Ashford and St. Peter's Hospitals
NHS Foundation Trust

Chest Pain Guideline

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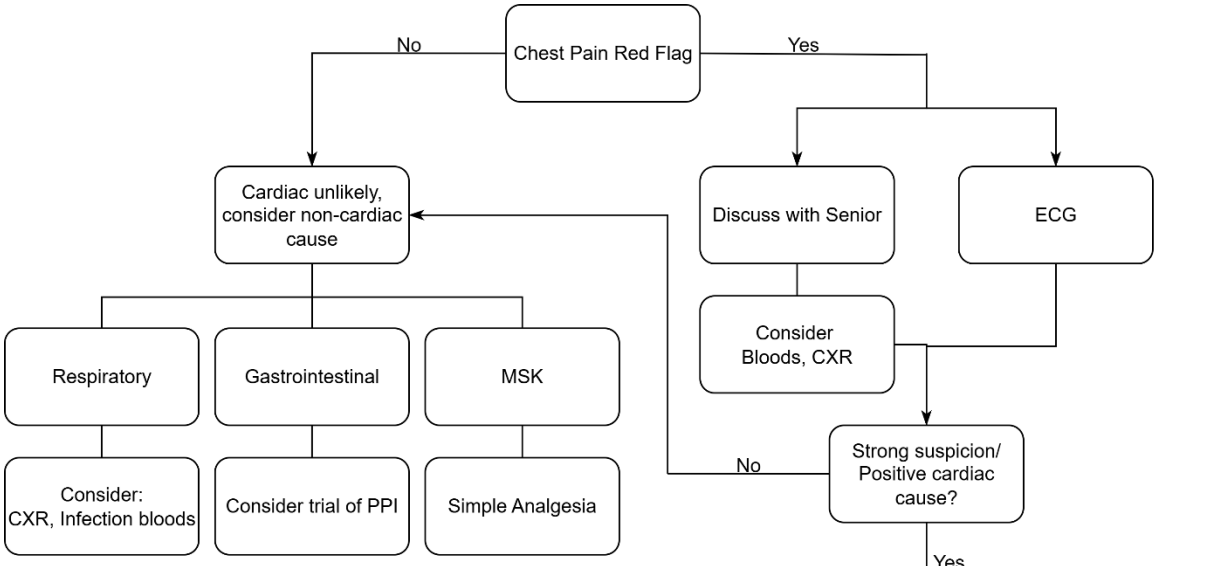
Guideline History		
Date	**Comments**	**Approved By**
July 2008	New Guideline	
March 2018	Whole document review – no changes	Paediatric Guideline Group
May 2026	Whole document review. Flow charts and characterisation of pain added	Paediatric Guideline Group.

Flowchart



Red Flag
Chest Pain on exercise No change in pain with respiration Signs of heart failure Known connective tissue disease/Kawasaki disease w/ aneurysms Previous coronary artery surgery/Recent cardiac surgery Known CHD Known Sickle cell disease with prev chest crisis 1st degree w/cardiomyopathy/conduction disorder/aortic dissection Major trauma (rib #s, pneumothorax) Known/FHx of thrombophilia, recent immobilisation, oncology on Tx

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1. Chest Pain Guideline

Scope of Guideline

- The principal aim is to consider all possible causes of chest pain and keys how to differentiate between them.
- It also aims to identify less common conditions such as cardiac causes.
- Prompt identification of children with serious causes in whom a delay in treatment and mismanagement can have devastating consequences.

Introduction

Chest pain is a common presentation in childhood, especially teenagers. It is rarely cardiac in origin.
History is very important – almost never angina and careful targeted examination is essential
Establish what they mean by pain – it may be palpitations/ discomfort
Causes:

- Chest wall pain commonest (64%)
- Pulmonary (13%)
- Psychological (9%)
- Cardiac (5%)
- Traumatic (5%)
- Gastrointestinal problem (4%)

Organic causes can be identified or suspected by history and physical examination

- Over 12 years - Psychological/idiopathic, but nonorganic abdominal pain should not be dismissed out of hand.
- Under 12 years - Most likely respiratory (occasional cardiac)
- 80% think it is “Their heart” - 30% still think this given another diagnosis!

Assessment

History

- SOCRATES
- Description of pain e.g. left stabbing (precordial catch), central crushing (angina)
- Recent trauma/ injury
- Association with breathing e.g. Pleuritic, Precordial Catch syndrome
- Respiratory symptoms e.g. cough, wheeze, dyspnoea, fever
- Aggravating/ relieving factors e.g. exercise, meals, supine position, NSAIDS, antacids
- History of palpitations
- Position/radiation
- Recent illness or vaccination
- Past Hx: e.g. coagulopathy, haemoglobinopathy, Kawasaki disease with aneurysm, Connective tissue disease, neuromuscular disease, Marfan syndrome
- Family Hx e.g. cardiac history in young adults or children, sudden unexplained death
- Family events/ life stress, anxiety, depression, hyperventilation, headaches
- Drug misuse e.g. Cocaine, Marijuna, amphetamines

