

# MIRACLE Academy

قال تعالى (يَرْفَعُ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ)

تفريغ OTC  
زميلتكم سارة جرادات



لجان الدفعات

*\* not disease it's a symptom related to food.*

# Heartburn Management

*\* mostly after eat*

## **Non-Prescription Drugs and Parapharmaceuticals**

Dr Rawan Abudalo

Department of Clinical Pharmacy and Pharmacy Practice

Faculty of Pharmaceutical Sciences

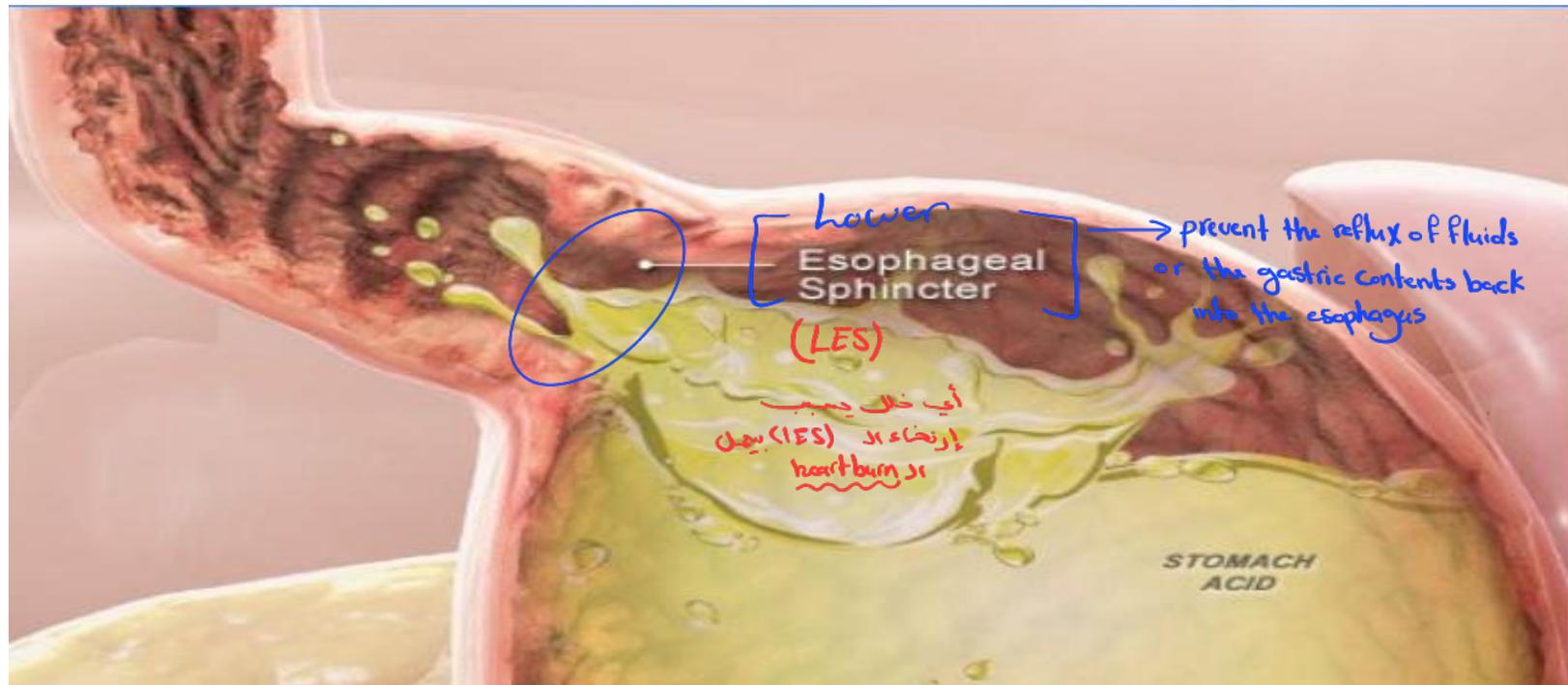
Hashemite University

# Definition

- **Heartburn** is a **painful, burning feeling in your chest** that **rises up from the stomach** towards your **neck**.
- It can happen at any time but **is more common after eating**.
- Patients will often describe the symptoms of heartburn – typically a **burning discomfort/pain** felt in the **stomach, passing upwards behind the breastbone (retrosternal)**.



# Mechanism of heartburn



# What causes heartburn?

**Drugs** (e.g., theophylline, morphine, calcium channel blockers, diazepam) can decrease lower esophageal sphincter (LES) pressure, leading to increased reflux.

