

Evaluation of Chest Pain



Common Cardiovascular Symptoms :

1. Chest Pain
2. SOB (Shortness of Breath) or Dyspnea.
3. Palpitation
4. Fatigue
5. Syncope
6. Others-
 - Hemoptysis
 - Hoarseness
 - Cyanosis, etc.

Symptoms include from Heart diseases:

1. Blood vessel disease, such as coronary artery disease
2. Conducting System - Heart rhythm problems (arrhythmias)
3. Heart defects with born (congenital heart defects)
4. Heart valve disease
5. Disease of the heart muscle
6. Heart infection

Definition: Chest pain is discomfort or pain that you feel anywhere along the front of your body between your neck and upper abdomen. It may be described as sharp, dull, pressure, heaviness or squeezing.

Type:

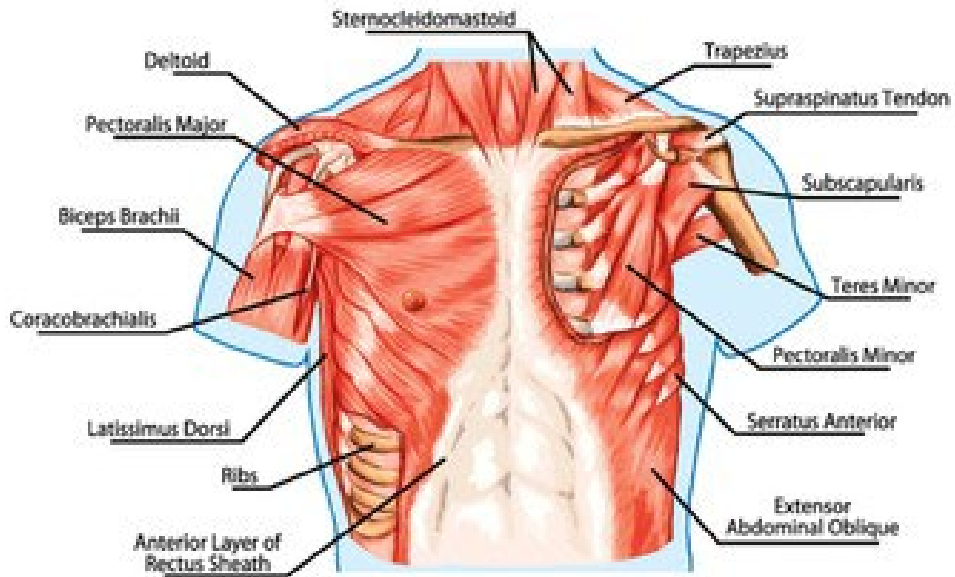
1. Central
2. Peripheral (Right/Left)

