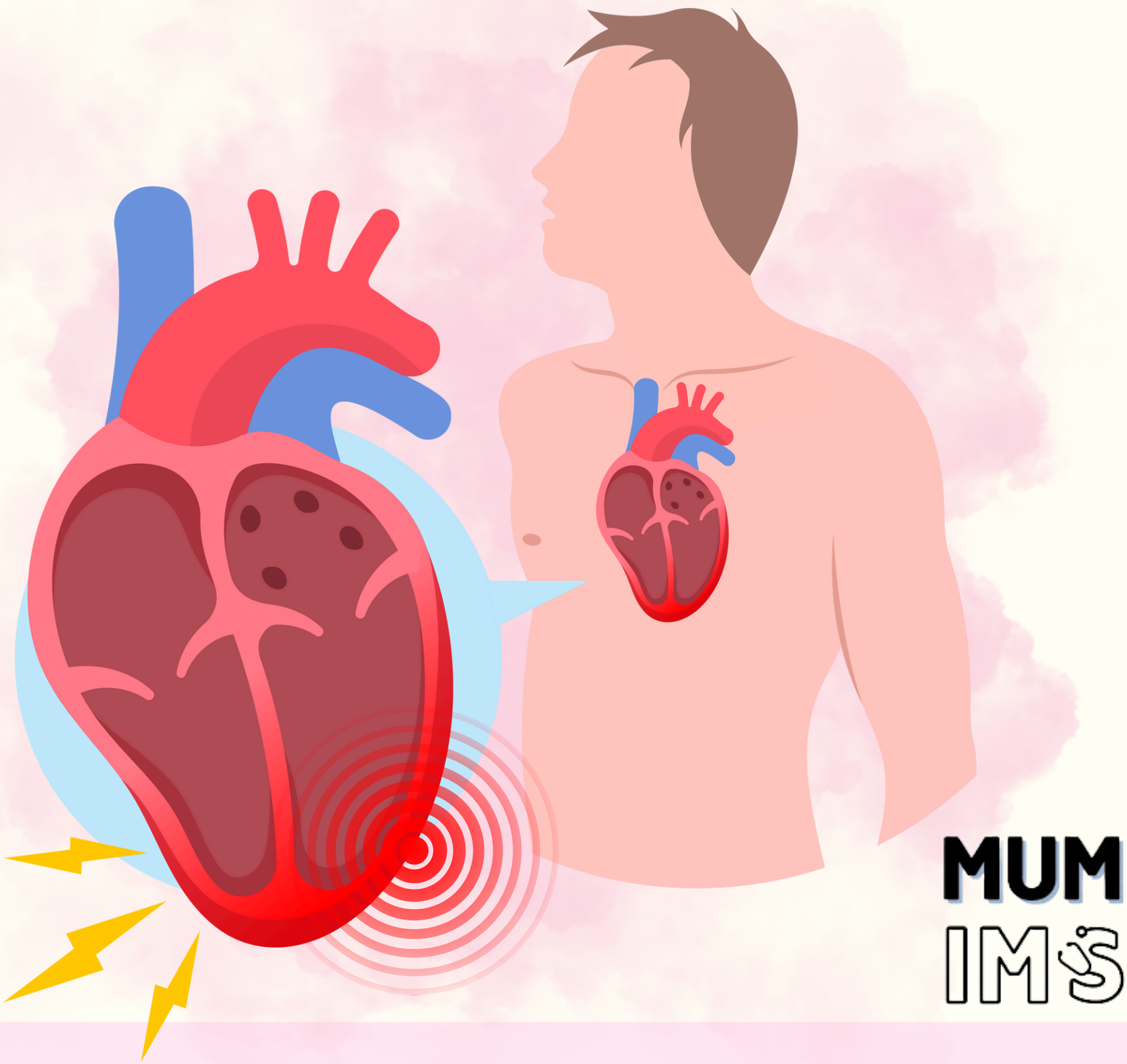
Matrix unlocked

ACUTE PERICARDITIS



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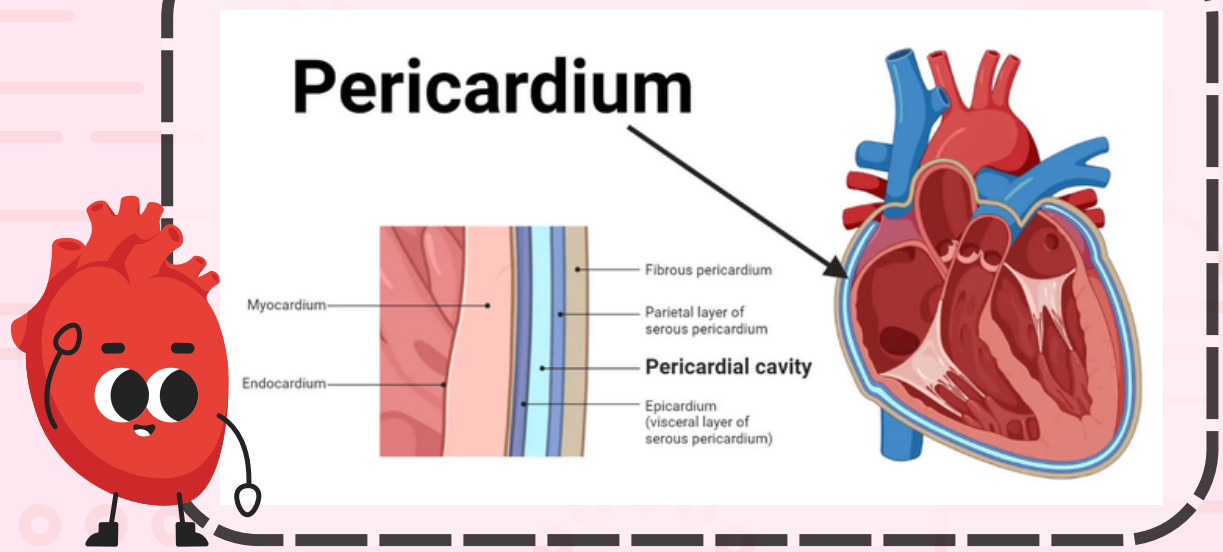
ACUTE PERICARDITIS

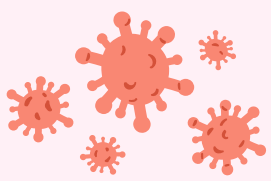
Refers to the inflammation of the pericardium



Aetiology:

Infective

Viral
- Coxsackievirus
- Echovirus
- Mumps
- Herpes
- HIV



Bacterial
- Staphylococcal
- Streptococcal
- Pneumococcal
- Meningococcal
- Haemophilus influenzae
- Mycoplasmosis
- Borreliosis
- Chlamydia

Tuberculous

Fungal
- Histoplasmosis
- Coccidioidomycosis
- Candida

Post-Myocardial Infarction

- ***Acute myocardial infarction*** **(Early)**
- ***Dressler syndrome*** **(Late)**

Others

Malignant
- Mesothelioma
- Metastatic cancer

Autoimmune
- SLE & RA
- Drug-induced

Post-surgical
- Ureamic pericarditis
- Myxoedematous pericarditis
- Chylopericardium
- Post-radiation pericarditis
- Post-traumatic pericarditis
- Familial and idiopathic pericarditis

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SIGNS & SYMPTOMS

SYMPTOMS

- **Sharp retrosternal chest pain**
  - Exacerbated by movement, respiration and lying down
  - Relieved by sitting forward
  - May be referred to the neck or shoulders
- **Low-grade intermittent fever**
- **Dyspnoea**
  - Arises when the pericardial effusion compresses adjacent bronchi and lung tissue

EXAMINATION FINDINGS

Pericardial friction rub

- Best heard over left sternal border during expiration, while the patient is sitting up and leaning forward

