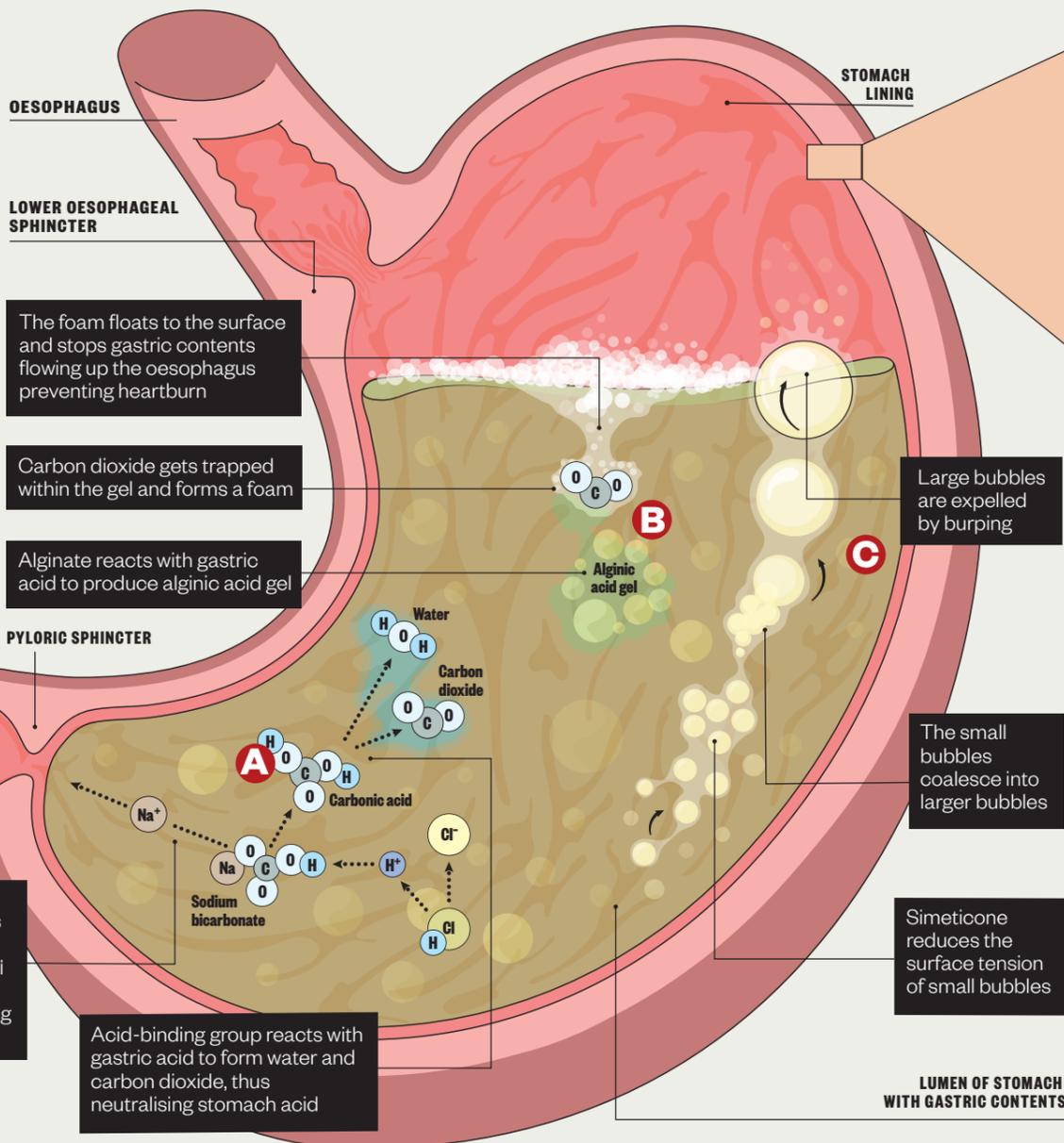


RELIEF FROM INDIGESTION

Indigestion and heartburn affect four in ten people. This guide illustrates the options available over the counter for managing symptoms and how they work.

DAWN CONNELLY



The foam floats to the surface and stops gastric contents flowing up the oesophagus preventing heartburn

Carbon dioxide gets trapped within the gel and forms a foam

Alginate reacts with gastric acid to produce alginic acid gel

Large bubbles are expelled by burping

The small bubbles coalesce into larger bubbles

Simeticone reduces the surface tension of small bubbles

LUMEN OF STOMACH WITH GASTRIC CONTENTS

Antacid dissociates in solution into a metal ion and an acid-binding group

Acid-binding group reacts with gastric acid to form water and carbon dioxide, thus neutralising stomach acid

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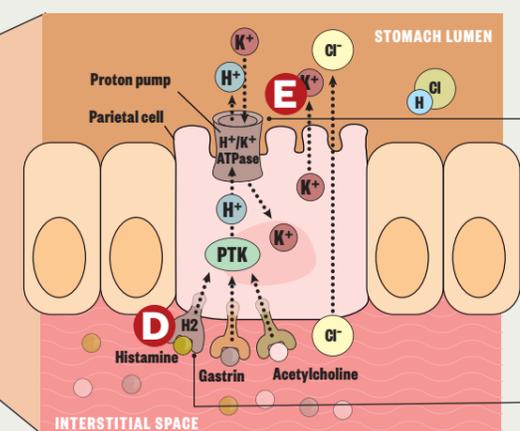
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Proton pump inhibitors irreversibly block the proton pump, switching off gastric acid production until new H⁺, K⁺ and ATPase molecules are synthesised

H₂ receptor antagonists reversibly bind to histamine receptors, so reducing activation of the proton pump and decreasing gastric acid production

ATPase; adenosine triphosphatase; C: carbon; Cl⁻: chloride ion; H: hydrogen; H⁺: hydrogen ion; K⁺: potassium ion; Na⁺: sodium ion; O: oxygen; PTK: protein tyrosine kinase

Symptoms

Indigestion: upper abdominal pain or discomfort, feeling full and bloated, nausea, belching and passing wind.

