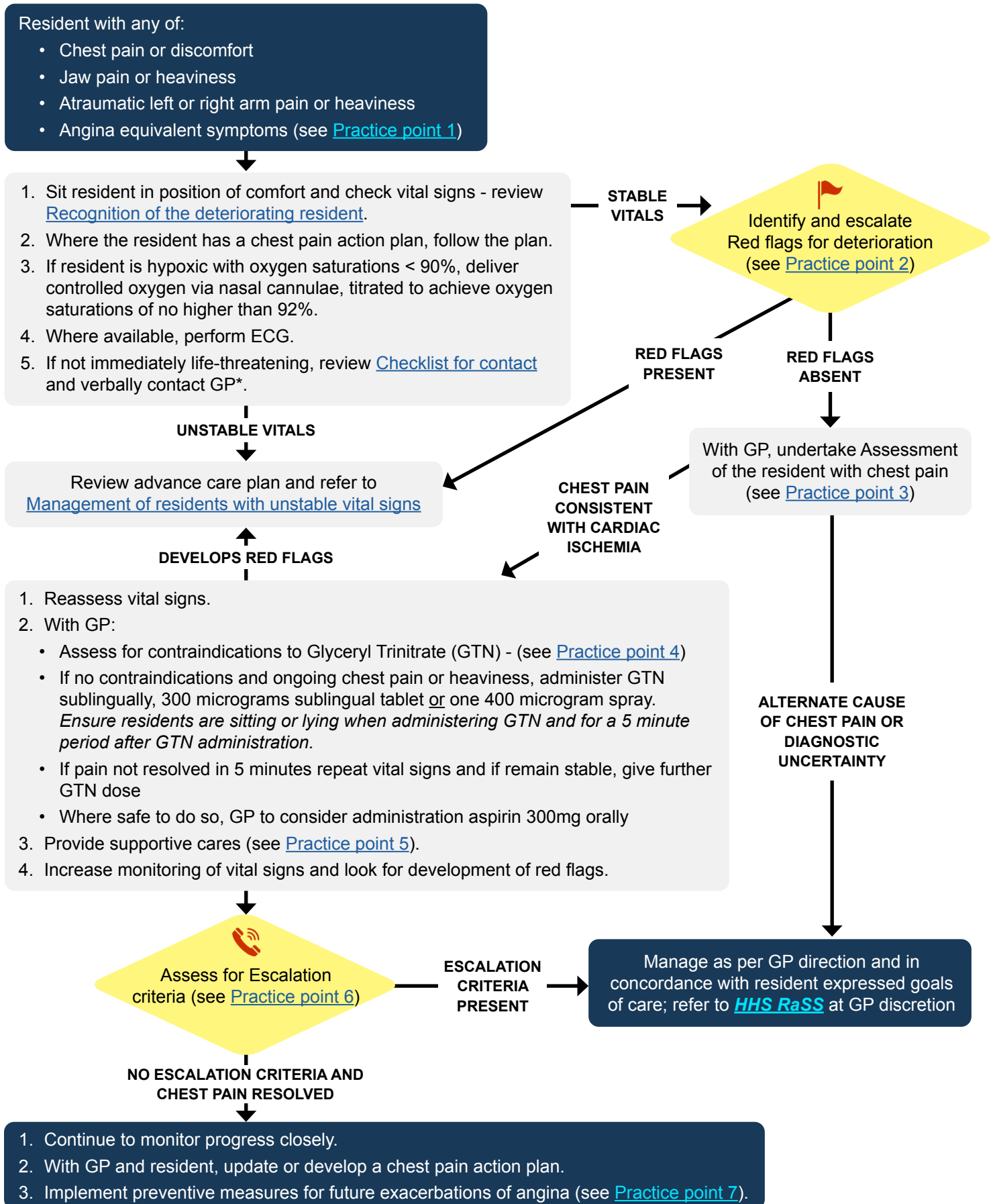


Chest pain



*Where timely, arrange telehealth or face-to-face GP review

This information does not replace clinical judgement. Printed copies are uncontrolled.

Chest pain practice points

1) Angina equivalent symptoms

Angina in older people may present with any of the following:

1. Typical angina symptoms (pressure-like chest pain / discomfort, central with radiation to jaw, neck, arm / shoulder or upper abdomen, worse with exertion).
2. Shortness of breath.
3. Diaphoresis (sweating).
4. Nausea and vomiting.
5. Syncope or pre-syncope (dizziness).

Cardiac ischemia may also present with delirium or an unexplained fall.

Angina may be precipitated by underlying illnesses that stress the cardiac system - examples include underlying infection, dehydration, GI bleed or exacerbation of chronic disease.

