

Rahaf Zyoud

# Heartburn Management

التفريغ من شرح الدكتوراه ايام الاونلاين (حسيتهم واضحين ويسهلو عليكم) بس كمان شغلته اي اشي محدد عليه مش بالضروره هو فقط المطلوب لانه في اشياء  
كامت الدكتوراه تقرأها قراءه الي مكتوب عليه المحدد هو المطلوب بشكل صريح اعرفو انه بس هو المطلوب

## Non-Prescription Drugs and Parapharmaceuticals

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لا يسوء صلياً  
ايهم الله يرحمه صف  
دعائكم

# 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).**

هسا الحرقه من اكثر الاشيلء الي رح ن اجها  
بالصيدليه او حتى بالمجتمع  
painful, burning feeling in  
esophagus your chest  
reflex

ال heartburn ممكن بصير باي وقت بس غالبا  
بتكون عد الاكل



بكون في خربطة بال diagnosis لما المريض يروح للمستشفى  
ويحكيلهم عن ال symptom بفكروها angina لانه اله نفس  
الاعراض، الي بخلهم يميزو بكون ال severity of symptom او  
وجود shortness of breath او sweating  
وبالغالب ما بكون ال pain بال cardiac problem ما بصير بعد  
الأكل

# Mechanism of heartburn



# What causes heartburn?

Cause related

Lifestyle  
Disease  
drug

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

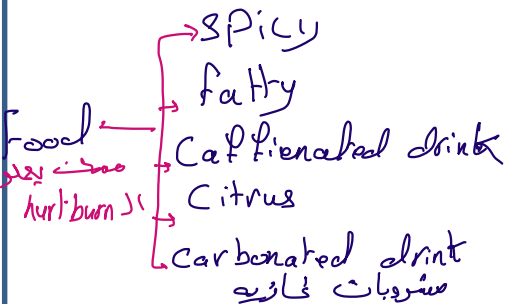
**Foods** such as citrus, tomato-based foods, and spicy foods can irritate inflamed esophageal mucosa.

**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



هنا المشكلة الاساسيه بال heartburn بتكون  
 انهرال lower esophageal sphincter ما  
 يكون فيه ال closer المناسب و هيك بصير  
 heartburn

الي بليس tightly clothes (ملابس)  
 ضيقة ممكن بصير عنده heartburn

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
- TCA's
- Chemotherapy
- Other
- Genetics
- Pregnancy

Medication  
 الحبر  
 الحطوبين

انا مارح احكي للمريض خذ ال antacid ومع  
السلامة، لازم احكيه و الاشياء الي رح تعمل  
heartburn(risk of hertburn)

# 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**. بياكل كميه اكثر من حاجته
- **Alcohol** and **smoking** are known to cause or aggravate heartburn.
- wear tight-fitting clothes
- **Stress** is also a factor in the condition.

# Heartburn causes

المريض اذا ما غير ال lifestyle له رح  
يضل يبلع antacid بدون ما تروح  
المشكلة  
بس ممكن عنده مشكلة صحيه ثانيه هي  
السبب

- 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. → فتحة بالمعده الحاجز

# Acid-related disorders

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

	Simple Heartburn	GERD	Dyspepsia → عسر الدهن	PUD Aptic ulcer Disease
Typical symptoms	Burning sensation behind the breast-bone that may move upward toward the neck or throat	Heartburn, acid regurgitation (acid taste in the mouth), hypersalivation ال heartburn تعتبر من ال symptom لل GERD هنا احنا بنخاف منه لانه زياده acid reflux ممكن تعمل esophageal cancer او ulcer فيه	Primary: epigastric discomfort Other: belching or burping, bloating, nausea, early satiety; may be accompanied by heartburn and acid regurgitation. ممكن يكون ال heartburn لحاله او مع other symptom	Gnawing or burning epi-gastric pain, occurring during day and frequently at night; may be accompanied by heartburn and dyspepsia.

