

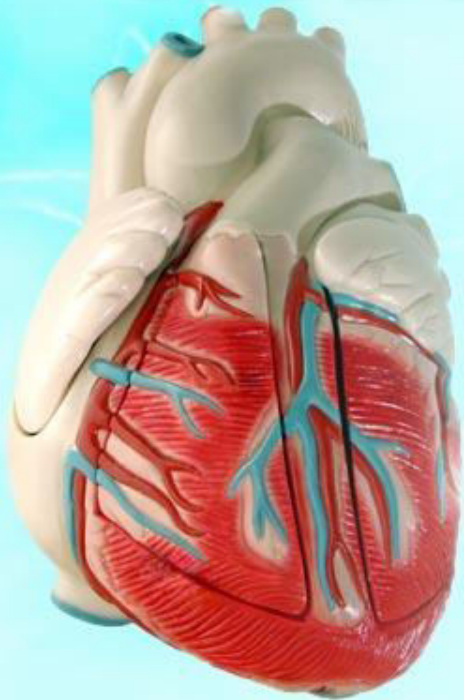
*Good Morning*



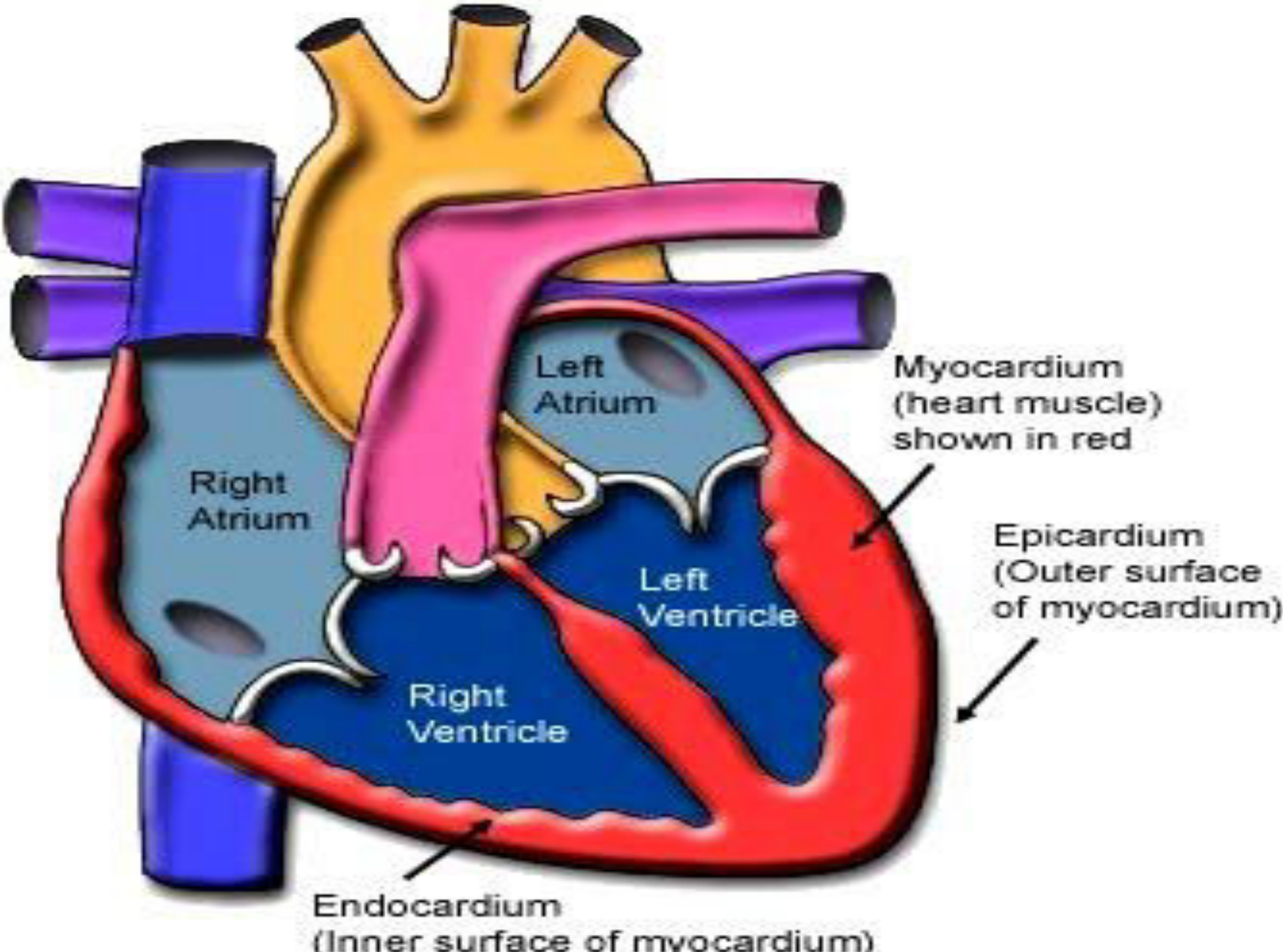
*Have a great day...*