2) Red flags for deterioration in resident with chest pain

If any of the following red flags are identified in residents who have chest pain, review the resident's advance care plan, consult resident or substitute health decision maker (or nominated decision support person) and refer to [Management of residents with unstable vital signs pathway](#).

The following are considered red flags in the resident with chest pain:

- Vital signs in the red or danger zone - refer to [Recognition of the deteriorating resident](#)
- Altered mental state or difficult to rouse relative to baseline
- The resident has ongoing severe chest pain despite appropriate management
- Syncope
- Chest pain associated with sudden onset of new neurological deficit
- Significant shortness of breath associated with chest pain
- ECG findings of new ST elevation or ST depression

Note: a decision to transfer a resident to hospital with chest pain should always consider resident goals of care and be respectful of informed choice by the resident (or substitute decision maker).

3) Assessment of the resident with chest pain

Goals of assessment of the resident with chest pain are to:

1. Identify the cause of chest pain.
2. Where the pain is consistent with cardiac ischemia, identify precipitants.
3. Identify complications of cardiac ischemia.

Identify the cause of chest pain -

- History from the resident and carers (and family where appropriate and relevant) for:
 - Nature and duration of pain
 - Radiation of pain
 - Associated symptoms
 - Prior episodes of the same pain and identified cause
- Examination including:
 - Vital signs
 - Focal chest findings such as focal crackles that do not clear with coughing
- Examples of assessment considerations are outlined in Table 1.
- Where a cardiac cause remains possible, perform an ECG and consider blood tests to assess haemoglobin, electrolytes, and troponin.

Chest pain practice points (cont'd)

3) Assessment of the resident with chest pain (cont'd)

Table 1: Examples of considerations in assessment of acute chest pain

Assessment features		Cardiac ischemia	Aortic dissection	Pneumonia	Pulmonary embolism	Traumatic pneumothorax
Pain features	Onset	Gradually increases in intensity over minutes	Sudden	Gradual	Sudden	Commonly post-trauma e.g. fall
	Location	Left or central chest	Central chest	Left or right	Left, right or central	Left or right
	Radiation	To both arms or neck or jaw	To back +/- to legs	Nil		
	Duration	A changing pattern of pain over the prior 24 hours	Constant	Hours to days	Hours to days	Most commonly post-fall or trauma
	Character	Similar to episodes of prior cardiac ischemia; pressure-like pain	Sharp, tearing or ripping	Pleuritic (worse on inspiration), sharp		
	Aggravating / relieving factors	Worse with exercise; relieved with rest	-	Worse with inspiration / coughing		
Associated symptoms		Diaphoresis (sweating) Nausea / vomiting	May have syncope or focal neurological deficits	Shortness of breath		
				Fever	Calf pain	Focal chest wall tenderness
				Cough	Hemoptysis (coughing up blood)	
Risk factors		Peripheral arterial disease;	Hypertension Bicuspid aortic valve or aortic dilation	Poor swallow; immune compromise; advanced dementia	History of PE or DVT; active malignancy; immobilisation	History of trauma or underlying pulmonary disease (e.g. asthma / COPD)
Examination findings	Diaphoresis	Extremity pulse or blood pressure difference		Fever	Tachycardia	Tachycardia
	Tachycardia / bradycardia			Friction rub	Tachypnoea	Tachypnoea
	Bi-basal crackles			Focal chest signs	Asymmetric leg swelling or calf tenderness	Reduced air entry on side of pneumothorax
	Examination can be normal					

Precipitants of cardiac chest pain include:

1. **Acute coronary syndrome** - suspect particularly if pain onset at rest or ongoing chest pain or acceleration of chest pain symptoms (unstable angina).
2. **Exacerbations of chronic co-morbid conditions** (e.g. Chronic Obstructive Pulmonary Disease [COPD]).
3. Development of an **acute medical illness** (e.g. sepsis, anaemia, arrhythmias, hypertensive urgencies, thyrotoxicosis).
4. Progression of **valvular heart disease**.
5. **Medications** that precipitate tachycardia (e.g. beta-2-agonists such as salbutamol, anticholinergic medications).

Identify complications of cardiac chest pain including:

1. Heart failure.
2. Cardiac arrhythmia or ischemia.

Chest pain practice points (cont'd)

4) Contraindications to GTN or aspirin

GTN is contraindicated if:

1. Systolic (top) blood pressure is < 110 mmHg.
2. Severe anaemia (haemoglobin less than 80).
3. Severe aortic stenosis or obstructive cardiomyopathy.
4. Sildenafil citrate ("Viagra") or vardenafil administered in previous 24 hours or avanafil in previous 12 hours or tadalafil in prior 48 hours - note for all PDE5 inhibitors a longer interval is required if excretion is delayed due to drug interactions, renal or hepatic impairment - extreme caution is advised.
5. Known hypersensitivity to GTN.