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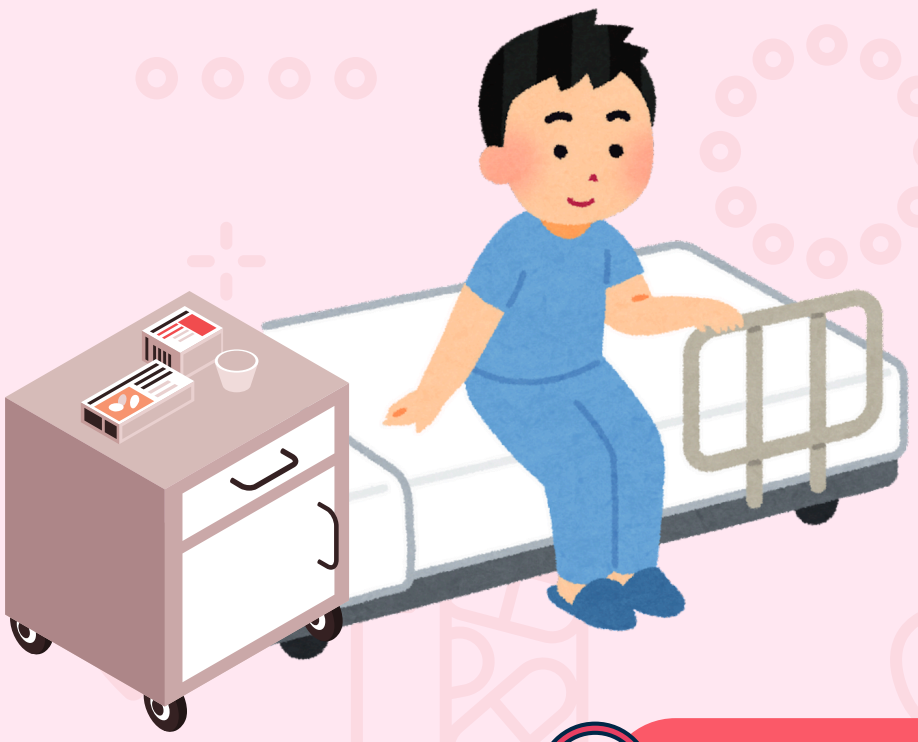
INVESTIGATIONS

BEDSIDE TESTS

ECG (Initial)

- **Widespread ST elevation**
- **PR depression**



LABORATORY TESTS

FBC

- **Leukocytosis**
- **Lymphocytosis**

Troponin I or T ↑

ESR & CRP ↑

Other tests to consider

- **Viral Serology**
- **ANA**
- **U&E**

IMAGING

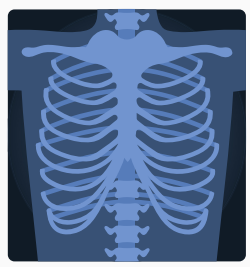
1

Echocardiography (Definitive)

- **First line investigation to evaluate pericarditis**

Chest X-Ray

- **Often normal in patients with acute pericarditis**
  - May have cardic enlargement



Other tests to consider

- **CT scan**
  - To search for underlying etiologies & evaluate concomitant pleuropulmonary diseases and lymphadenopathies
- **Cardiovascular magnetic resonance (CMR)**
  - To depict the presence and intensity of pericardial and myocardial inflammation