or,

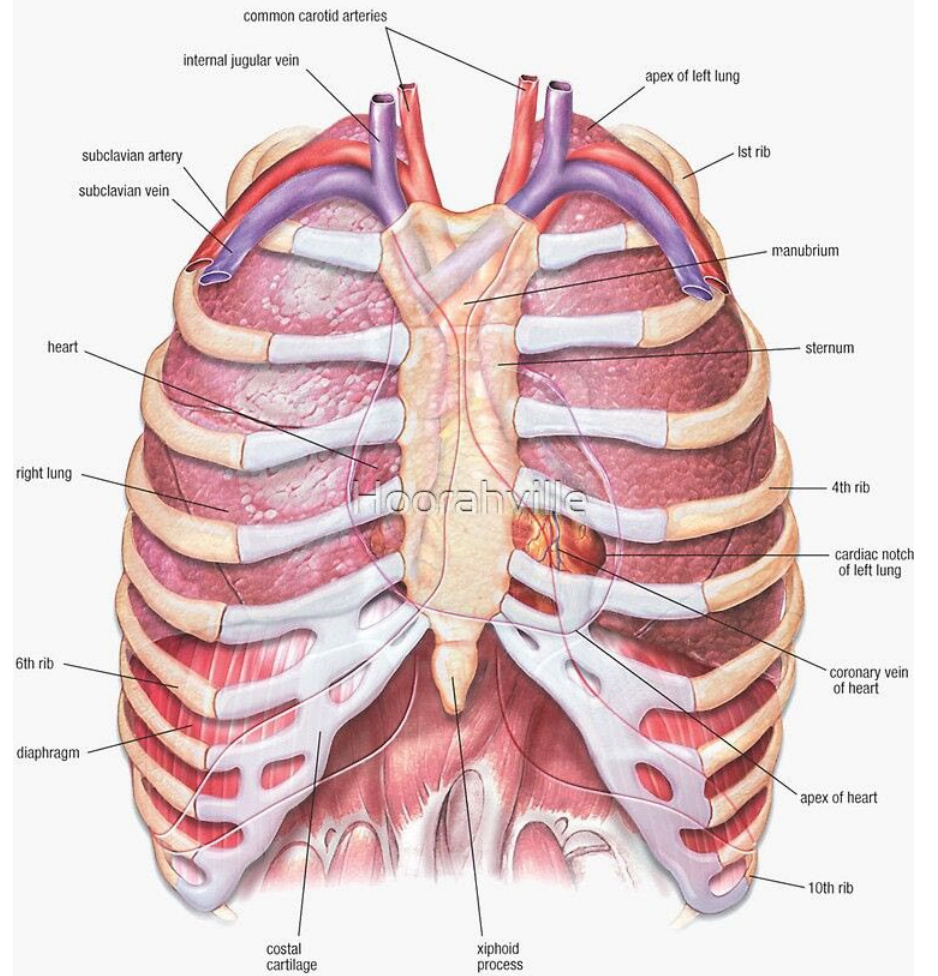
1. Acute or Life Threatening
2. Chronic

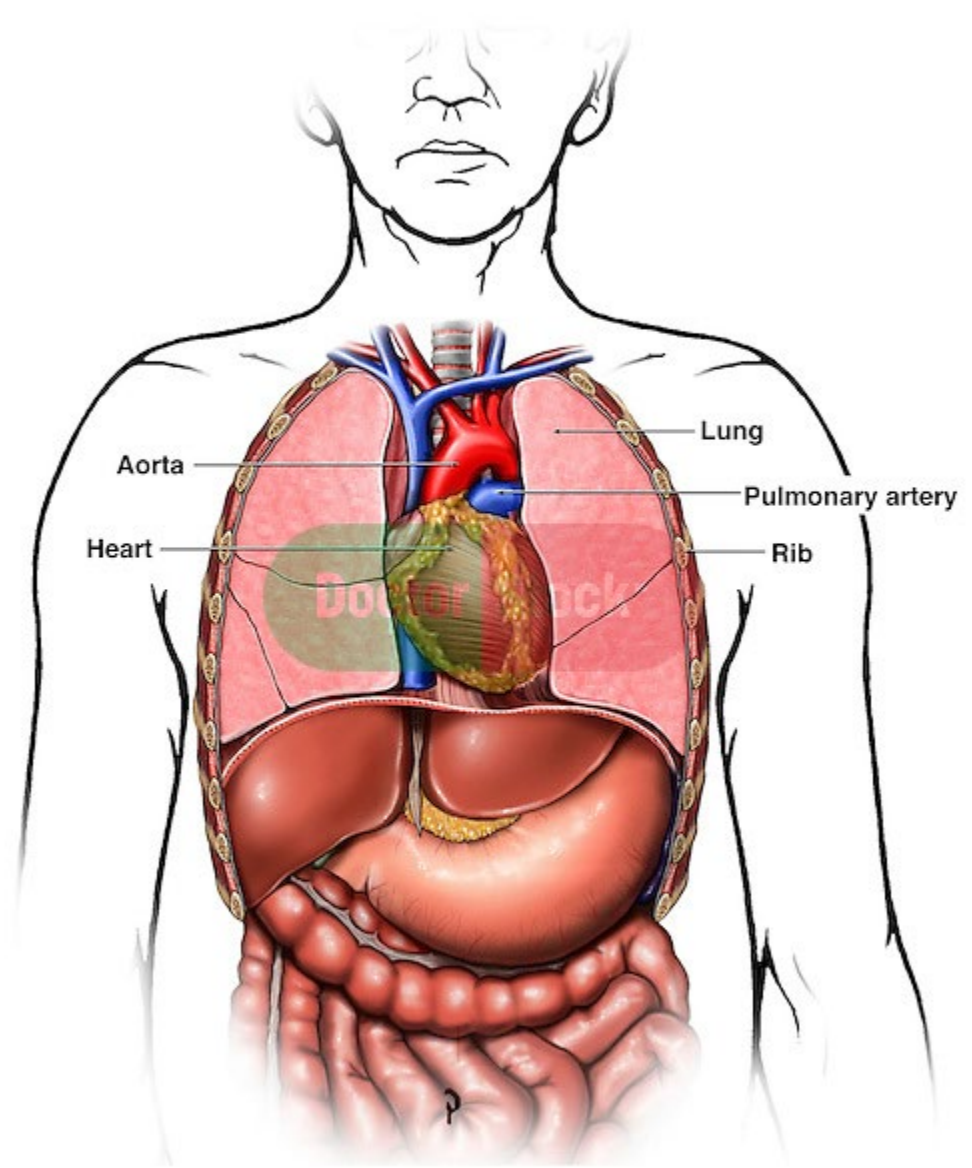
or,