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

اذا كانت ال heartburn متكرره واكثر من مرتين بالاسبوع بتبطل simple وغالبا بتكون GERD

# Heartburn

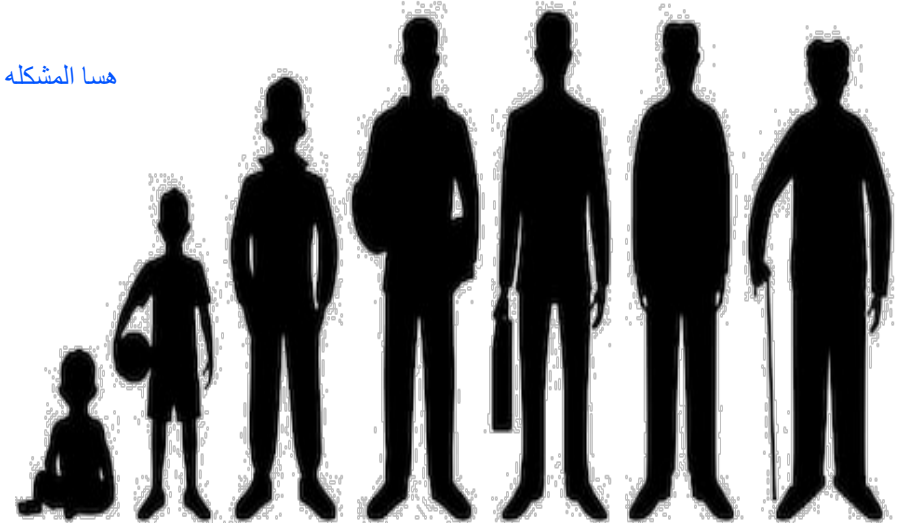
**What you need to know/ 1. Age** يتصير باي عمر بس هي شائعة بعمر بعد ال55  
بس ممكن تكون موجوده بال young

The symptoms of reflux and esophagitis occur more commonly in patients aged over 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.

هسا المشكله انه يصير heratburn مع الطفل ما رح نعرف ،ممكن اذا كبير شوي ممكن يعبر عنها واكيد بما انه child