**Foods** such as citrus, tomato-based foods, and spicy foods can irritate inflamed esophageal mucosa.

**Smoking** contributes by relaxing LES and decreasing salivation.

**Anxiety, fear, and worry** may lower visceral sensitivity thresholds, leading to increased pain perception.

**Bending over, straining to defecate, lifting heavy objects, and performing isometric exercises** may increase intraabdominal pressure above the LES pressure, leading to reflux.

**Obesity** increases intraabdominal pressure

تزيد الضغط على البطن

\*راجع تصنيف الأدوية

TABLE 14-1 Risk Factors That May Contribute to Heartburn

## Dietary

Fatty foods  
 Spicy foods  
 Chocolate  
 Salt and salt substitutes  
 Garlic or onions  
 Mint (e.g., spearmint, peppermint)  
 Alcohol (ethanol)  
 Caffeinated beverages  
 Carbonated beverages  
 Citrus fruit or juices  
 Tomatoes/tomato juice

## Lifestyle

Exercise  
 Smoking (tobacco)  
 Obesity  
 Stress  
 Supine body position  
 Tight-fitting clothing

## Diseases

Motility disorders  
 (e.g., gastroparesis)  
 Scleroderma  
 PUD  
 Zollinger-Ellison syndrome

## Medications

Bisphosphonates  
 Aspirin/NSAIDs  
 Iron  
 Potassium  
 Quinidine  
 Tetracycline  
 Zidovudine  
 Anticholinergic agents  
 Alpha-adrenergic antagonists  
 Barbiturates  
 Beta<sub>2</sub>-adrenergic agonists  
 Calcium channel blockers  
 Benzodiazepines  
 Dopamine  
 Estrogen  
 Narcotic analgesics  
 Nitrates  
 Progesterone  
 Prostaglandins  
 Theophylline  
 TCAs  
 Chemotherapy

## Other

Genetics  
 Pregnancy

# Heartburn: Who's at Risk?



- Heartburn is often brought on by **bending or lying down.**
- It is more likely to occur in those who are **overweight** and can be aggravated by a **recent increase in weight.**
- It is also more likely to occur **after a large meal.**
- **Alcohol and smoking** are known to cause or aggravate heartburn.
- **wear tight-fitting clothes**
- **Stress** is also a factor in the condition.

# Heartburn causes

Related GIT disorder  
↓  
peptic ulcer → heartburn

- Heartburn is most frequently noted within **1 hour after eating**, especially after a **large meal or ingestion of offending foods** and/or **beverages**.

\* **Gastroesophageal Reflux (GERD)** - stomach fluids containing acid and digestive enzymes **back up past the valve** like **sphincter** that **separates the stomach from the esophagus**, **causing pain**.

- Gastrointestinal diseases:

**Chronic gastritis**, **stomach ulcer disease**, **chronic cholecystitis**, **hiatal hernias**.

التهاب المرارة ٤

فتق الحجاب الحاجز

# Acid-related disorders

TABLE 14-2 Differentiation of Simple Heartburn from Other Acid-Related Disorders

	Simple Heartburn	GERD	Dyspepsia	PUD
Typical symptoms	Burning sensation behind the breastbone that may move upward toward the neck or throat	Heartburn, acid regurgitation (acid taste in the mouth), hypersalivation	Primary: epigastric discomfort Other: belching or burping, bloating, nausea, early satiety; may be accompanied by heartburn and acid regurgitation.	Gnawing or burning epigastric pain, occurring during day and frequently at night; may be accompanied by heartburn and dyspepsia.

*peptic ulcer disease*

*مصدر سريع بالسبب*

- Heartburn occurring two or more times a week is suggestive of GERD.