1. cardiac
2. Non-Cardiac



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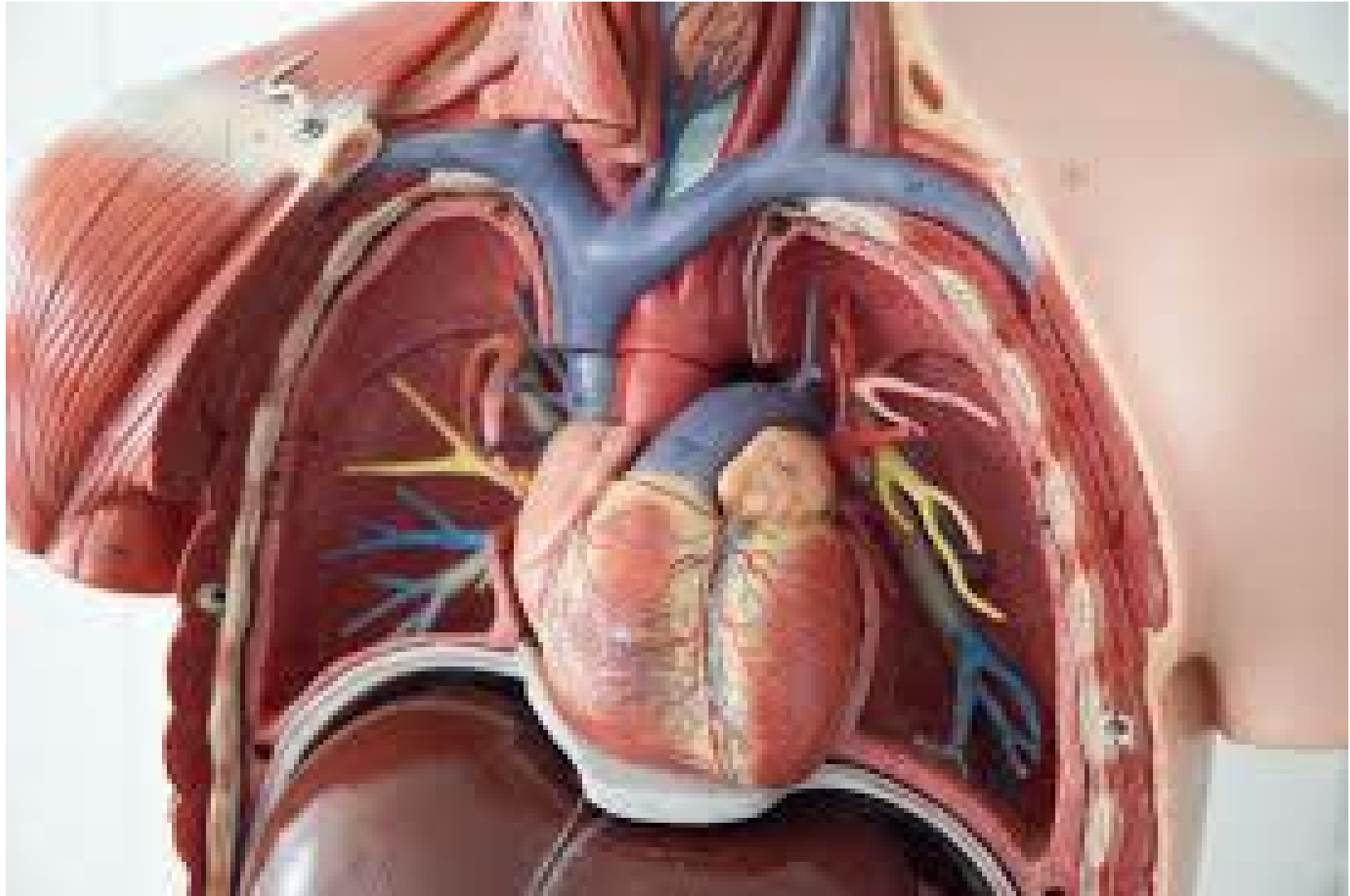
Aorta