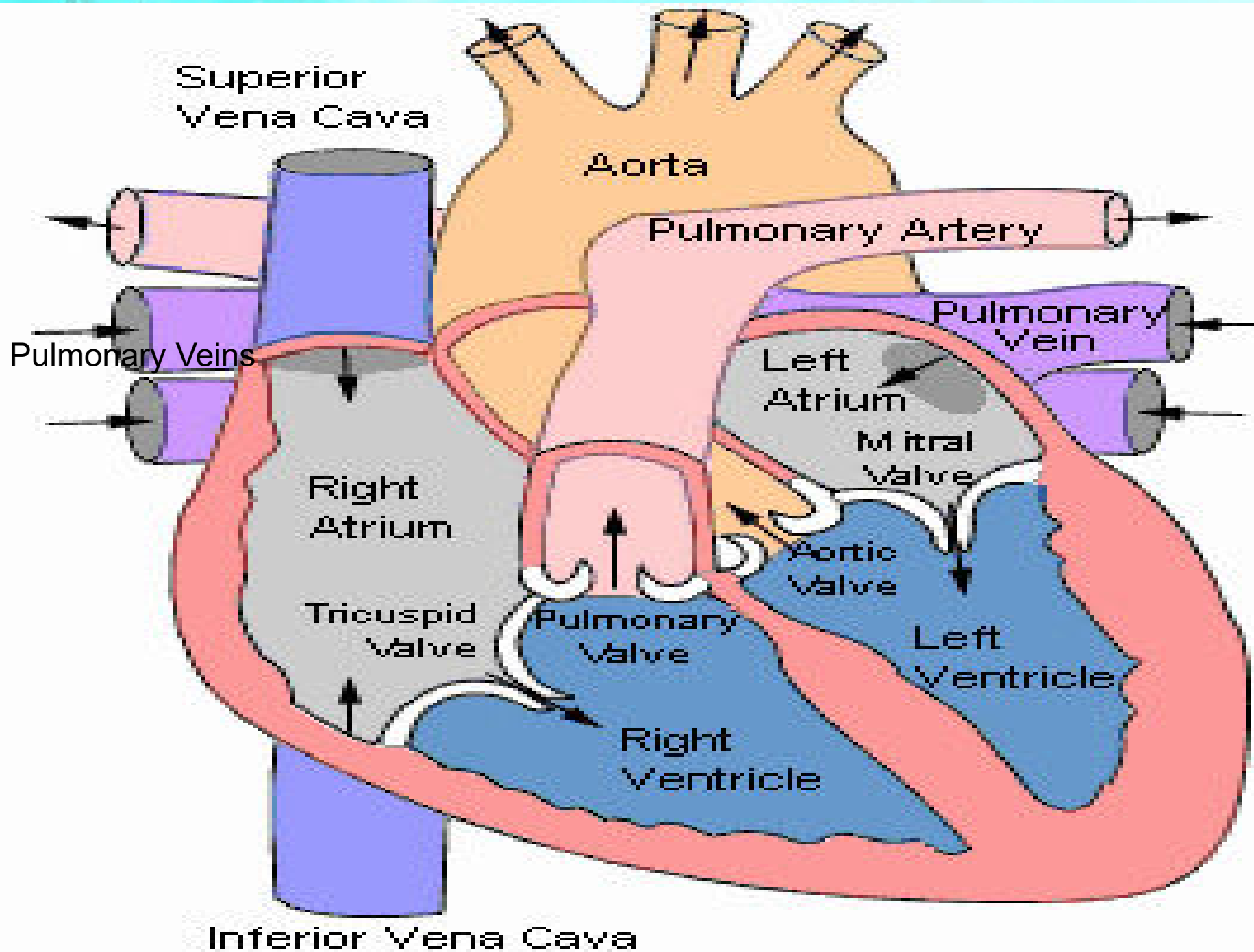
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# INTRODUCTION