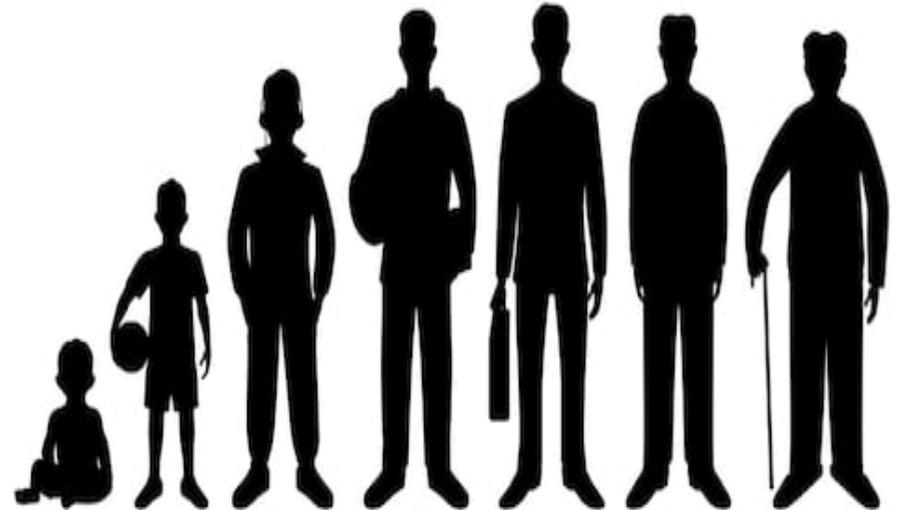
# Heartburn

What you need to know/ **1. Age** *uncommon in children*

The symptoms of reflux and esophagitis occur **more commonly in patients aged over <sup>\*</sup>55 years.**

Heartburn is **not a condition normally experienced in childhood**, although **symptoms** can occur **in young adults** and particularly in pregnant women.

**Children** with **symptoms of heartburn** should **therefore be referred to their doctor.**



# Heartburn

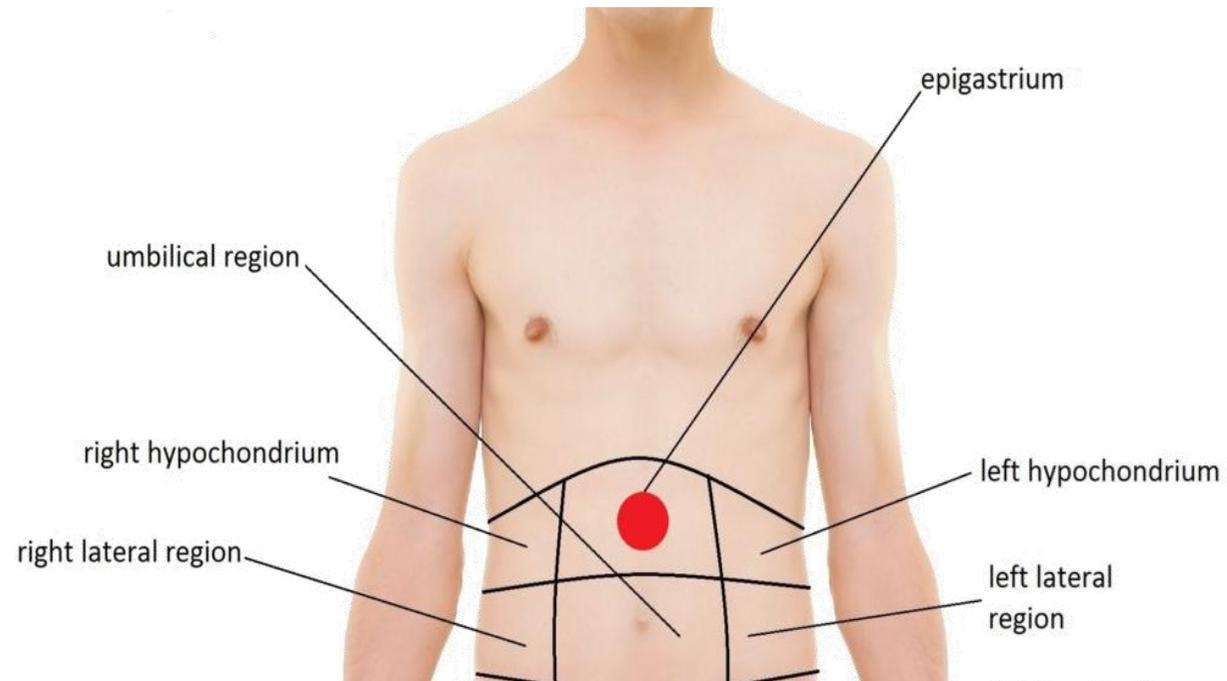
## What you need to know/ 2. Symptoms

→ acid sensation in mouth

لافتوت الحدة ويحسك الأعلى خلف الصدر

A **burning discomfort** is experienced in the upper part of the stomach in the midline (epigastrium), and the burning feeling tends to move upwards behind the breastbone (retrosternal).

The **pain** may be felt only in the **lower retrosternal area** or on occasion **right up to the throat**, sometimes associated with **an acid taste in the mouth**.



# Heartburn

## What you need to know/ 2. Symptoms- Severe Pain

بعض المرضى يتكلمون مش بجهة الـ Heart attack ، بجهة الـ مرض بيحدثوا  
أنا فزيه تلبس بي يتكلمت esophagitis instead

Sometimes the pain can come on **suddenly** and **severely** and **even radiate to the back and arms.** مفاجئ شديد وينتشر في الظهر والذراعين.