Heartburn: burning sensation in the middle of the chest, bringing up food or bitter tasting fluids, cough or hiccups, hoarse voice and bad breath.

A Antacids

- **Over-the-counter (OTC) medicines:** combinations of magnesium trisilicate, magnesium carbonate, magnesium hydroxide, aluminium hydroxide, calcium carbonate, sodium bicarbonate and potassium bicarbonate.
- **Not recommended for:** children (but see individual products). Avoid sodium-containing antacids in those with impaired kidney or liver function, hypertension, those on a salt-restricted diet and pregnant women. Avoid antacids that contain potassium in patients taking potassium-sparing diuretics or angiotensin-converting enzyme inhibitors. Avoid antacids that contain calcium in people on thiazide diuretics. Excessive use of antacids containing magnesium may lead to hypermagnesaemia, especially in people with renal insufficiency.

● **Interactions:** avoid taking other medicines within two to four hours of antacids. See individual products for specific interactions.

Lifestyle advice

- Lose weight if needed;
- Avoid foods that make symptoms worse, including rich, spicy and fatty foods, acidic foods and fizzy drinks. Make a food and drink diary and note what appears to prompt symptoms;
- Cut down on caffeinated drinks, alcohol and smoking;
- Do not to eat for at least three hours before bed;
- Prop up your head and shoulders while in bed;
- If possible, avoid medicines that can cause indigestion, such as calcium antagonists, nitrates, bisphosphonates, corticosteroids, non-steroidal anti-inflammatory drugs, aspirin, iron, opiates, metformin, theophylline, anticholinergics and tricyclic antidepressants;
- Relieve stress;
- Consider trying herbal remedies, such as peppermint tea.

- **Counselling points:** liquids and powders act faster and have greater neutralising capacity, but tablets are more convenient. Best taken when symptoms occur or are expected, usually between meals and at bedtime. Inform people with diabetes that many antacids have a high sugar content.

B Alginates

- **OTC medicines:** magnesium alginate and sodium alginate, often in combination with antacids.
- **Not recommended for:** children aged under 6–12 years old (depending on product); caution advised for people on low-sodium, low-potassium or low-calcium diets.
- **Interactions:** avoid taking other medicines within two to four hours of alginates.
- **Counselling points:** best taken after meals and at bedtime.

C Antiflatulents

- **OTC medicines:** simeticone, sometimes in combination with antacids.
- **Not recommended for:** N/A.
- **Interactions:** none reported.
- **Counselling points:** take three to four times daily or as required. Not absorbed, so are considered safe in pregnancy and breastfeeding.

D H₂ receptor antagonists

- **OTC medicines:** ranitidine (several products were recalled in 2019 because of possible contaminants and ranitidine was out of stock at time of going to press).
- **Not recommended for:** people with renal or hepatic impairment, porphyria, children, pregnant or breastfeeding women. Do not

sell to people taking non-steroidal anti-inflammatory drugs because they could mask the symptoms of peptic ulcer disease.

- **Interactions:** bioavailability of certain drugs may be affected by the change in gastric pH (e.g. erlotinib, triazolam, midazolam, glipizide, ketoconazole, atazanavir, delaviridine and gefitinib). Close monitoring required with concurrent warfarin.
- **Counselling points:** take before consuming food or drink known to cause indigestion. Maximum two tablets in 24 hours.

E Proton pump inhibitors

- **OTC medicines:** esomeprazole and pantoprazole.
- **Not recommended for:** children, pregnant or breastfeeding women.

Choice of over-the-counter product:

- **Uncomplicated indigestion:** combination of antacid with magnesium and aluminium salts.
- **Indigestion not relieved by antacids:** H₂ receptor antagonist (if available) or proton pump inhibitor.
- **Heartburn (if not pregnant, an older person or hypertensive):** alginate-containing antacid or H₂ receptor antagonist. If heartburn is recurrent, the patient should try a proton pump inhibitor.
- **Heartburn (if pregnant, an older person or hypertensive):** sodium-free or low-sodium antacid with alginate.
- **Flatulence:** product containing simeticone.

When and where to refer:

- 999**
- Accompanied by tightness or heaviness in the chest, or chest pain, which may be spreading to the arms, shoulder, neck or jaw; palpitations; sweating or difficulty breathing (to exclude heart attack).
 - bleeding, difficulty swallowing, persistent vomiting or vomiting with blood (to exclude gastric cancer which may be masked by treatment).
- GP (routine)**
- Patient is taking medicines associated with dyspepsia.
 - Continuous OTC treatment for more than two weeks without relief of symptoms.

Sources: *Aliment Pharmacol Ther* 2002;16(10):1689–1699, *British National Formulary*, Bupa, eMC, National Institute for Health and Care Excellence, *Non-prescription Medicines* (4th edn), OTC directory online
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