Examination

A complete examination is required with the patient, looking for:

Musculoskeletal/ Other

- Costochondritis, 4-6th costochondral junction tenderness
- Tietze's syndrome, 2nd costochondral junction tenderness on the right with palpable swelling
- Breast problems – Mastalgia
- Shingles

Respiratory

- Tachypnoea
- Oxygen saturation
- Fever
- Pleuritic pain – worse on inspiration lying down?
- Pneumothorax – ?Marfan's
- PE – bilateral chest pain with reason for increased viscosity e.g. oncology, immobilisation
- Chest crisis in Sickle cell disease

Abdomen

- Pneumonia chest &/or abdominal pain
- Epigastric pain/ tenderness with gastritis

Cardiovascular

- Significant tachycardia & pain worse on lying down - pericarditis, pancarditis
- Arrhythmias, Blood pressure
- Murmurs - right upper sternal edge & ejection systolic murmur ?LVOTO

Red Flags

- Chest pain on exercise only
- No change in pain with respiration
- Signs of heart failure (SOB, oedema, hepatomegaly)
- Known connective tissue disease (SLE) or Kawasaki disease with aneurysms
- Previous coronary artery surgery (TGA, ALCAPA repair), recent cardiac surgery <2 weeks
- Known congenital heart defect
- Known Sickle cell disease, especially if previous significant chest crises
- 1st degree relative with cardiomyopathy, conduction disorders or aortic dissection
- Major trauma (rib fractures, pneumothorax)
- Known thrombophilia or FHx of thrombophilia, recent surgery or immobility, oncology on treatment (increased risk of hyperviscosity)

Management

Patients with no red flags:

- **MOST** require no investigations and are managed according to clinical suspicion
- ECG (palpitations)

Patients with red flags:

- Discuss with Emergency/Paediatric Senior Physician
- ECG

Consider:

- FBC, ESR, CRP, Blood Cultures, Viral screen, Troponin I (see Myocarditis guideline)
- CXR (history of acute severe pain, pain when waking, cough, fever, history of trauma, abnormal examination findings, no other cause found)

If positive result for cardiac cause:

- Stable patient – referral/discussion with PEC
- Unstable patient – discussion with Tertiary centre

Main Differentials

Musculoskeletal

Characteristics (Sharp pain that is well-localized, reproducible by palpation or sternal pressure, and worse with movement, coughing, or inspiration)

- Muscle strain/ trauma
- Precordial catch
- Costochondritis
- Bone destruction: osteomyelitis/ bone neoplasm

Pulmonary

Characteristics (Often sharp, pleuritic pain associated with coughing, wheezing, or difficulty breathing)

- Pulmonary embolus
- Pneumothorax
- Acute chest syndrome
- Exercise induced asthma
- Pneumonia
- Pleural Effusion and Empyema
- Pleurisy
- Inhaled foreign body

Gastrointestinal

Characteristics (Often retrosternal or burning in nature, often associated with meals or reclining)

- GORD

Cardiac

Characteristics (Typically described as crushing, heavy, or radiating to the arm/jaw. Usually linked to exertion or accompanied by syncope, sweating, or pallor)

- Myocarditis
- Pericarditis
- Endocarditis

- Aortic dissection
- Arrhythmias
- Cardiac ischaemia
- Pericardial Effusion

Other

- Breast tenderness
- Shingles

  Psychogenic, Characteristics (Often recurrent, described as "tightness," and may be associated with emotional stressors or anxiety)

2. Supporting References

Massin MM, Bourguignont A, Coremans C, Comte L, Lepage P, Gerard P. Chest pain in pediatric patients presenting to an emergency department or to a cardiac clinic. *Clinical Pediatrics (Phila)* 2004 Apr;**43(3)**:231-8.

Royal Children's Hospital Melbourne Chest Pain Guideline: https://www.rch.org.au/clinicalguide/guideline_index/chest_pain/ [accessed 13/07/2025]

Evelina Children's Hospital Acute Chest Pain in Children and Young People Guideline: https://app.clinibee.com/articles/521acd63-6820-405f-a53c-9814910ef6cc [accessed 10/04/2025]

Chest Pain in Children: When to worry, when to refer: https://www.paediatricfoam.com/2020/04/chest-pain/ [accessed 13/07/2025]

Collins SA, Griksaitis MJ, Legg JP. 15-minute consultation: A structured approach to the assessment of chest pain in a child. A*rchives of Disease in Childhood - Education and Practice* 2014;**99:**122-126.

3. Supporting relevant trust guidelines

Myocarditis guideline - https://ashfordstpeters.net/Guidelines_Paediatrics/Myocarditis-Guidelines-Oct-2025.pdf

4. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for all children from 0-18 years old across the emergency department, inpatient ward and outpatient department.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of children. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.
ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

All healthcare professionals responsible for the care of all children 0-18years should be aware of practice according to this guideline.

d. Approval and Ratification

This guideline will be approved and ratified by the Paediatric Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Paediatric Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Paediatric Department for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 3 yearly basis by the appropriate persons.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Paediatric Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Author and the supervising consultants.
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All groups of staff and patients were taken into consideration and there is no bias towards or against any particular group.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
There is no evidence of discrimination.
Conclusion • Provide a summary of the overall conclusions
There is no evidence of discrimination.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
This guideline is appropriate for use.