In this **situation** differentiation of symptoms is difficult as the **pain can mimic** a **heart attack** and **urgent medical referral is essential.**

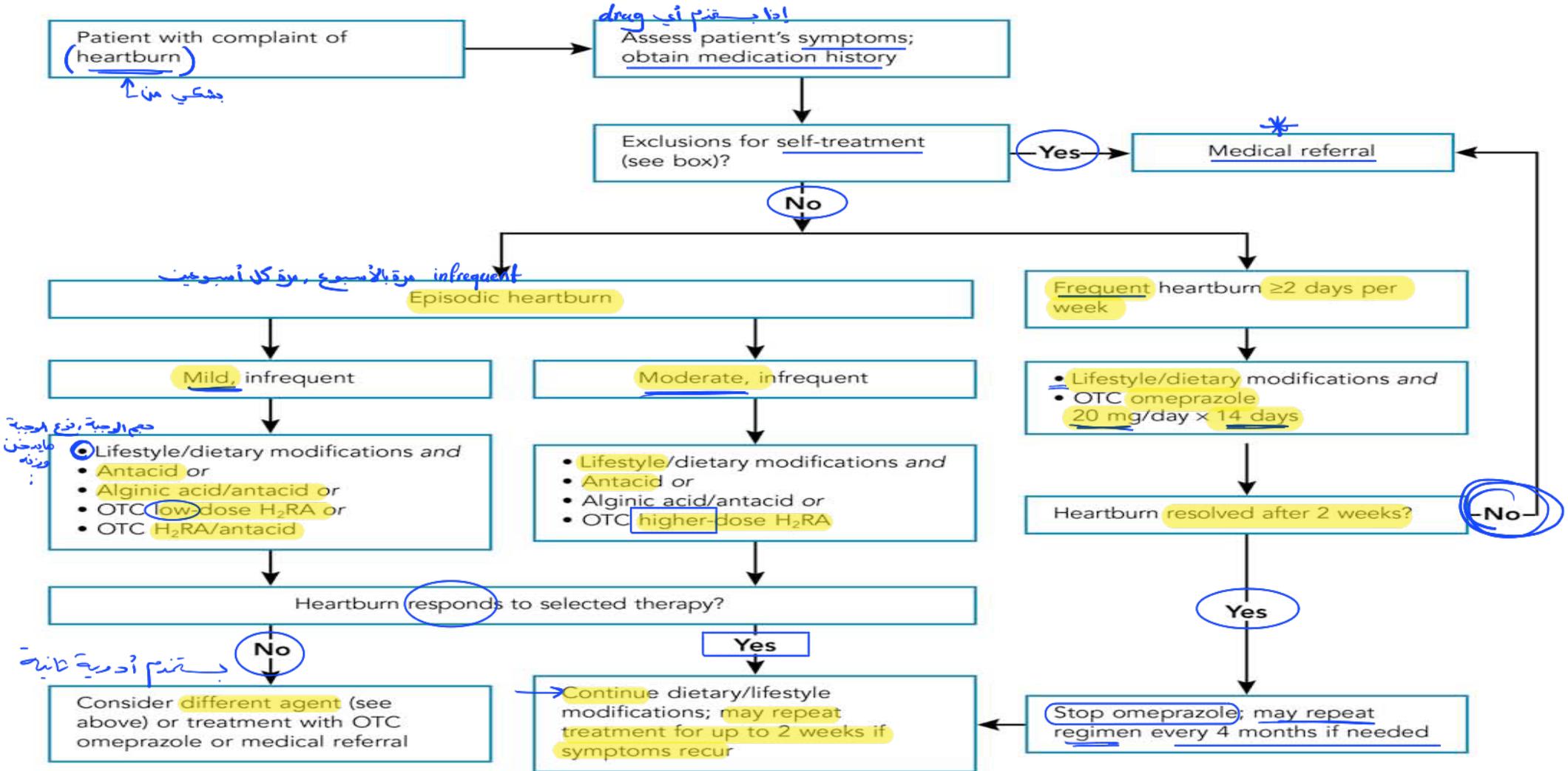
Sometimes patients who have been **admitted to hospital** **apparently suffering a heart attack** are **found to have esophagitis instead.**



# The goals of self treatment

1. To render the patient symptom-free.
2. Prevent meal- or exercise- related symptoms.
3. Improve quality of life.
4. Prevent complications using most cost- effective therapy.