Lung

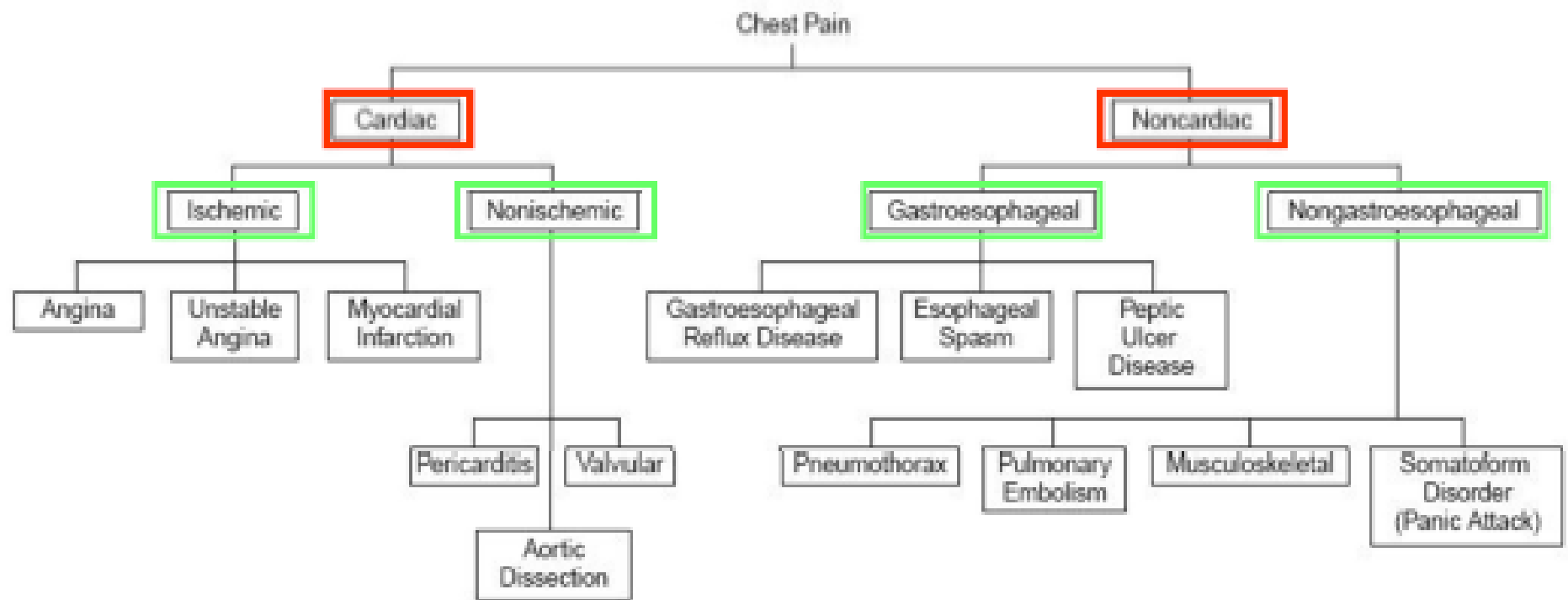
Heart

Pulmonary artery

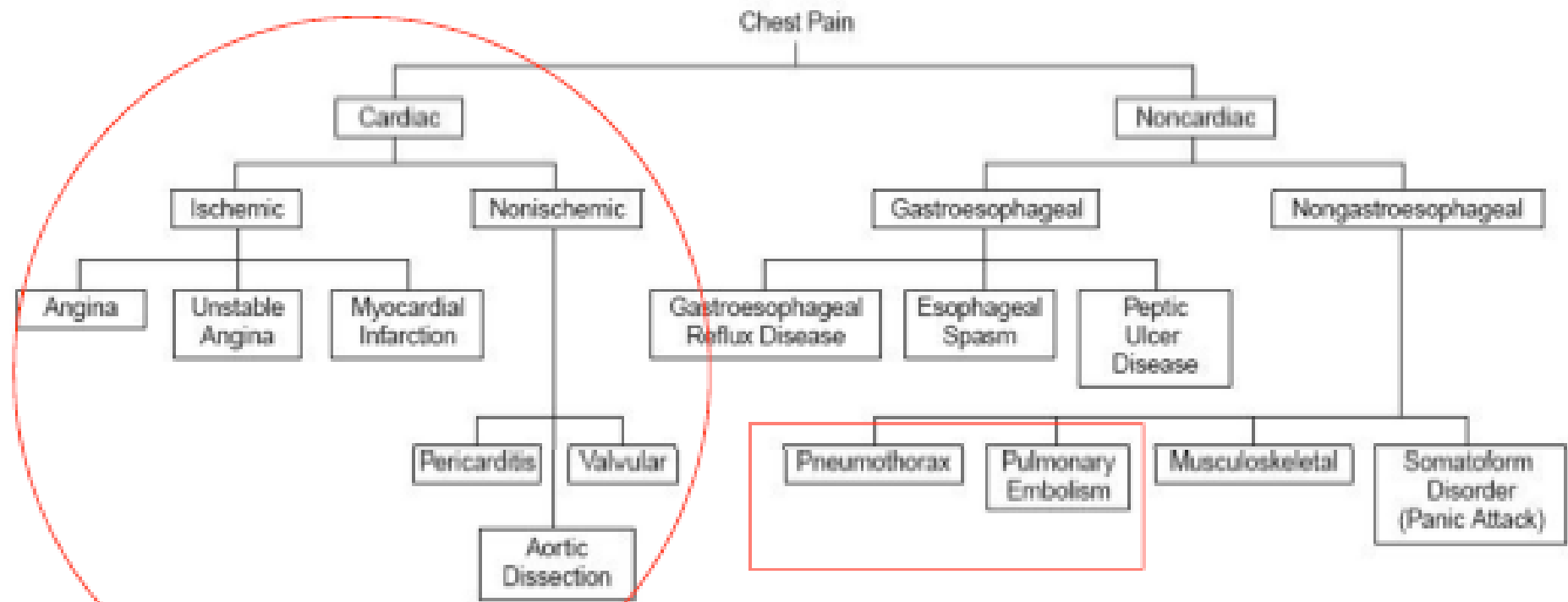
Rib



Causes of chest pain



Target at killers first



Chest Pain

Onset & Duration

Site or Location

Radiation

Character

Aggravating factors

Relieving factors

Others Association

Evaluation of Chest Pain

1. Duration of Chest Pain:

Lasting few Seconds:

< 20 sec: Angina excluded & usually due to-
MSK pain
Hiatus Hernia
Functional

Lasting few Minutes:

2-5 minutes (not > 15 min)- Angina Pectoris
> 20 minutes: UA
> 30 minutes: MI

2. Location & Radiation of Chest Pain:

Ischemic:

Angina Pectoris:

- Retrosternal tightness
- Radiates to neck, jaw , shoulder or arms (L > R)
- Substernal or left chest pain- LCA
- Epigastric, radiating to neck or jaw- LADA

Pericarditis:

- Left sided than central
- Often radiates to neck, jaw , shoulder or arms (L > R)

Aortic dissection:

- Acute, excruciating
- May migrate from anterior chest to the back. (anterior- >90% cases AA, Interscapular region- >90% cases DA)
- May radiates to neck, arms and legs depending on its location & progression.
- Associated with Severe HTN, Marfan syndrome, chest trauma or iatrogenic trauma

Non Cardiovascular:

- I) Localized to Left nipple or cardiac apex or radiate to left lower chest-
 - Cervicodorsal osteoarthritis
 - PUD or Gaseous distension of stomach
 - Functional causes
- II) Tietze's syndrome:
 - Localized to Costochondral & Costo-sternal joints
 - While in herpes zoster, Persistent, localized to a dermatome.
- III) Thoracic outlet syndrome:
 - Pain & paresthesias along the ulnar nerve and forearm.
- IV) Pain due to cervical spine disorder:
 - radiate to left shoulder & arm.
- V) Substernal or Epigastric:
 - Esophageal disorder
 - Acid peptic disorder
 - Acute pancreatitis