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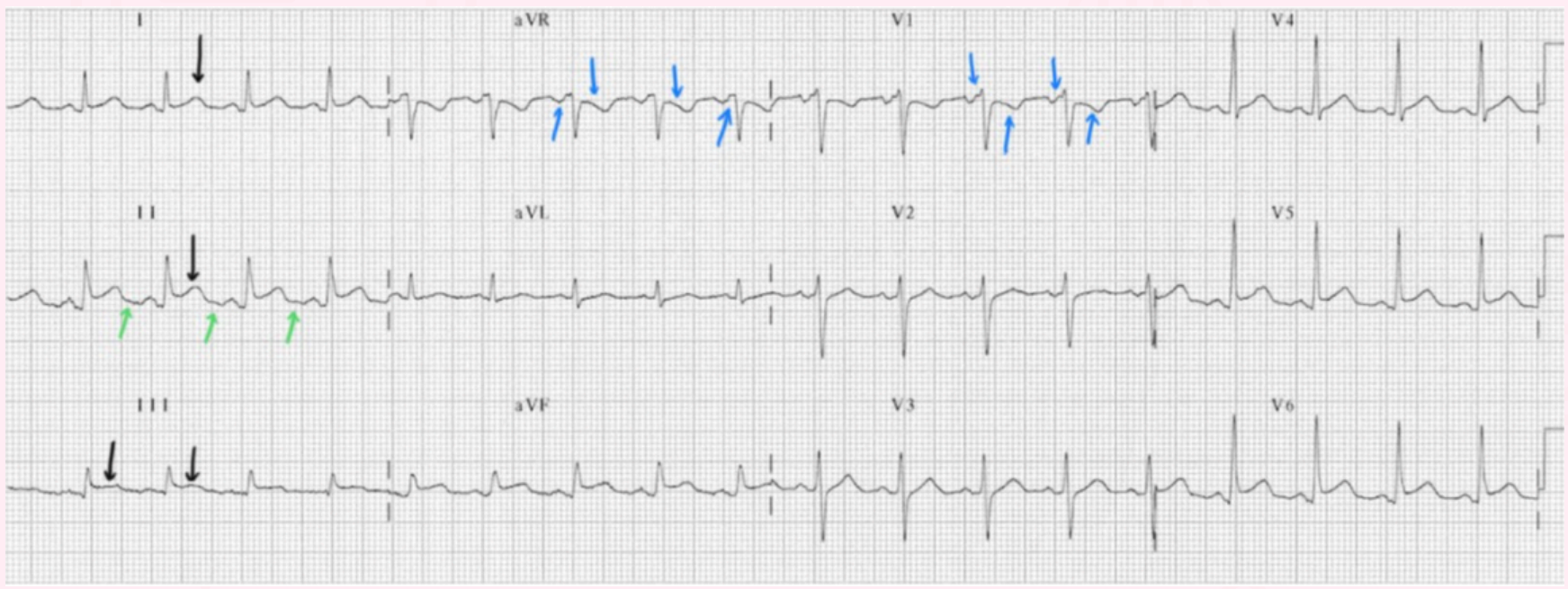
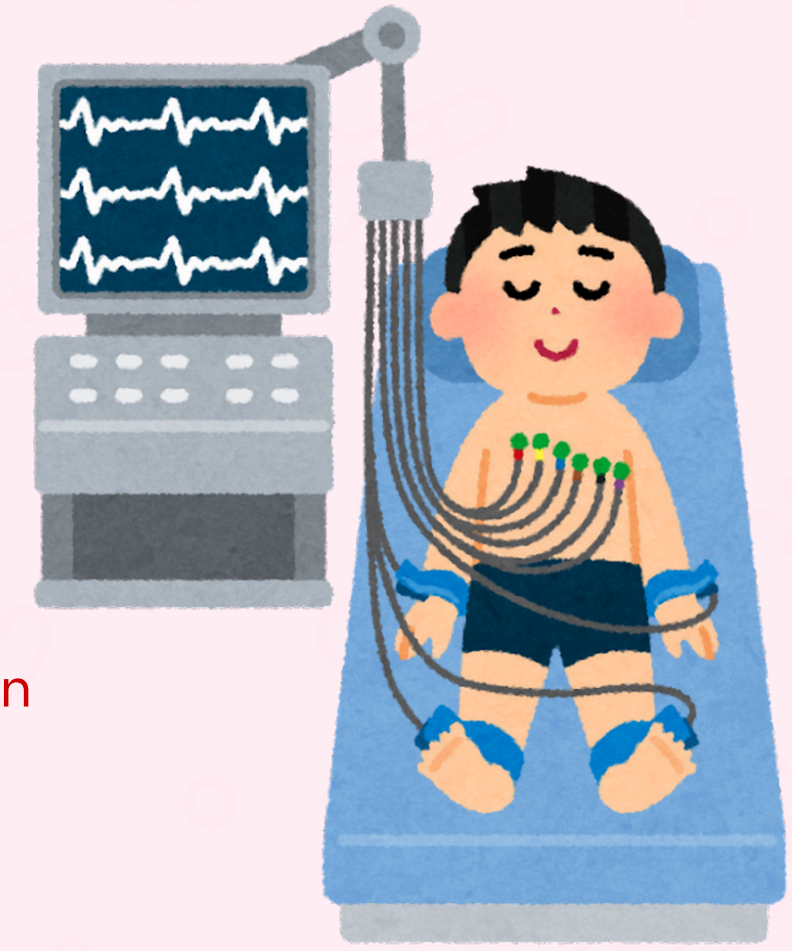
ECG FINDINGS