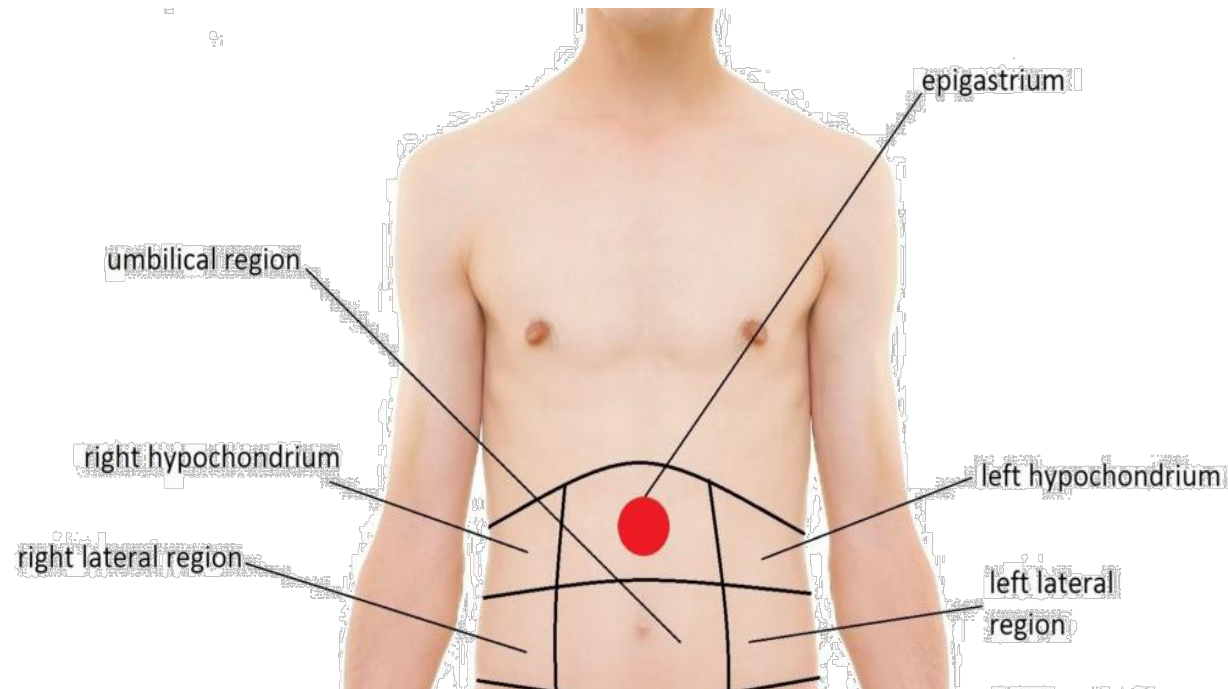


# Heartburn

## What you need to know/ 2. Symptoms

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**.



لما المريض يحكي مكان الالم الطبيب رح يعرف المشكله

# Heartburn

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

ممکن الصيدلاني يخریط بين الheartburn وبين الheart attack (ممکن المريض ييكون عنده الم واصل للكتف او للظهر) لما تكون الحاله كثير متقدمة وبعرف انه اكيد مش simple heartburn

Sometimes the pain can come on **suddenly** and **severely** and even **radiate to the back and arms**.

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

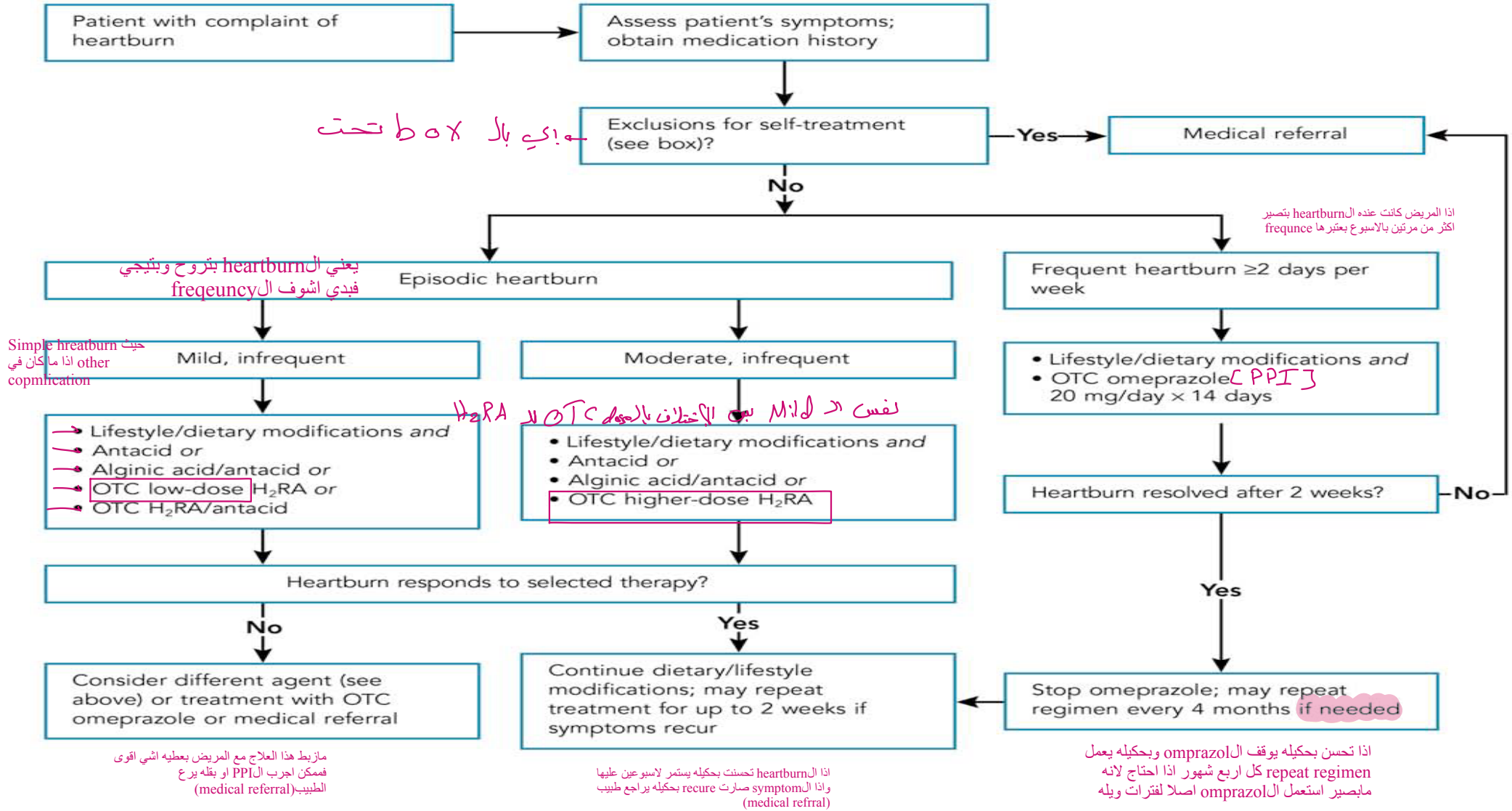
Sometimes patients who have been admitted to hospital apparently suffering a heart attack are found to have esophagitis instead.