Character of chest pain:

1. Angina: Angina means choking not pain & often described as: Pressing, Squeezing, Heaviness, Constricting, Tightness, Bursting, Suffocating, weight in the chest.
2. Nocturnal anginal pain: Due to decreases diastolic blood pressure at night – CHD, AR.
3. Sudden, excruciating & persistent- Aortic dissection
4. Pain in sharper than angina- Acute pericarditic
5. Shooting or lancinating pain- MSK or neural origin
6. Squeezing, burning or aching – Esophageal spasm
7. Steady, last for 2-4 hours & subside spontaneously – Biliary Colic

Aggravating and Relieving factors:

BREATHING

MOVEMENT

STRESS

EXERTION

AFTER EATING OR ETOH

LAYING DOWN

REST OR DECREASED

MOVEMENT

POSITION

SITTING UP OR LEANING

FORWARD

DECREASED OR

SHALLOW

BREATHING

DIET

ANTACIDS

MEDICATIONS

Associated Symptoms:

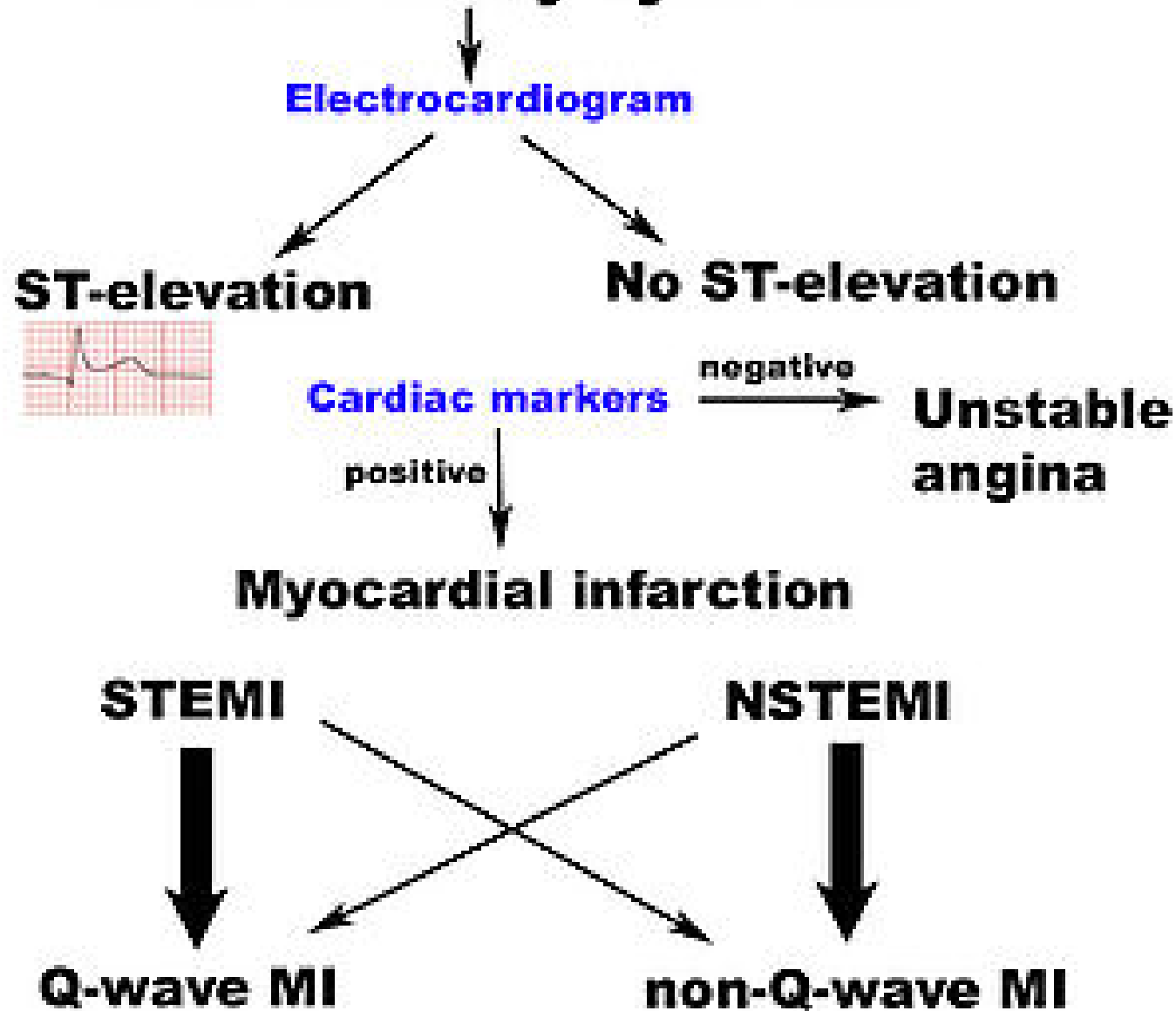
Sweating, palpitation, SOB, Fever etc

CARDIAC CHEST PAIN

Angina Pectoris:

- Retrosternal tightness
- Radiates to neck, jaw , shoulder or arms (L > R)
- Brought on by:
 - Exertion
 - Emotion
- **Lasts minutes (2 - 10 min)**
- **Relieved by NTG or rest**
- **EKG: Transient STE or ST depression**