1. **Widespread concave-upwards (saddle-shaped) ST elevation and PR depression**
   a. *In the ECG above*, it is ***best visualised in leads I, II, III, aVF, V4-6***
2. **Reciprocal ST depression and PR elevation in leads aVR and V1**
3. **Sinus tachycardia**
   a. Due to pain or pericardial effusion
   b. *In the ECG above*, ***rate: 115 bpm***
4. **Spodick's Sign positive**
   a. Downsloping of TP segment
   b. *In the ECG above, it is* ***best visualised in lead II***



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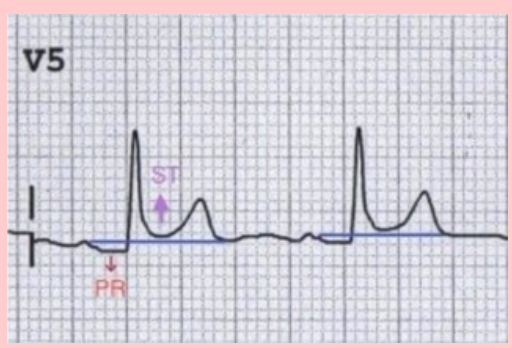
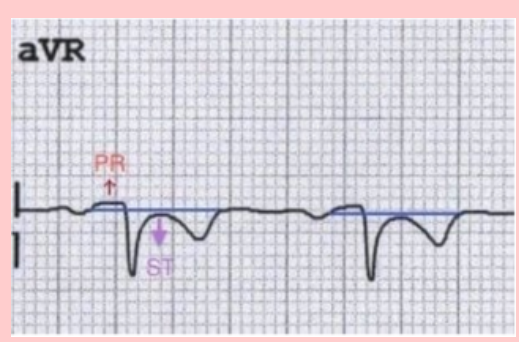
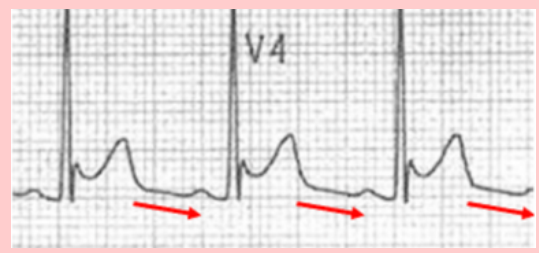
ECG FINDINGS



PR depression and ST elevation in V5



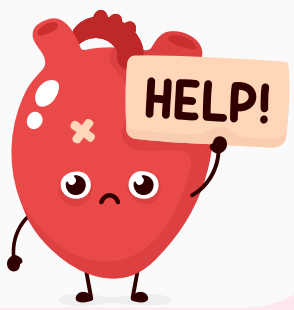
Reciprocal ST depression and PR elevation in aVR



Spodick's Sign

4 ECG STAGES OF PERICARDITIS

1. **Widespread ST elevation and PR depression with reciprocal changes in aVR** (occurs during the first 2 weeks)
2. **Normalisation of ST changes and generalised T wave flattening** (1 to 3 weeks)
3. **Flattened T waves become inverted** (3 to several weeks)
4. **ECG returns to normal** (several weeks onwards)



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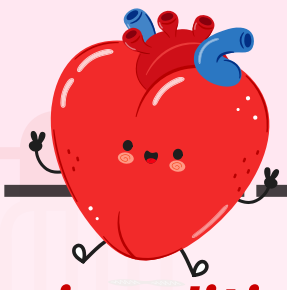
MANAGEMENT