# Self care of heartburn



medical referral 7-15

## Exclusions for Self-Treatment

- 1 ■ Frequent heartburn for more than 3 months
- 2 ■ Heartburn while taking recommended dosages of nonprescription H<sub>2</sub>RA or PPI → Histamine-2-receptor antagonists  
→ proton pump inhibitor
- 3 ■ Heartburn that continues after 2 weeks of treatment with a nonprescription H<sub>2</sub>RA or PPI
- 4 ■ Heartburn and dyspepsia that occur when taking a prescription H<sub>2</sub>RA or PPI
- 5 ■ Severe heartburn and dyspepsia
- 6 ■ Nocturnal heartburn
- 7 ■ Difficulty or pain on swallowing solid foods
- 8 ■ Vomiting up blood or black material or black tarry stools
- 9 ■ Chronic hoarseness, wheezing, coughing, or choking
- 10 ■ Unexplained weight loss
- 11 ■ Continuous nausea, vomiting, or diarrhea
- 12 ■ Chest pain accompanied by sweating, pain radiating to shoulder, arm, neck, or jaw, and shortness of breath
- 13 ■ Pregnancy
- 14 ■ Nursing mothers
- 15 ■ Children younger than 12 years (for antacids, H<sub>2</sub>RAs) or younger than 18 years (for omeprazole)

PPI



# Heartburn

## What you need to know/ 6. Management

2. وجبات صغيرة متكررة أفضل من الوجبات الكبيرة  
Small meals, eaten frequently, are better than large meals, as reducing the amount of food in the stomach reduces gastric distension, which helps to prevent reflux. ←

3. إخراج المعدة يتأخر أبطأ بعد الوجبة العظيمة.  
Gastric emptying is slowed when there is a large volume of food in the stomach; this can also aggravate symptoms.

4. الوجبات الغنية بالدهون يتأخر إخراج المعدة.  
High-fat meals delay gastric emptying.

5. تناول وجبات العشاء قبل النوم بفترة كافية.  
The evening meal is best taken several hours before going to bed.



# Heartburn

## What you need to know/ 6. Management

Certain postures can provoke symptoms.

دوره‌های مری  
Symptoms

It is better to <sup>\*</sup>squat rather than bend down.

Since the symptoms are often worse when the patient lies down, there is evidence that raising the head of the bed can reduce both acid clearance and the number of reflux episodes. Using extra pillows is often recommended. →

بسیار زیاد است. →



# Heartburn During Pregnancy *She need the medical referral*

- More than half of all pregnant women report symptoms of severe heartburn, especially during their second and third trimesters.

- Mild symptoms should be treated with lifestyle changes, including eating several small meals a day instead of three large ones, avoiding fried and spicy foods, and not lying down after eating.

- If diet and lifestyle don't alleviate symptoms, pregnant women should consult their doctor before taking any medications.