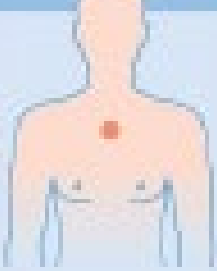
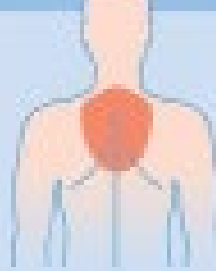
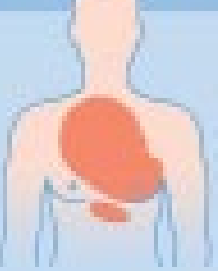
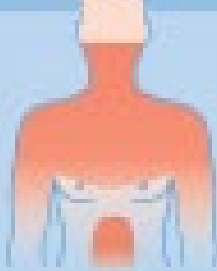






Acute Coronary Syndrome



LOW

Likelihood of myocardial infarction (MI)

HIGH

						
I. Clinical setting Symptoms and vital signs					CPR/shock	
II. Electro-cardiogram (ECG)	 Normal ECG	 ST depression (mild)	 ST depression	 ST elevation	 ST elevation	
III. Troponin level at 0h		-	-/+	+	++	+++
IV. Troponin change (within 1, 2 or 3h)		-	-/+	+	++	If any of the above, consider direct rule-in

Acute Coronary Syndrome (ACS)

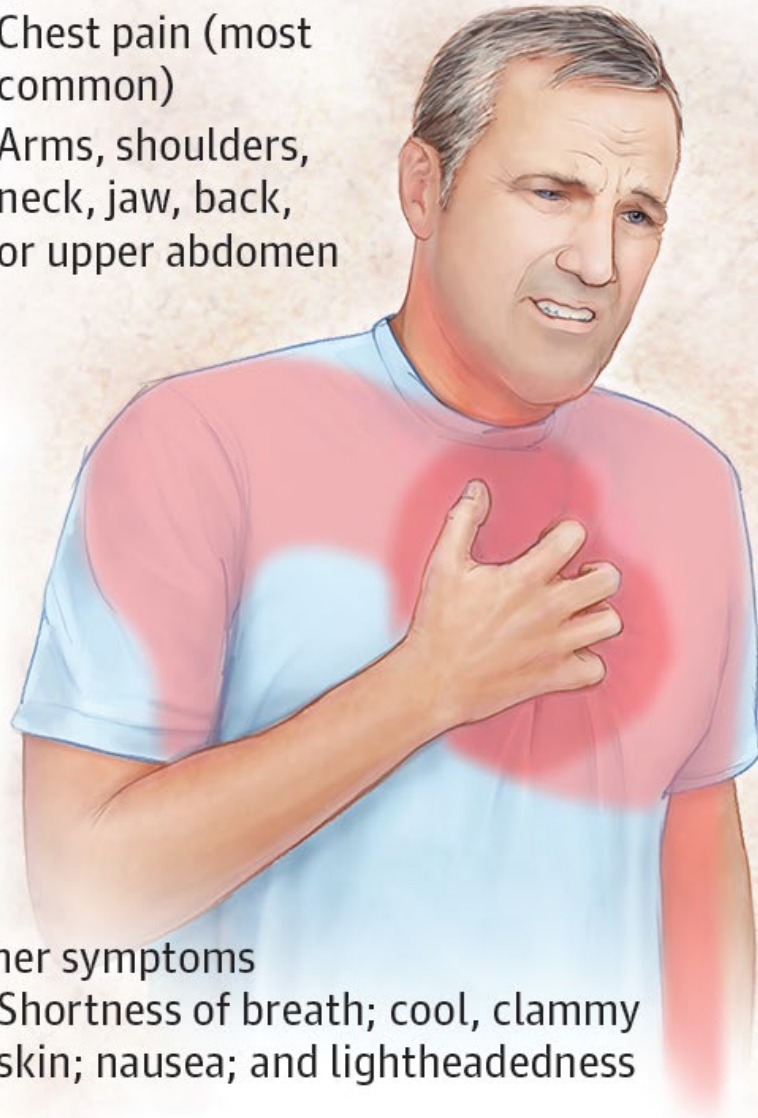
ACS Symptoms

Pain

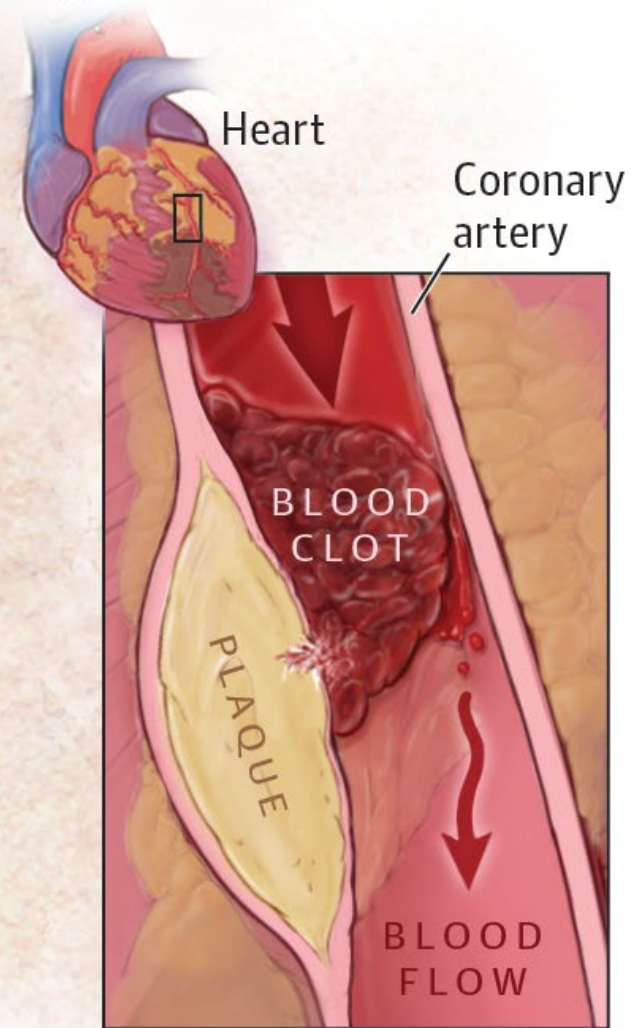
- Chest pain (most common)
- Arms, shoulders, neck, jaw, back, or upper abdomen

