

HISTORY: CHEST PAIN

Chest pain is one of the most common presenting symptoms to the acute medical take (40% of medical admissions!), and comes up commonly in OSCE examinations. Chest pain may be benign, but can also be life threatening; a clear history and wide differential is required to get to the diagnosis.

It is important to look at the whole patient assessment, including clinical examination and investigations (and an unwell patient should always be initially assessed and managed using the 'DR ABCDE' approach). However, a good history is the first, and most important, step to guide further assessment.

History of Presenting Complaint:

- Ask in detail about the pain. Use **SOCRATES**
 - **SITE**- where is the pain/where is it at its worst? **Cardiac pain** tends to be central, poorly localised (**visceral** pain pathway). **Pleuritic** pain is at site of pleural irritation, well localised (**somatic** pain pathway).
 - **ORIGIN**- where did the pain start?
 - **CHARACTER**- can you describe how the pain feels (dull, sharp, tearing, stabbing, gripping, crushing, tingling, shooting). **See Table 1 for associations.**
 - **RADIATION**- e.g. radiation down left arm/jaw is associated with **cardiac chest pain**; radiation around rib cage with **radicular/dermatomal pain**; front to back with **aortic dissection or pancreatitis**.
 - **ASSOCIATED SYMPTOMS**
 - Sweating, nausea, vomiting: cardiac chest pain. If known to have angina, does this come on with less exertion, or at rest (suggestive of 'crescendo angina')
 - Shortness of breath: cardiac CP, primary lung pathology, severe metabolic acidosis ('respiratory compensation'), or reaction to being in pain itself.
 - Haemoptysis, weight loss: **lung cancer**
 - Dizziness/palpitations/syncope: cardiac cause (possibly an arrhythmia)
 - Productive cough: pneumonia
 - **TIME COURSE**: any recent viral illness (costochondritis, pleurisy). Cardiac chest pain **tends to last >15mins**. Pain which is constant over several days or lasting a few seconds less likely to be significant. If **pain wakes them up from sleep** it is more likely to be significant.
 - **EXACERBATING OR RELIEVING FACTORS**
 - Brought on by exertion, relieved by rest: cardiac
 - Worse on inspiration: pleuritic chest pain/pericarditis
 - Worse on lying back: pericarditis
 - **SEVERITY** - scale of 1-10/10, 10 being the worst pain imaginable

OSCE-Aid Tips

Patients often use the same words as doctors but mean very different things. '**Sharp**' or '**chronic**' mean specific things to doctors, but to some patient these are synonyms for '**severe**'.

- **Risk factors:** *This will help you to predict the likelihood of a given diagnosis for the patient in front of you.*
 - **Cardiovascular:** age, male gender, smoking, hypertension, type 2 diabetes, stroke, peripheral vascular disease, high cholesterol, previous MI, family history
 - **Pulmonary embolism:** Use the **Well's score**. Long haul flights, immobilisation >3 days, recent surgery, asymmetrical leg swelling, use of OCP (women), pregnancy
 - **Recent viral illness:** pleurisy, costochondritis, pericarditis
 - **Aortic dissection:** long standing, poorly controlled hypertension, connective tissue disease (e.g. Marfan Syndrome)
 - **Pancreatitis, peptic ulcer disease:** excessive alcohol intake. Gallstones are the other common cause of pancreatitis.

Other Past Medical History

- Anxiety/depression/mental illness – while this may make a psychological cause of chest pain more likely, do not be misled! There is a **higher incidence of coronary artery disease** in patients with mental illness, particularly in patients taking newer antipsychotics e.g. **olanzepine** (causes weight gain, accelerates atherosclerosis)
- Previous episodes of chest pain; were they the same or different?
- Any previous investigations for chest pain: **a recent normal angiogram** makes coronary artery disease much less likely as a cause of chest pain

Drug History

- **ACE inhibitors, statins, beta blockers:** patients are often put on these medications after an MI, if they have heart failure or for **primary prevention**
- **OCP:** risk of PE
- **Warfarin/oral anticoagulants** make a pulmonary embolism much less likely
- **Multiple antihypertensives** – resistant hypertension – think about aortic dissection.

Family history:

- MI (Men <55, women <65)
- Clotting disorders e.g. Factor V Leiden (Pulmonary embolism)

Social History

- Alcohol and smoking
- Any current stressors
- Occupation
- Recent travel/long haul flights
- Social support at home

Table 1

System	Causes of chest pain	Typical nature of pain
Cardiovascular	<p>Ischaemic: Stable angina, acute coronary syndrome, vasospasm, hypertrophic cardiomyopathy, aortic stenosis</p> <p>Non-ischaemic: aortic dissection, mitral valve disease, pericarditis, myocarditis.</p>	<p>Tight, heavy, gripping, crushing, 'like a band'. Tends to be related to exertion (unless ACS), lasting >15mins.</p> <p>Aortic dissection may be 'tearing' through to the back. Pericarditis is sharp and worse on lying flat, or on a deep breath</p>
Respiratory	Pneumonia, pleural effusion, pulmonary embolism, pleurisy, lung cancer	'Pleuritic chest pain' due to irritation of the parietal pleura- sharp, stabbing, worse on inspiration. NB diaphragmatic irritation (phrenic nerve) can present with shoulder tip pain
Musculoskeletal	Costochondritis, trauma, bone metastases, fibromyalgia	Often atypical. May be worse on movement, on palpation, may be achy, dull or sharp.
Gastrointestinal	GORD, oesophageal spasm, peptic ulcer disease, pancreatitis, gastritis	GORD- burning, radiation up from epigastrium. Oesophageal spasm may be similar to cardiac chest pain (and is relieved by GTN!). Pancreatitis is sharp, epigastric, however may mimic cardiac chest pain.
Psychological	Anxiety, depression, panic disorder	Often atypical, not following a particular pattern. May be 'there all the time' or for a few seconds only.
Dermatological	Herpes zoster (Shingles)	Caused by damage/inflammation to dermatomal nerve fibres 'shooting'. Follows dermatomal distribution.
Miscellaneous	Sickle cell crisis, breast disease	Sickle cell painful crisis can be crampy in nature (due to blockage of microvasculature resulting in local tissue ischaemia).