*\*Antacid  
First choice*

# Heartburn

## What you need to know/ 6. Management

a. Antacids

b. Alginates

↓  
Gaviscon

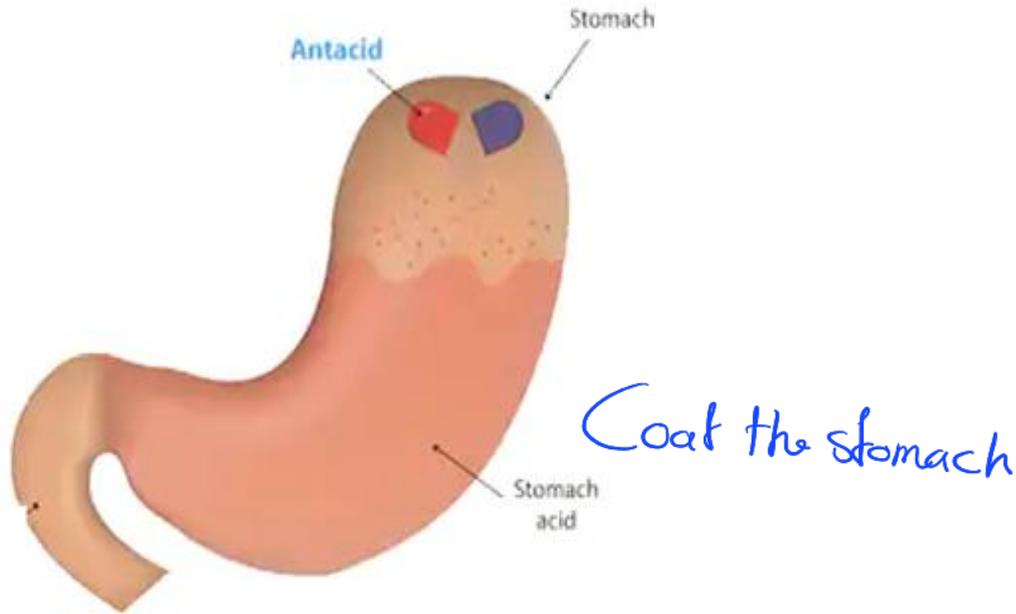
c. H<sub>2</sub>  
antagonists

d. Proton  
pump  
inhibitors

\* differ in their efficacy, onset and duration

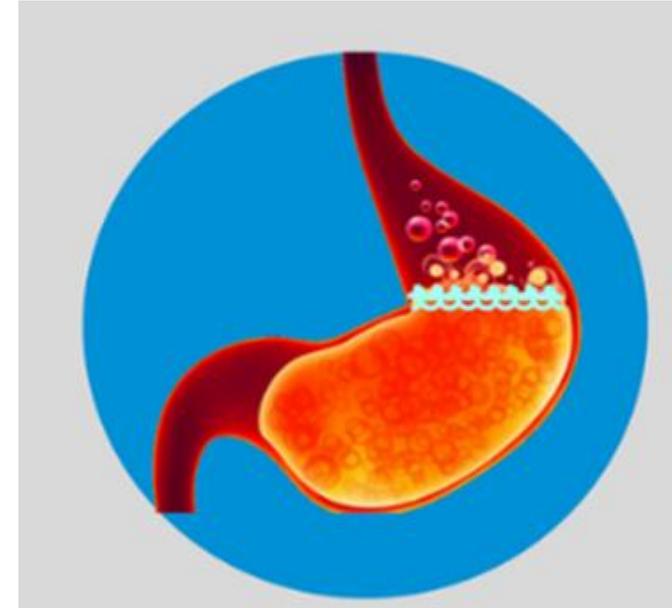
# Heartburn

## a. Antacids



A group of medicines which help to **neutralize the acid content of your stomach**

## b. Alginates



An alginate is derived from seaweed. **Alginate-based products provide a physical barrier** and work by forming a neutral floating gel or raft (a protective barrier) on top of the stomach to prevent stomach contents, including pepsin, from backing up into the esophagus and airways.

# Pharmacologic therapy

TABLE 14-3 Effectiveness of Nonprescription Medications in Relieving Heartburn

Medication	Onset of Relief	Duration of Relief	Symptomatic Relief
Antacids	<5 minutes	20–30 minutes <sup>a</sup>	Excellent
H <sub>2</sub> RAs	30–45 minutes	4–10 hours	Excellent
H <sub>2</sub> RA + antacid	<5 minutes	8–10 hours	Excellent
PPIs	2–3 hours	12–24 hours	Superior

Key: H<sub>2</sub>RA, histamine<sub>2</sub>-receptor antagonist; PPI, proton pump inhibitor.

<sup>a</sup> Food prolongs duration of relief.

Shortness →

← longest

← longest

The benefit of complication

# Eno (sodium bicarbonate)

## Antacids

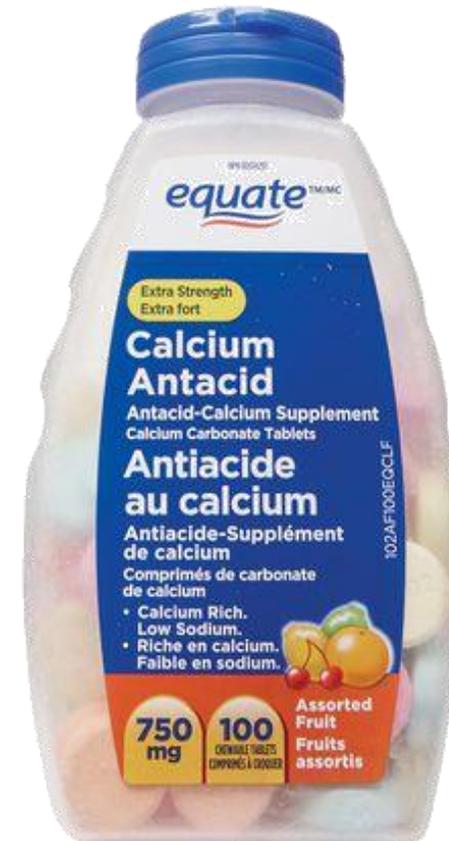
Antacids (sodium bicarbonate, calcium carbonate, magnesium hydroxide, and aluminum hydroxide) are **available alone** and in **combination** with each other and other ingredients.