# The goals of self treatment

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

# Self care of heartburn



إذا اجا عندي اشي من هذول الحالات ما بعمل self treatment

## Exclusions for Self-Treatment

- Frequent heartburn for more than 3 months
- Heartburn while taking recommended dosages of nonprescription H<sub>2</sub>RA or PPI
- Heartburn that continues after 2 weeks of treatment with a nonprescription H<sub>2</sub>RA or PPI
- Heartburn and dyspepsia that occur when taking a prescription H<sub>2</sub>RA or PPI
- Severe heartburn and dyspepsia
- Nocturnal heartburn
- Difficulty or pain on swallowing solid foods

يعني more frequenc ويمكن هو اصلا بياخذ simple antacid ومع هيك بشعر بال heartburn اكثر من نرتين بالاسبوع او ppi او H2blocker

symptom of heart-attack

- Vomiting up blood or black material or black tarry stools
- Chronic hoarseness, wheezing, coughing, or choking
- Unexplained weight loss
- Continuous nausea, vomiting, or diarrhea
- Chest pain accompanied by sweating, pain radiating to shoulder, arm, neck, or jaw, and shortness of breath
- Pregnancy
- Nursing mothers
- Children younger than 12 years (for antacids, H<sub>2</sub>RAs) or younger than 18 years (for omeprazole)

دائما اذا في blood باي مكان يعتبرها alarm sign

ممكنه انه في upper GI bleeding

شردق

alarm sign to cancer

الprescribed H2blocker or PPI يكون الdose اعلى من الnonprescribed (OTC dose)

معلومة على الهامش: السيدة الحامل اذا كانت باول 3month يستبعد تماما العلاج لانه يفضل الطبيب هو الي بتابع معها بقرر اذا كانت late pregnancy ممكن يكون بسبب الvomiting (بنعرف انه الحامل بضل عندها لعيه)

# Heartburn

## What you need to know/ 6. Management

خلو نصيحتكم الاولى للريض  
تمون nonpharmacoligical فيحكياه  
انه لازم ينزل وزنه اذا كان  
overweight

If the patient is overweight, weight reduction should be advised.

There is some evidence that weight loss reduces symptoms of heartburn.



# Heartburn

طبعا ال mangment هون حسب المريض  
لانه ممكن مريض ياكل spicy food ويصير  
عنده heartburn ومريض ثاني لأ

## What you need to know/ 6. Management

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.

