how to approach patient with chest pain?

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What Is Chest Pain?

- **Chest pain** is discomfort, typically in the front of the chest.
- It may be described as sharp, dull, pressure, heaviness, or squeezing.
- Associated symptoms may include pain in the shoulder, arm, upper abdomen, or jaw, or nausea, sweating, or shortness of breath.

Differential diagnosis:

Cardiovascular
Stable or unstabl angina :Acute coronary syndrome Myocardial infarction "heart attack"
Aortic stenosis
Hypertrophic cardiomyopathy
Aortic dissection
Aortic aneurysm
Arrhythmia - atrial fibrillation
Myocarditis

Respiratory
Asthma
Bronchitis
Pulmonary embolism
Pneumonia
Lung cancer
Tuberculosis
Pleurisy

Gastrointestinal
Gastroesophageal reflux disease
Diffuse esophageal spasm
Esophageal rupture
Esophagitis
Hiatus hernia
Perforated peptic ulcer
Acute gastritic

Chest wall
Costochondritis
Fibromyalgia
Herpes zoster
Osteoarthritis
Tuberculosis
Rib fracture

Psychological
Panic attack
Anxiety
Clinical depression

When Is Chest Pain an Emergency?

Seek emergency care if the pain is crushing or squeezing and accompanied by any of these symptoms:

Choking or difficulty swallowing

Cold sweat

Nausea or vomiting

Shortness of breath

Fast or irregular heart rate

Numbness or discomfort in hand or arms

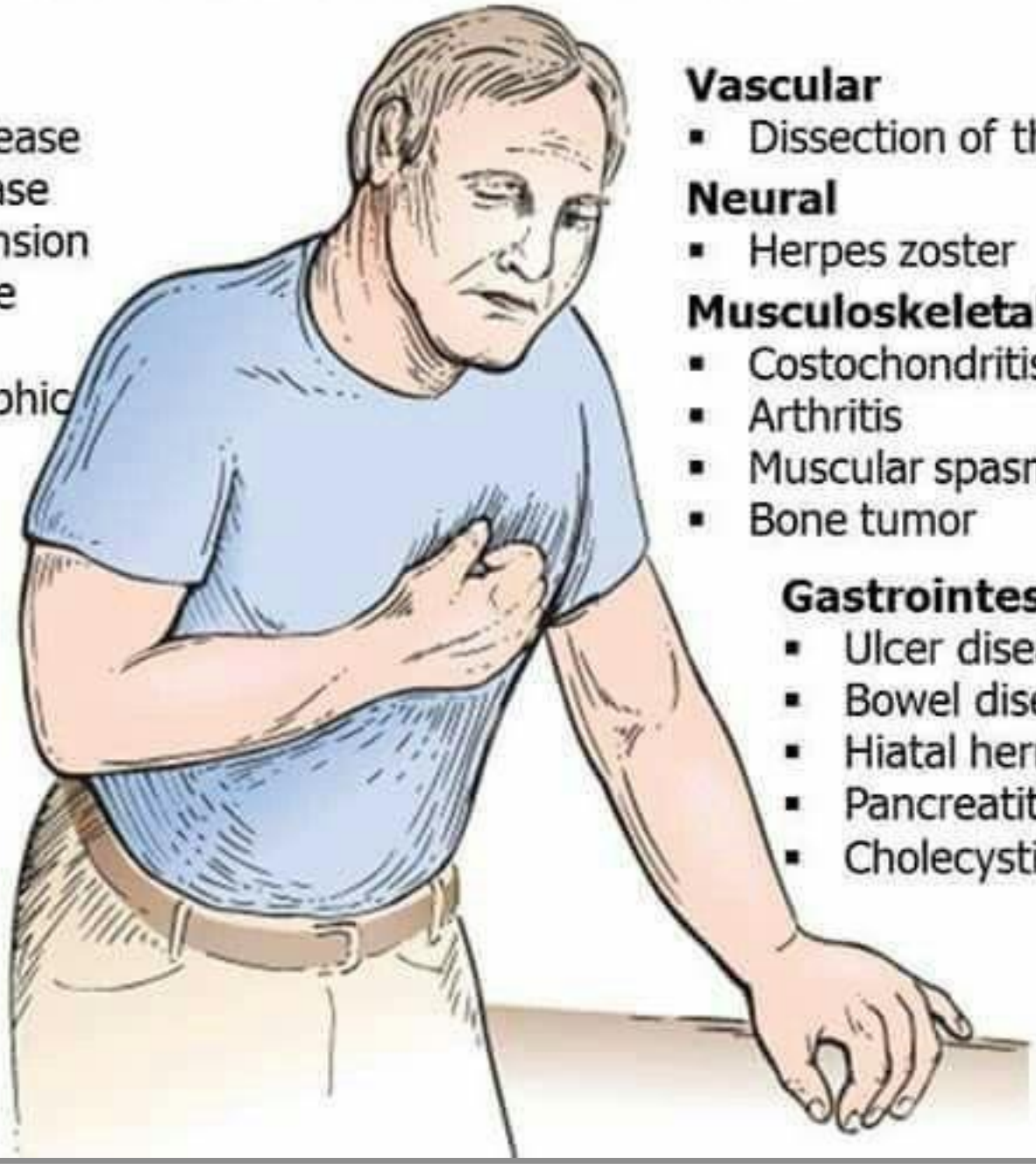
Pain that spreads from the chest to the neck, jaw, arms, or shoulders