Aspirin is contraindicated if:

1. Known hypersensitivity or allergy to aspirin or non-steroidal anti-inflammatory drugs.
2. Aspirin sensitive asthma.
3. Severe active bleeding.

5) Supportive care of the resident with chest pain

Supportive care for residents with chest pain includes:

1. Avoid dehydration - where there is no clinical concern for heart failure, increase frequency of offering of fluids.
2. Falls risk management plan - residents who have had GTN are at increased risk for postural hypotension after GTN administration; ensure residents are sitting or lying when administering GTN and for a 5 minute period after GTN administration.
3. Manage contributors such as hypertension, anemia, infections etc.
4. Symptom relief - as determined by cause of chest pain. Where symptoms persist despite maximal therapy, consider consultation with the local [HHS RaSS](#) team at GP discretion.

6) Escalation criteria

First screen for red flags as above. Where there are no red flags, presence of any of the following may prompt escalation to HHS RaSS at GP discretion (or in resident's nearing end of life, to the resident's palliative care provider):

- Red flags in a resident who has conservative goals of care and does not wish to be transferred to hospital
- Resident has recurrent chest pain despite management
- Diagnostic uncertainty

7) Prevention of exacerbations of angina

1. Control risk factors including hypertension and blood glucose control in diabetes.
2. Consider pharmacological agents that may be of benefit in the individual resident.
3. Consider where appropriate, individualised graded exercise program guided by clinical status, symptoms, co-morbidities and frailty.
4. Identify and treat depression.
5. Manage contributors (e.g. anaemia).

Chest pain references

1. McGarry M, Shenvi CL. Identification of Acute Coronary Syndrome in the Elderly. Emerg Med Clin North Am. 2021;39(2):339-46.
2. Gupta R, Munoz R. Evaluation and Management of Chest Pain in the Elderly. Emerg Med Clin North Am. 2016;34(3):523-42.
3. Lukitasari M, Apriliyawan S, Manistamara H, Sella YO, Rohman MS, Jonnagaddala J. Focused Chest Pain Assessment for Early Detection of Acute Coronary Syndrome: Development of a Cardiovascular Digital Health Intervention. Glob Heart. 2023;17(1):18.
4. Gulati M. et al. 2021 Guideline for the evaluation and diagnosis of chest pain. J AM Coll Cardiol. Oct 2021; DOI: 10.1016/j.jacc.2021.07.053.
5. McConaghy JR, Oza RS. Outpatient diagnosis of acute chest pain in adults. Am Fam Physician. 2013;87(3):177-82.
6. Fleg JL, Forman DE, Berra K, Bittner V, Blumenthal JA, Chen MA, et al. Secondary prevention of atherosclerotic cardiovascular disease in older adults: a scientific statement from the American Heart Association. Circulation. 2013;128(22):2422-46.
7. Writing Committee M, Gulati M, Levy PD, Mukherjee D, Amsterdam E, Bhatt DL, et al. 2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain: Executive Summary: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. J Am Coll Cardiol. 2021;78(22):2218-61.
8. Chew DP, Scott IA, Cullen L, French JK, Briffa TG, Tideman PA, et al. National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand: Australian Clinical Guidelines for the Management of Acute Coronary Syndromes 2016. Heart Lung Circ. 2016;25(9):895-951.

Chest pain version control

Pathway	Chest pain				
Document ID	CEQ-HIU-FRAIL-00007	Version no.	3.0.0	Approval date	16/10/2023
Executive sponsor	Executive Director, Healthcare Improvement Unit				
Author	Improving the quality of care and choice of care setting for residents of aged care facilities with acute healthcare needs steering committee				
Custodian	Queensland Dementia, Ageing and Frailty Clinical Network				
Supersedes	Chest pain 2.0				
Applicable to	Residential aged care facility registered nurses and General Practitioners in Queensland RACFs, serviced by a RACF acute care support service (RaSS)				
Document source	Internal (QHEPS) and external				
Authorisation	Executive Director, Healthcare Improvement Unit				
Keywords	Chest pain, acute coronary syndrome, angina				
Relevant standards	Aged Care Quality Standards: Standard 2: ongoing assessments and planning with consumers Standard 3: personal care and clinical care, particularly 3(3) Standard 8: organisational governance				