بدل ما تاخذ وجبه كبير كل وجبات صغيره بشكل  
متكرر وهيك بتكون قلت ال acid  
regurgation

Gastric emptying is slowed when there is a large volume of food in the stomach; this can also aggravate symptoms.

High-fat meals delay gastric emptying.

The evening meal is best taken several hours before going to bed.

بحكي للمريض لا تنزم بعد الاكل لانه ال lying after meal  
وال bending رح يعملو heartburn



# Heartburn

## What you need to know/ 6. Management

Certain postures can provoke symptoms.

بحكي للمريض لما ينام يرفع راسه شوي لانه هيك  
حسنت الacid clearance وبققل الreflux

It is better to 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.



# Heartburn During Pregnancy

- More than half of all pregnant women report symptoms of severe heartburn, especially during their second and third trimesters. حتى بال third trimester ممكن يصير عندها

- 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

الpregnant women المشكله عندها مش بسبب hormonal change الي بصير بال first trimester لانه بعد هيك وزن الجنين رح يكبر ويضغط على digram وهذا الاشئ بيزيد ال acid reflux chance for صح احنا اعتبرنا الحامل بال self exclusion box بس اذا اعطيناها famotadin بالشهر الخامس او السادس ممكن اعتبرها safe بس الافضل نحكيها شوفي الطبيب لانهم بخافو من الموضوع وممكن يعملو مشكله للصيدلاني فالافضل بحكيها تروح للطبيب