Common Causes of Chest Pain

Cardiac
- Coronary artery disease
- Aortic valvular disease
- Pulmonary hypertension
- Mitral valve prolapse
- Pericarditis
- Idiopathic hypertrophic subaortic stenosis

Pulmonary
- Pulmonary embolism
- Pneumonia
- Pleuritis
- Pneumothorax

Emotional
- Anxiety
- Depression



Vascular
- Dissection of the aorta

Neural
- Herpes zoster

Musculoskeletal
- Costochondritis
- Arthritis
- Muscular spasm
- Bone tumor

Gastrointestinal
- Ulcer disease
- Bowel disease
- Hiatal hernia
- Pancreatitis
- Cholecystitis

Diagnostic approach:

- **History taking:**
  -Gain further details about the chest pain using *SOCRATES*.

Pain

Site
Quality
Intensity
Timing
Aggrevating/relieving factors
Symptoms associated

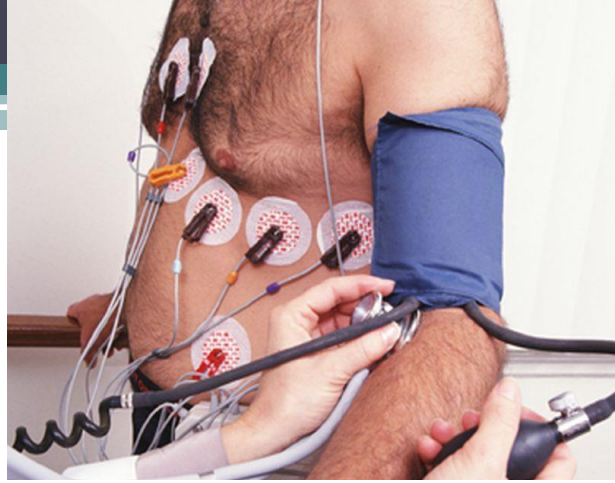
Site
Onset
Character
Radiation
Associated symptoms
Timing
Exacerbating/relieving

Physical examination:

CHEST PAIN: PHYSICAL EXAM

- **Review vital signs**
  - * Fever: Pericarditis, Pneumonia
  - * Check BP in both arms: Dissection
  - * Decreased sats: More commonly in pneumonia, PE, COPD
  - * Unexplained sinus tachy: consider PE
- **Neck:**
  - * Look for tracheal deviation: PTX
  - * Look for JVD: Tension PTX, Tamponade, (CHF)
  - * Look for accessory muscle use: Respiratory Distress (COPD/ASTHMA)
- **Chest wall exam**
  - * Look for lesions: Herpes Zoster
  - * Palpate for localized tenderness: Likely musculoskeletal cause
- **Lung exam**
  - * Decreased breath sounds/hyperresonance: PTX
  - * Look for signs of consolidation: Pneumonia
  - * Listen for wheezing/prolonged expiration: COPD

Medical tests:



- On the basis of the above, a number of tests may be ordered:
- An electrocardiogram (ECG)
- Chest radiograph or chest x rays are frequently performed
- Echocardiography can be useful in patients with known cardiac disease or aortic dissection
- CT scanning is used in the diagnosis of aortic dissection
- V/Q scintigraphy or CT pulmonary angiogram (when a pulmonary embolism is suspected)

Blood tests:

- •Troponin I or T (to indicate myocardial damage)
- •Complete blood count
- •Electrolytes and renal function (creatinine)
- •Liver enzymes
- •Creatine kinase (and *CK-MB* fraction in many hospitals)
- •D-dimer (when suspicion for pulmonary embolism is present but low)

•serum lipase to exclude acute pancreatitis

Management

- Management of chest pain varies with the underlying cause of the pain and the stage of care.
- **Prehospital care**:
- Chest pain is a common symptom encountered by emergency medical services. Aspirin increases survival in people with acute coronary syndrome and it is reasonable for EMS.

Hospital care:

- Hospital care of chest pain begins with initial survey of a person's vital signs, airway and breathing, and level of consciousness.
- This may also include attachment of ECG leads, cardiac monitors, intravenous lines and other medical devices depending on initial evaluation.
- After evaluation of a person's history, risk factors, physical examination, laboratory testing and imaging, management begins depending on suspected diagnoses.
- Depending upon the diagnosis, a person may be placed in the intensive care unit, admitted to the hospital, or be treated outpatient.
- For persons with suspected cardiac chest pain or acute coronary syndrome, or other emergent diagnoses such as pneumothorax, pulmonary embolism, or aortic dissection, admission to the hospital is most often recommended for further treatment.

Outpatient care:

- For people with non-cardiac chest pain, cognitive behavioral therapy might be helpful on an outpatient basis.
- For persons with chest pain due to gastroesophageal reflux disease, a proton-pump inhibitor has been shown to be the most effective treatment.[
- treatment with proton pump inhibitors has been shown to be no better than placebo in persons with noncardiac chest pain not caused by gastroesophageal reflux disease.
- For musculoskeletal causes of chest pain, manipulation therapy or chiropractic therapy, acupuncture, or a recommendation for increased exercise are often used as treatment.
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- A combination therapy of nonsteroidal anti-inflammatory drugs and manipulation therapy with at-home exercises has been shown to be most effective in treatment of musculoskeletal chest pain

Thank you…