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document:
Policy (document) Author:
Executive Director: N/A

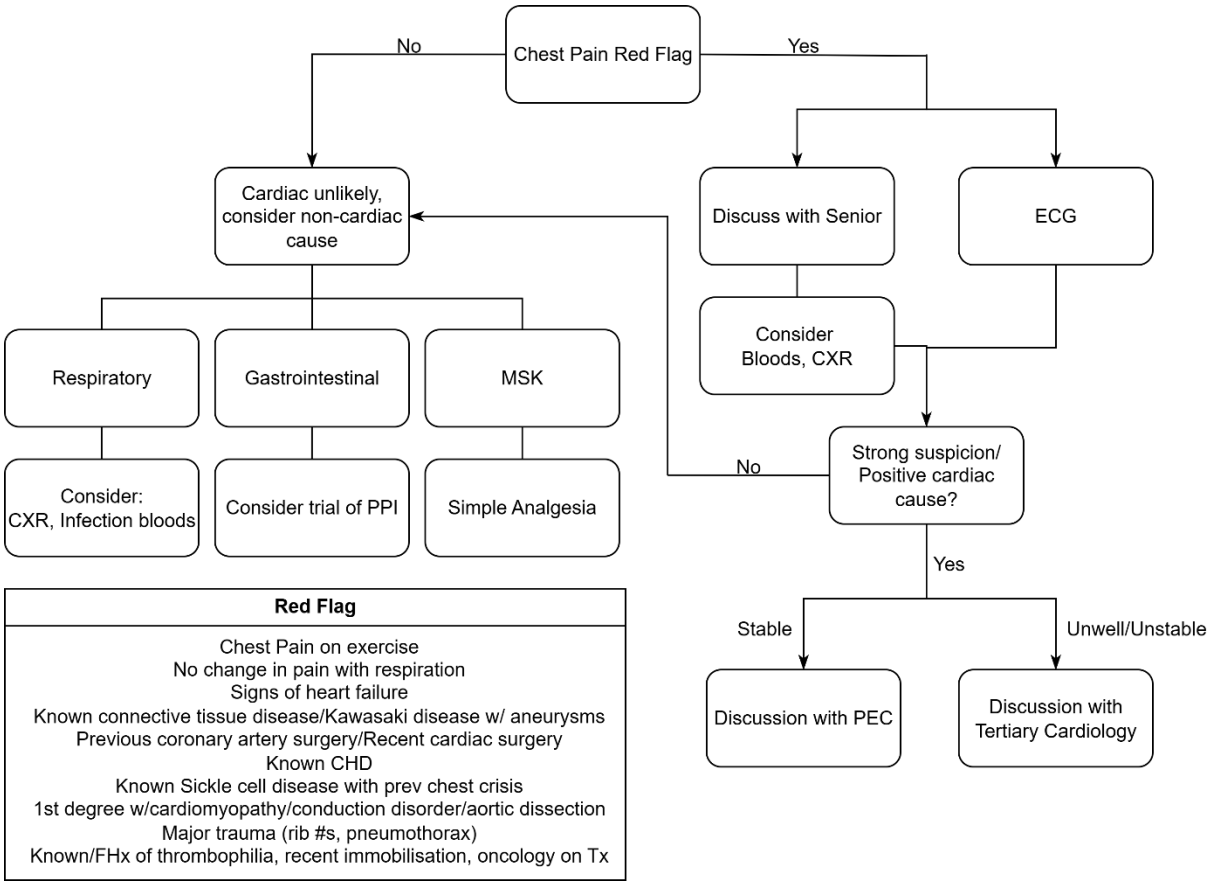
		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Y**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Y**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Y**	
	Is the purpose of the document clear?	**Y**	
	Are the intended outcomes described?	**Y**	
	Are the statements clear and unambiguous?	**Y**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Y**	**Tertiary cardiology teams, PEC**
	Who was engaged in a review of the document (list committees/ individuals)?		**Paediatric Guideline committee**
	Has the policy template been followed (i.e. is the format correct)?	**Y**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**Y**	
	Are local/organisational supporting documents referenced?	**Y**	
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?	**Y**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	**N/A**	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	**Y**	
	Does the plan include the necessary training/support to ensure compliance?	**Y**	
7.	**Process for Monitoring Compliance**		

		Yes/No/ Unsure/NA	Comments
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**N**	
8.	**Review Date**		
	Is the review date identified and is this acceptable?	**Y**	**2029**
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Y**	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	Y	

Committee Approval (Paediatric Guidelines Group)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**Alexandra Jones**	**Date**	**29/5/2026**
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date: n/a			

5. Appendices

Flowchart



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