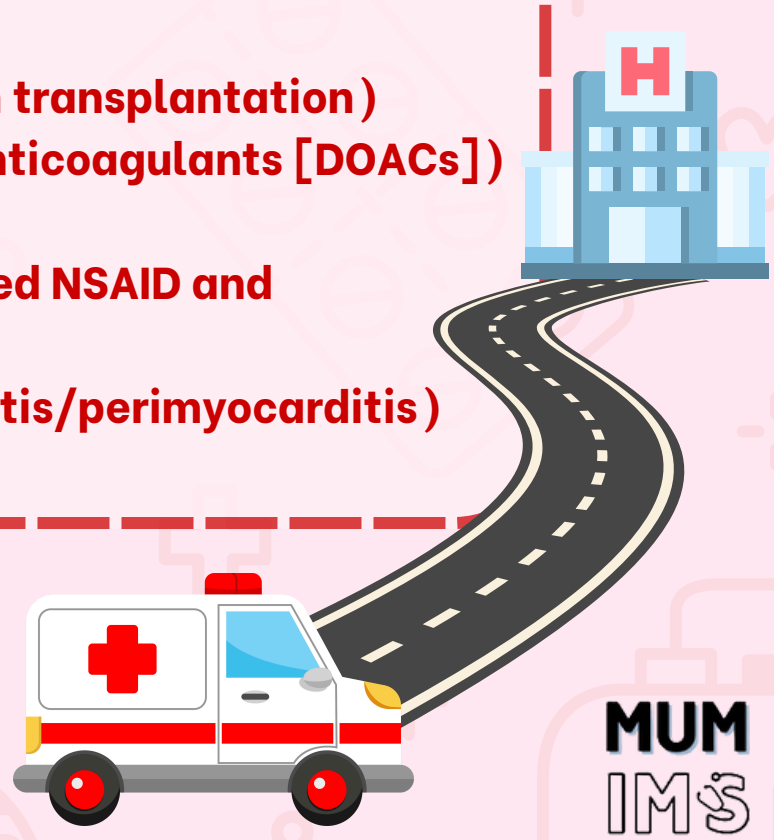
General approach:



1. **The primary goals in managing *acute pericarditis* include:**
   a. **Relieving pain**
   b. **Resolving inflammation**
   c. **Preventing recurrences**
2. **Most patients with *low-risk* pericarditis can be effectively treated in an *outpatient setting***
3. ***High-risk* patients should be hospitalised for close monitoring and treatment**

High-risk features requiring hospital admission:

- ☑ Fever >38˚C
- ☑ Subacute presentation (without acute-onset chest pain)
- ☑ Evidence of cardiac tamponade (e.g. haemodynamic compromise)
- ☑ Large pericardial effusion
- ☑ Immunosuppression (E.g. HIV, chemotherapy, organ transplantation)
- ☑ Use of anticoagulants (E.g. Warfarin, direct, oral anticoagulants [DOACs])
- ☑ Acute trauma
- ☑ Failure to improve after 7 days of appropriately dosed NSAID and colchicine therapy
- ☑ Elevated cardiac troponin (suggesting myopercarditis/perimyocarditis)



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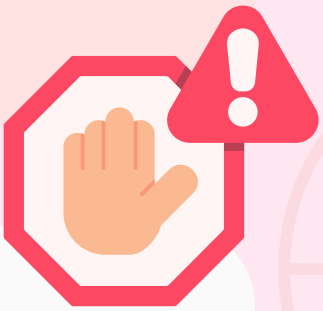
MANAGEMENT

First line	**Colchicine + NSAIDs/Aspirin**
Second line	**Colchicine + Low dose corticosteroids**
Activity Restriction	**1. Until symptom resolution** **2. Normalisation of biomarkers** **3. Strenuous activity may trigger the recurrence of symptoms**



If pericardial effusion is present:

- **Pericardiocentesis can be performed**

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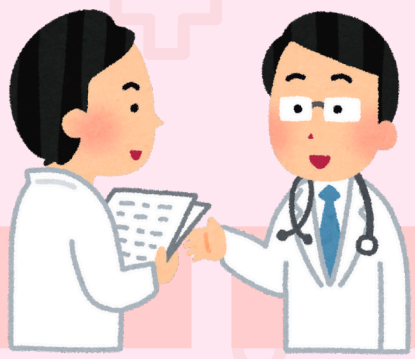
MANAGEMENT



First line therapy:

DRUG		DOSE
Aspirin	OR	650-1000 mg 3 times daily
Ibuprofen	OR	600 to 800 mg orally 3 times daily
Indomethacin	PLUS	25 to 50 mg orally 3 times daily
Colchicine		0.5 to 0.6 mg orally 2 times daily

Duration:

- **NSAIDs** should be continued for **1-2 weeks** with a gradual taper based on symptom resolution
- **Colchicine** should be continued for **3 months** to reduce recurrence risk

Second line therapy:

(For patients with contraindications to NSAIDs or recurrent pericarditis)

DRUG		DOSE
Colchicine	PLUS	0.5 to 0.6 mg orally 2 times daily
Prednisolone		0.2 to 0.5 mg/kg daily

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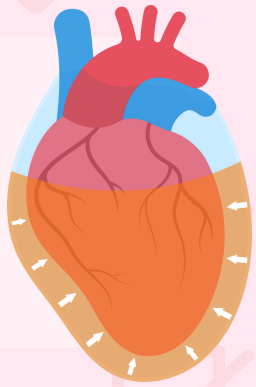
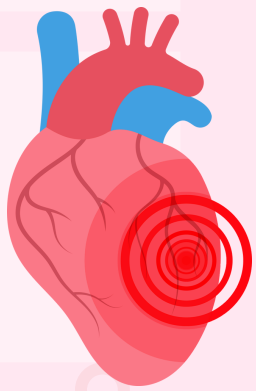
COMPLICATIONS !

Pericardial effusion



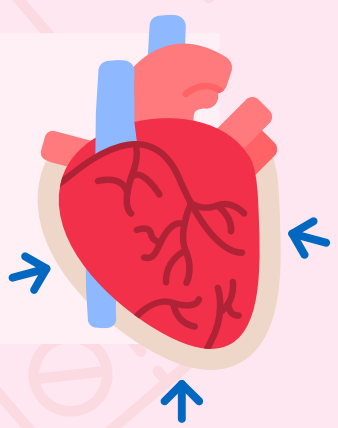
Cardiac tamponade

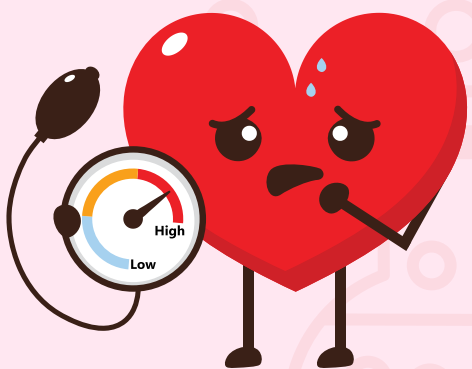
Myopericarditis



Arrhythmias

Chronic constrictive pericarditis





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REFERENCES

1.Kumar & Clark's Clinical Medicine (10th edition)
2.Davidson's Principles and Practice of Medicine (21st Edition)
3.Pictures: Life in the fastlane (https://litfl.com/pericarditis-ecg-library/)
4.UpToDate: Acute pericarditis: Treatment and Prognosis (https://www.uptodate.com/contents/acute-pericarditis-treatment-and-prognosis?search=Acute%20pericarditis%20management&source=search_result&selectedTitle=1%7E87&usage_type=default&display_rank=1#H439961613)
5.Dynamed: Acute and Recurrent Pericarditis (https://www.dynamed.com/condition/acute-and-recurrent-pericarditis#GUID-FCA8F6EB-3E33-457E-8B57-BE9BEF3087D3)
6.Pericardial Syndromes: An update after the ESC guidelines 2004 (https://link.springer.com/article/10.1007/s10741-012-9335-x)

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