- Antacids **work** by **neutralizing acid in the stomach**.
- Antacids may be used for **relief of mild, infrequent heartburn** or **dyspepsia (indigestion)**.
- Antacids are usually taken **at the onset of symptoms**. Relief of symptoms **begins within 5 minutes**.
- Because antacids come in a variety of **strengths and concentrations**, it is essential to consult the label of an individual product for correct dosing quantities and frequencies. Generally antacids should not be **used more than four times a day, or regularly for more than 2 weeks**.
- If symptoms **are not relieved with recommended dosages**, **consult a health care provider**.
- Diarrhea may occur with magnesium-** or **magnesium/aluminum-** containing antacids; **constipation may occur with aluminum-** or

**calcium-containing antacids**. Consult with a health care provider if these effects are severe or do not resolve in a few days.



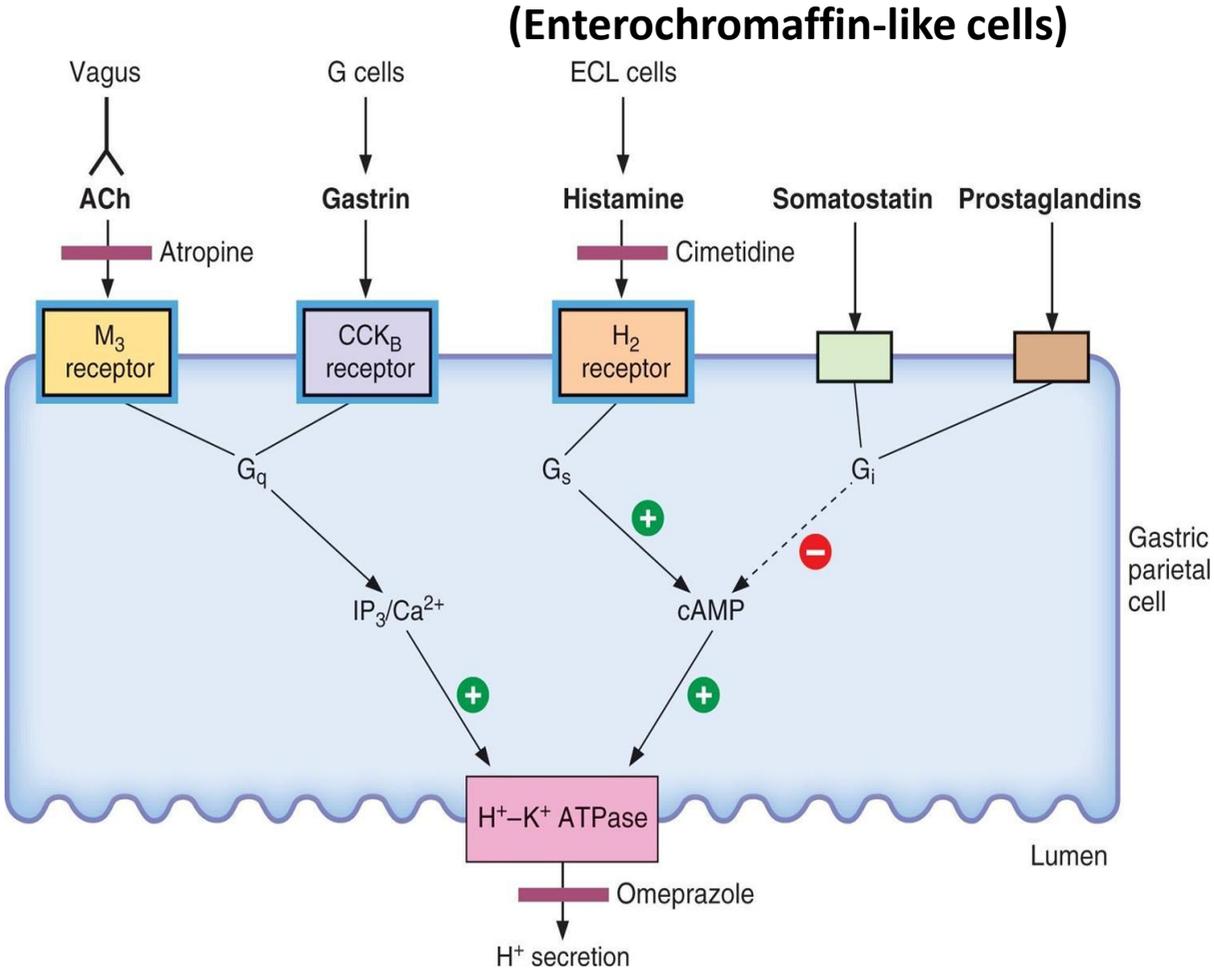
- Patients with **renal impairment** **should consult with their primary care provider prior to self-treatment with antacids**.
- Patients taking **tetracyclines, fluoroquinolones, azithromycin, digoxin, ketoconazole, itraconazole, and iron supplements** should **not take antacids within 2 hours of taking any of these medications**.



