

**CHEST PAIN: WHAT *ELSE* NOT TO MISS.**  
**An Approach to Non-Cardiac Chest Pain (NCCP)**

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**Learning Objectives:**

1. Be reminded of *other* serious causes of chest pain
2. Establish a systematic approach to a differential diagnosis
3. Establish a systematic approach to each specific diagnosis

**Chest pain:**

- Common presenting symptom to any setting
- 5 - 20% of all encounters; 12% prevalence in general population
- Increasing number of presentations (Heart Awareness)
- 75% of these eventually diagnosed as non-cardiovascular
- 1/3 of cardiac angiograms show normal coronary arteries (USA)

**Non-cardiac Chest Pain (NCCP):**

- Most are benign, some are serious, only a few are fatal
- Complacency once ACS is ruled out
- Mortality high for some missed diagnoses
- Highest % of ED malpractice dollars (US) for missed ACS & PTE

**Common Causes of Chest Pain:**

**Cardiovascular (coronary)**

- ACS (STEMI; NSTEMI; unstable angina)

**Non-vascular cardiac (non-coronary)**

- Pericarditis; myocarditis

**Non-cardiac vascular**

- Aortic dissection

**Pulmonary**

- Pneumothorax; pneumonia; pleurisy

### **Esophageal**

- Esophageal perforation; esophageal motility disorders

### **Gastrointestinal**

- Hepatobiliary disease; PUD; GERD

### **Musculoskeletal**

- Costochondritis; thoracic radiculopathy; precordial catch syndrome

### **Hematological**

- Pulmonary thromboembolism; acute chest syndrome (SCD)

### **Psychiatric**

- Anxiety; somatization

### **Six things to rule out every time ("the sinister 6"):**

- **Acute coronary syndrome**
- **Pericarditis**
- **Aortic dissection**
- **Pulmonary thromboembolism**
- **Spontaneous pneumothorax**
- **Esophageal perforation**

### **Take Home Points:**

1. You must always consider the upper abdomen in patients presenting with chest pain.
2. Many things other than AMI cause ST elevation on ECG.
3. Suspected pericarditis is an absolute contraindication to thrombolytic therapy.
4. Aortic dissection must be ruled out early in the *hypertensive* patient with chest pain.

5. A normal PaO<sub>2</sub>, normal PaCO<sub>2</sub>, or normal A-aO<sub>2</sub> gradient on ABG does not exclude the diagnosis of PTE.
6. Tension pneumothorax is a clinical, not radiographic, diagnosis. Suspicion is indication for immediate decompression.
7. Survival for esophageal perforation is directly related to the speed of diagnosis.

### References:

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