Other symptoms

Shortness of breath; cool, clammy skin; nausea; and lightheadedness



Blocked blood vessel that supplies the heart muscle



Decreased blood flow to the heart muscle

DIAGNOSTIC TESTS

1. ECG or EKG
2. CXR
3. Troponin-I
4. Echocardiography
5. ETT
6. CT Chest
7. Coronary Angiogram (CAG)
8. USG W/A

CXR

Upper GI series
or endoscopy

TREATMENT

General Measure:

1. Reassurance
2. Bed rest
3. Propped up position
4. Oxygen inhalation- 5 L/M
5. I/V Canula
6. Pain relief: Nidocard Spray- 2 puff
S/L,
7. Inj. Pathedin 100 + Inj. Vergon, I/V
Stat.
8. Inj. Morphine

TREATMENT

General Measure:

1. Tab. Ecosprin 75, 4 tab stat
2. Tab. Clopid 75, 4 tab stat
3. Tab. Atova 40, 2 tab stat
4. Tab. Nitrin SR 2.6, 1+0+1
5. Tab. Bislol 2.5, 1+0+0
6. Tab. Osartil 50, 0+0+1
7. Others

TREATMENT

Special Measure:

1. **Primary PCI**
2. **Thrombolysis: STK**
3. **LMWH- Inj. Parinox 40/60/80, 1 mg/kg, S/C bd.**
4. **PTCA**
5. **CABG**
6. **Others**

CARDIAC CHEST PAIN

Pericarditis:

- Sharp pleuritic chest pain
 - Worse lying; better sitting
 - Friction rub heard on auscultation
 - Lasts hours to days
 - EKG: Typically PR depression and ST elevation
-

AORTIC CHEST PAIN

Aortic Aneurysm:

- Deep steady pain located at site of pressure on musculoskeletal system
 - May have cough, dysphagia, or other sx from local compression
-

AORTIC CHEST PAIN

Aortic Dissection:

- Sudden and severe at inception
 - May be chest and/or back pain
 - Pulse deficits or aortic valve insufficiency
-

PULMONARY CHEST PAIN

Pleurisy:

- Sharp pleuritic chest pain
 - Worse lying; better sitting
 - Pleural rub on exam
 - Lasts hours or days
 - Often with cough, respiratory infection
-