# Heartburn

## What you need to know/ 6. Management

Pharmacological treatment

a. Antacids

b. Alginates

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

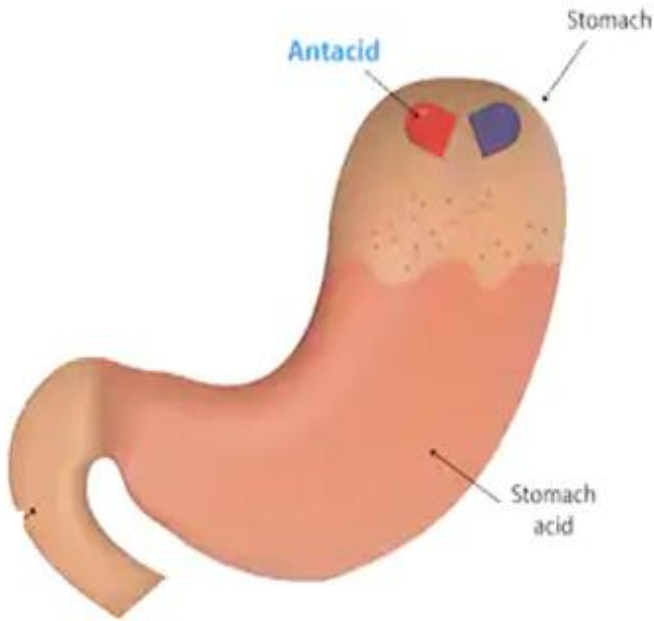
d. Proton  
pump  
inhibitors

OTC dose طبعاً هذول كلهم بال

# Heartburn

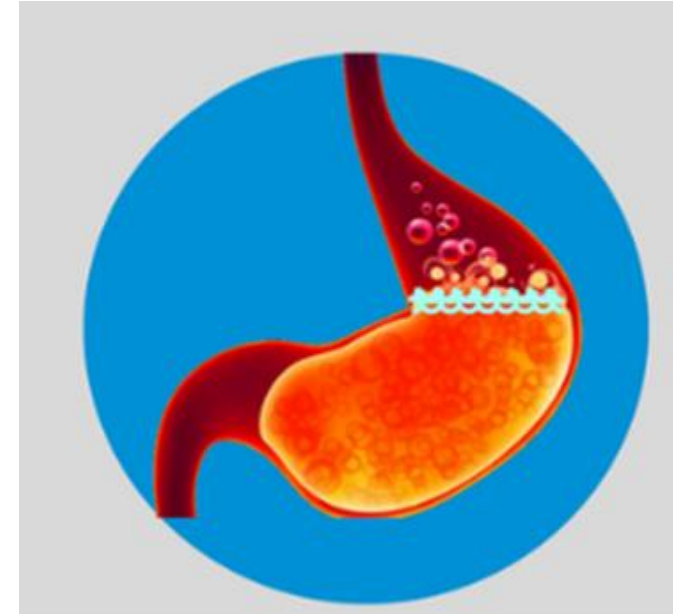
## a. Antacids

Weak base work in neutralization of hyperactivity



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

حکمت نغون صیت  
اما الارقام 8  
long صیت fast

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.

## 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.

Side effect



إذا المريض عنده cardiac problem او مريض عنده renal problem بحكيه ينتبه من الsodium containing antacid اذا مريضنا بياخذ some medication ممكن تتعارض مع الantacid زي الحديد او الantibiotic المذكورين هون وبعض الantifungal او اي اشي بعمل inc acid secretion