# Acid Reducers

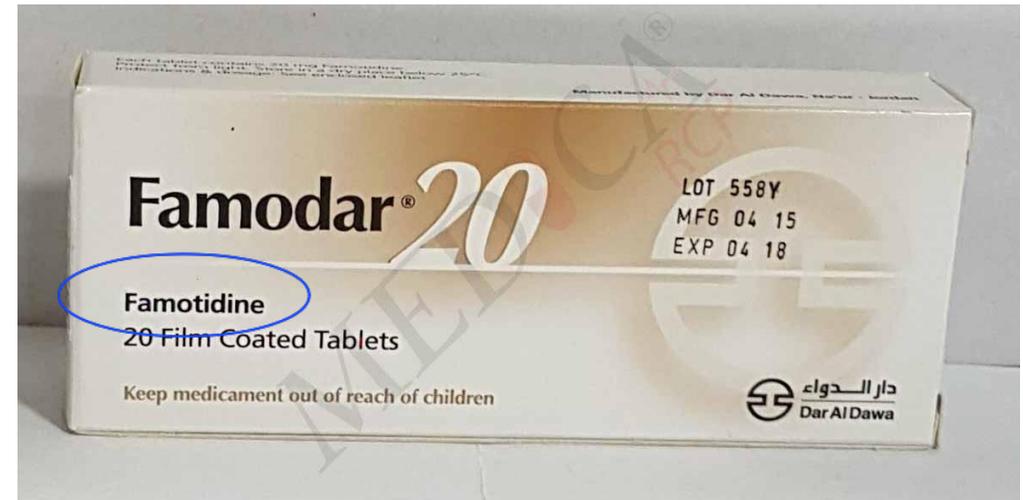
H2 antagonists

Proton pump inhibitors



## Histamine<sub>2</sub>-Receptor Antagonists

- H<sub>2</sub>RAs (cimetidine, famotidine, nizatidine, and ranitidine) may be used to prevent heartburn and indigestion associated with meals.
- H<sub>2</sub>RAs are usually taken at the onset of symptoms or 1 hour before symptoms are expected. Relief of symptoms can be expected to begin within 30–45 minutes. A combination product that contains both an antacid and an H<sub>2</sub>RA provides more rapid relief of symptoms.
- H<sub>2</sub>RAs generally relieve symptoms for 4–10 hours. H<sub>2</sub>RAs can be taken when needed up to twice daily for 2 weeks
- H<sub>2</sub>RAs work by decreasing acid production in the stomach.
- H<sub>2</sub>RAs should be used for relief of mild-to-moderate, infrequent, and episodic heartburn and indigestion when a longer effect is needed; use lower dosages for mild infrequent heartburn and higher dosages for moderate infrequent symptoms.
- If symptoms are not relieved with recommended doses or persist after 2 weeks of treatment, consult a primary care provider.
- Side effects are uncommon. Consult a primary care provider if side effects are severe or do not resolve within a few days.
- Cimetidine may interact with certain prescription medications. Consult your primary care provider if you are taking a blood thinner such as warfarin, an antifungal such as ketoconazole, antidepressants, anticonvulsants, theophylline, or amiodarone.



Superior efficacy, frequent heartburn

### Proton Pump Inhibitors

- Proton pump inhibitors (**omeprazole**) work by decreasing acid production in the stomach.
- Omeprazole is indicated for **mild-to-moderate frequent heartburn** that occurs 2 or more days a week. It is **not intended** for the relief of mild, occasional heartburn.
- Omeprazole **should be taken with a glass of water every morning 30 minutes before breakfast for 14 days**. Make sure that you take the full 14-day course of treatment.

- **Do not take more than 1 tablet a day.**
- Complete resolution of symptoms should be noted within 4 days of initiating treatment.
- If symptoms persist, are not adequately relieved after 2 weeks of treatment, or recur before 4 months has elapsed since treatment, consult your primary care provider.
- **Do not crush or chew tablet, or crush tablet in food or beverage;** this may decrease omeprazole's effectiveness.
- Side effects are uncommon. Consult with a health care provider if side effects are severe or do not resolve with a few days.
- Ask a health care provider if you are also taking blood thinners such as **warfarin**, **antifungals** such as **ketoconazole**, or **anti-anxiety** medications such as **diazepam** or **digoxin**.



\* Ramiprazole → بيتاكتيد مع الازول

Enteric-Coated