PULMONARY CHEST PAIN

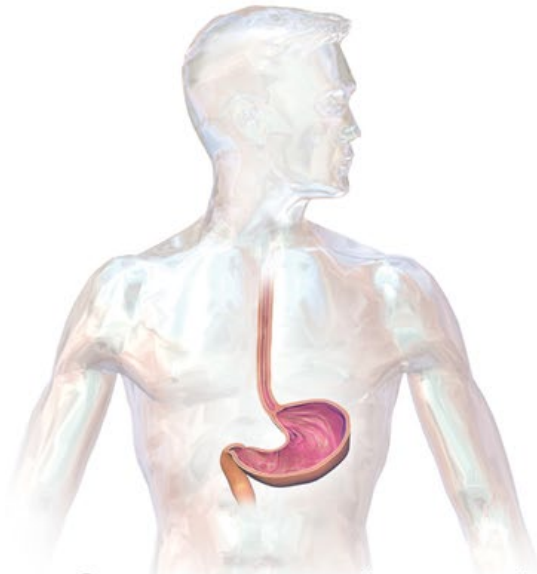
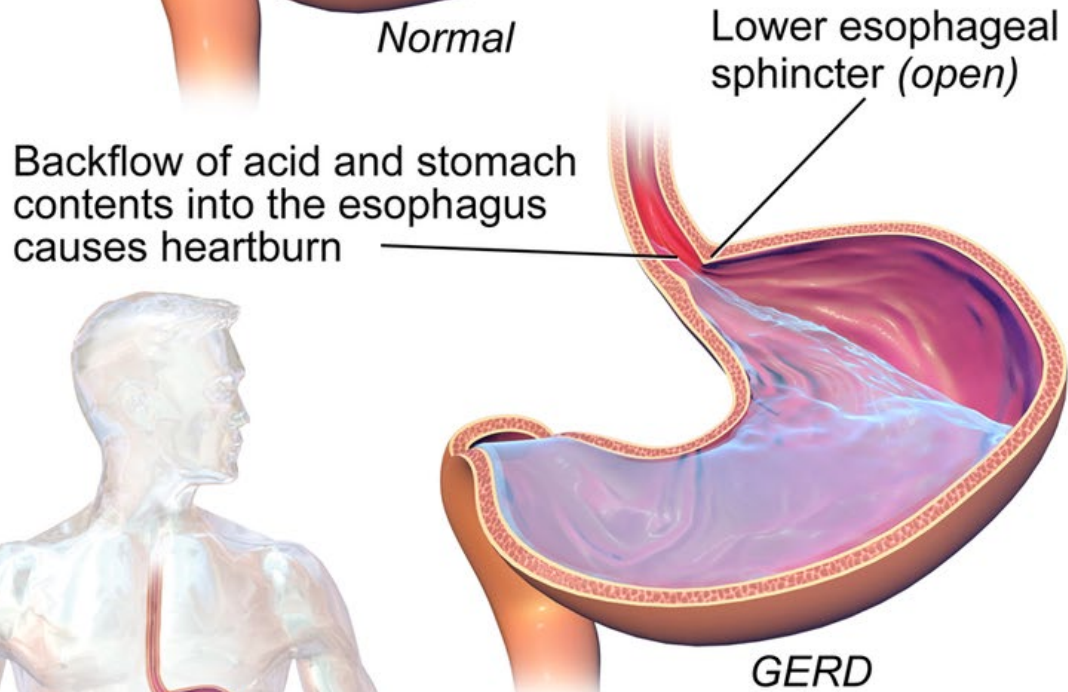
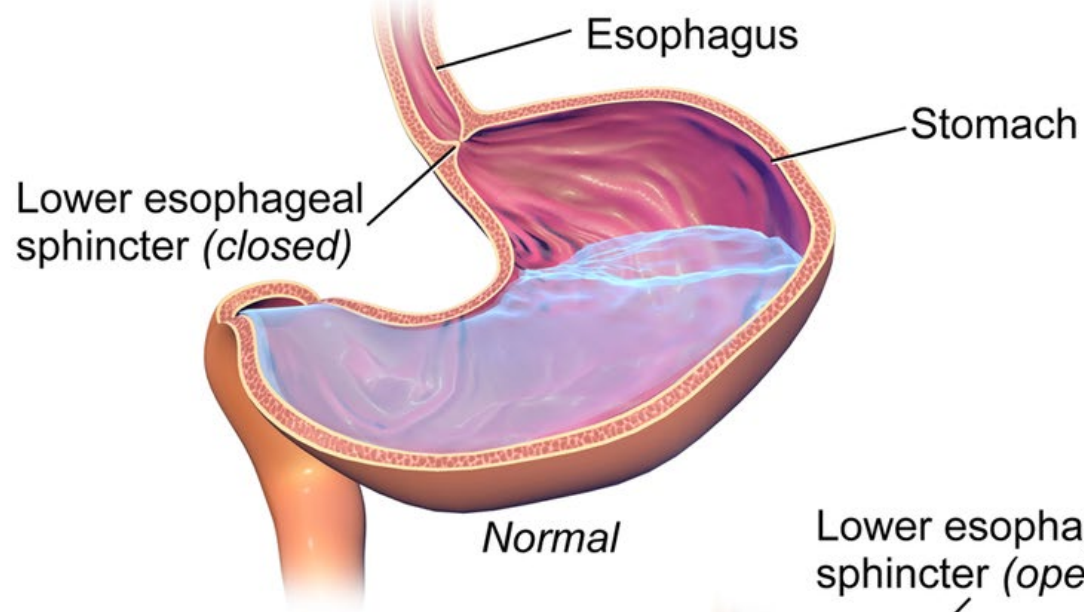
Pulmonary Embolus:

- Sudden severe pain with SOB
 - Pleuritic in nature
 - Predisposition to venous clotting
 - Hypoxia and tachycardia
-

GASTROINTESTINAL CHEST PAIN

Gastroesophageal Reflux: (GERD)

- Retrosternal burning
 - Precipitated by foods or supine position (night-time)
 - Relieved by antacids, not NTG
-



Gastroesophageal Reflux Disease (GERD)

GASTROINTESTINAL CHEST PAIN

Peptic Ulcer Disease:

- Epigastric ache or burning
 - After meals, not exertional
 - Gnawing pain at night
 - Relieved by antacids, not NTG
-

GASTROINTESTINAL CHEST PAIN

Esophageal Spasm:

- Retrosternal pain and dysphagia
 - Precipitated by meals
 - Not exertional
 - May be relieved by NTG
-

GASTROINTESTINAL CHEST PAIN

Biliary Colic:

- Constant deep RUQ pain
 - Brought on by fatty foods, not exertion
 - Not relieved by antacids or NTG
-

MUSCULOSKELETAL CHEST PAIN

Costochondritis:

- Sternal pain worsened by chest movement
 - Costochondral junctions sensitive to palpitation
 - Worse on left side
 - Relieved by antiinflammatory agent or steroid injection
-

MUSCULOSKELETAL CHEST PAIN

Cervical Radiculitis:

- Constant pain or shooting pains
 - May be in dermatomal distribution
 - Worsened by neck motion
-

PSYCHOLOGIC CHEST PAIN

Panic Disorder:

- Dull constricting ache with SOB
 - Circumoral numbness or lightheadedness
 - Recent unusual stress
 - Recurrent episodes in healthy people
-



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THANK YOU