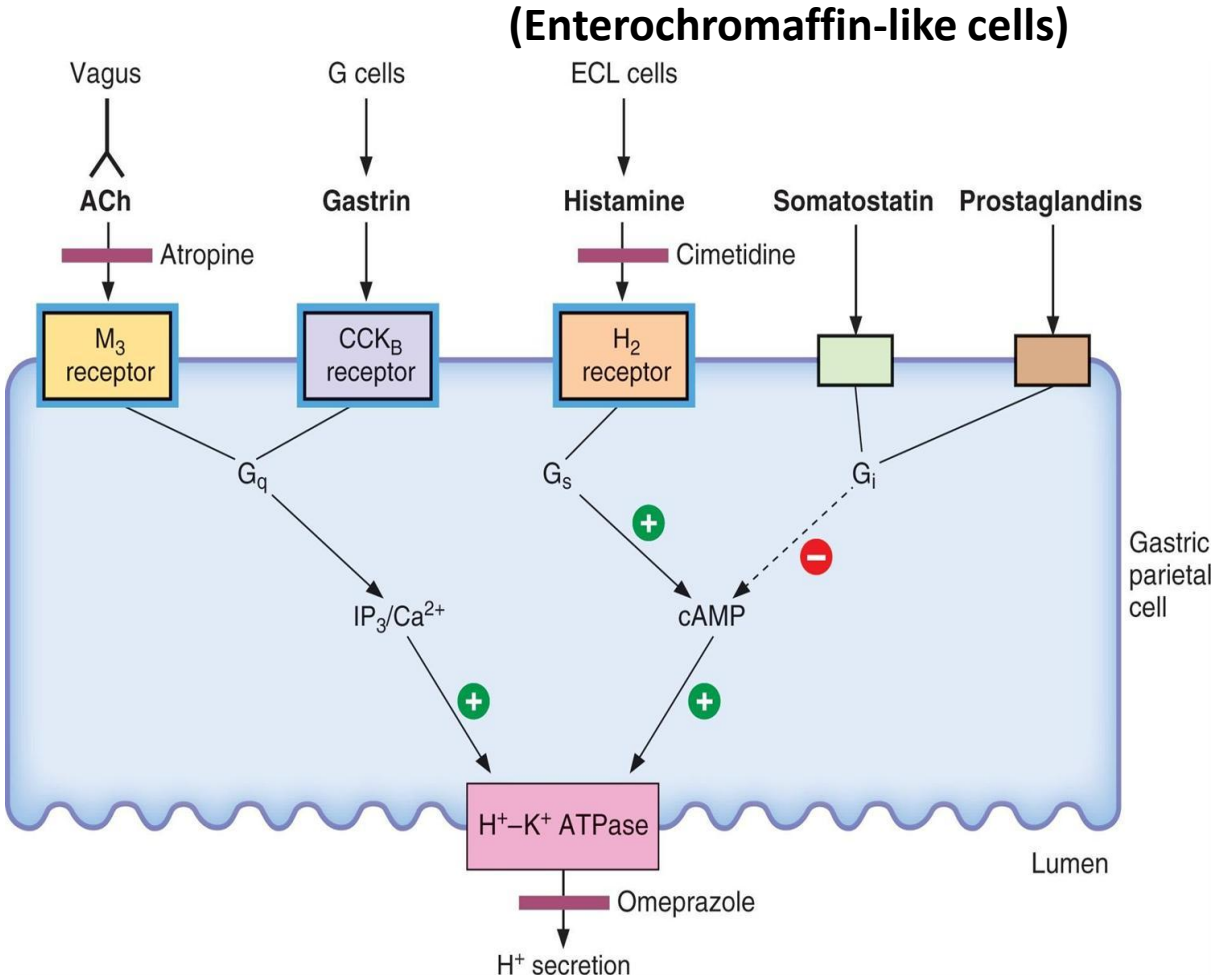
# Acid Reducers

اي دوا بحتاج acid ليصير اله absorption ما يعطيه مهال antacid

H2 antagonists

Proton pump inhibitors

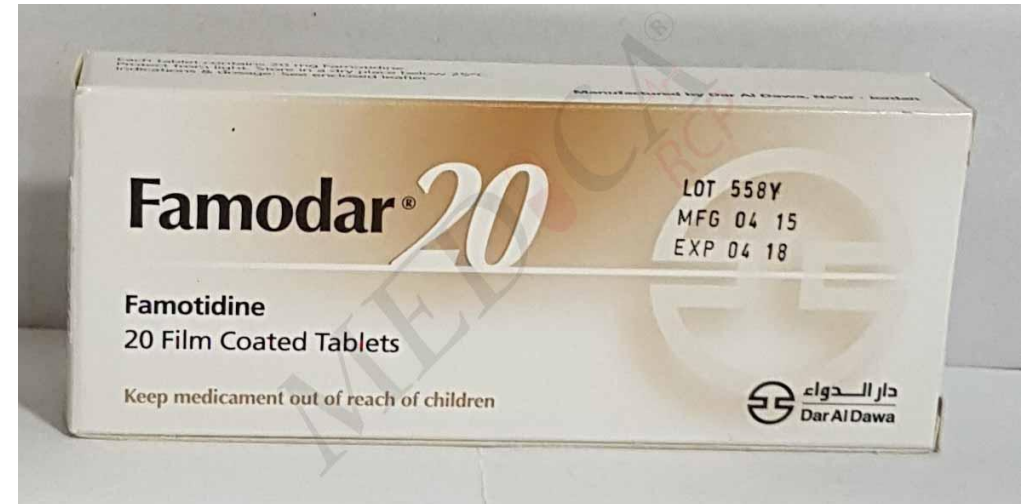
ليش ال PPI كانت تعتبر superior blocking acid secretion  
لانيها تشتغل على ال final acid secretion step عشان هيك هو  
يعتبر high effectivity بعلاج ال heartburn



## 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.

مشكلته انه short duration عشان هيك صرنا نعمل



الفاموتيدين هو الوحيد الموجود بالسوق

### 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.

ال PPI ممنوع يتأخذ مع الacid



اله long duration عشان هيك غالباً نحبكلمهم ياخذوه once daily بجكيلهم ياخذوه قبل الاكل لانه الاكل باثر عليه لازم احكي للمريض ممنوه اكسر ها او امضغها dont crush or chew لانه اصلا يكونو enteric coating لانهم بتأثرو بالacidity للنعدة بستنى لما تفتح بالintistin وبعدين بصير absorption وتروح للدم بعدين يوصل المعده ويشغل الomparzol بتأثر بالliver enzyme لانه رح يعمل inh of CYP 450 عشان هيك رح يآثر على الmetabolism لبعض الmedication