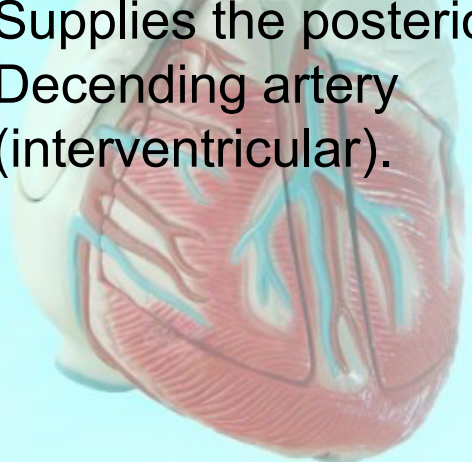
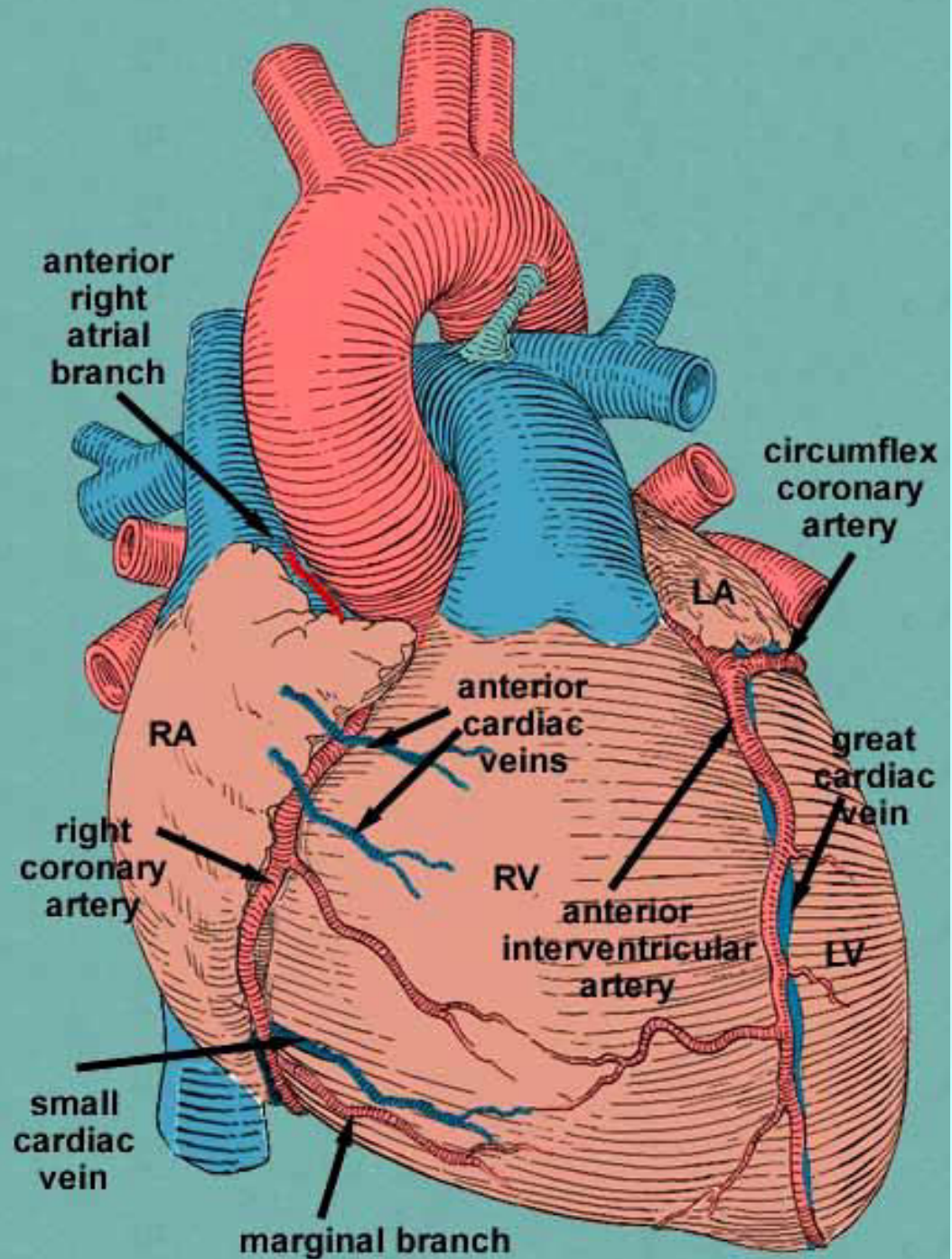






Great, Posterior, small,  
Anterior, Middle Cardiac  
Veins carry blood from  
The coronary capillaries  
To the coronary sinus.

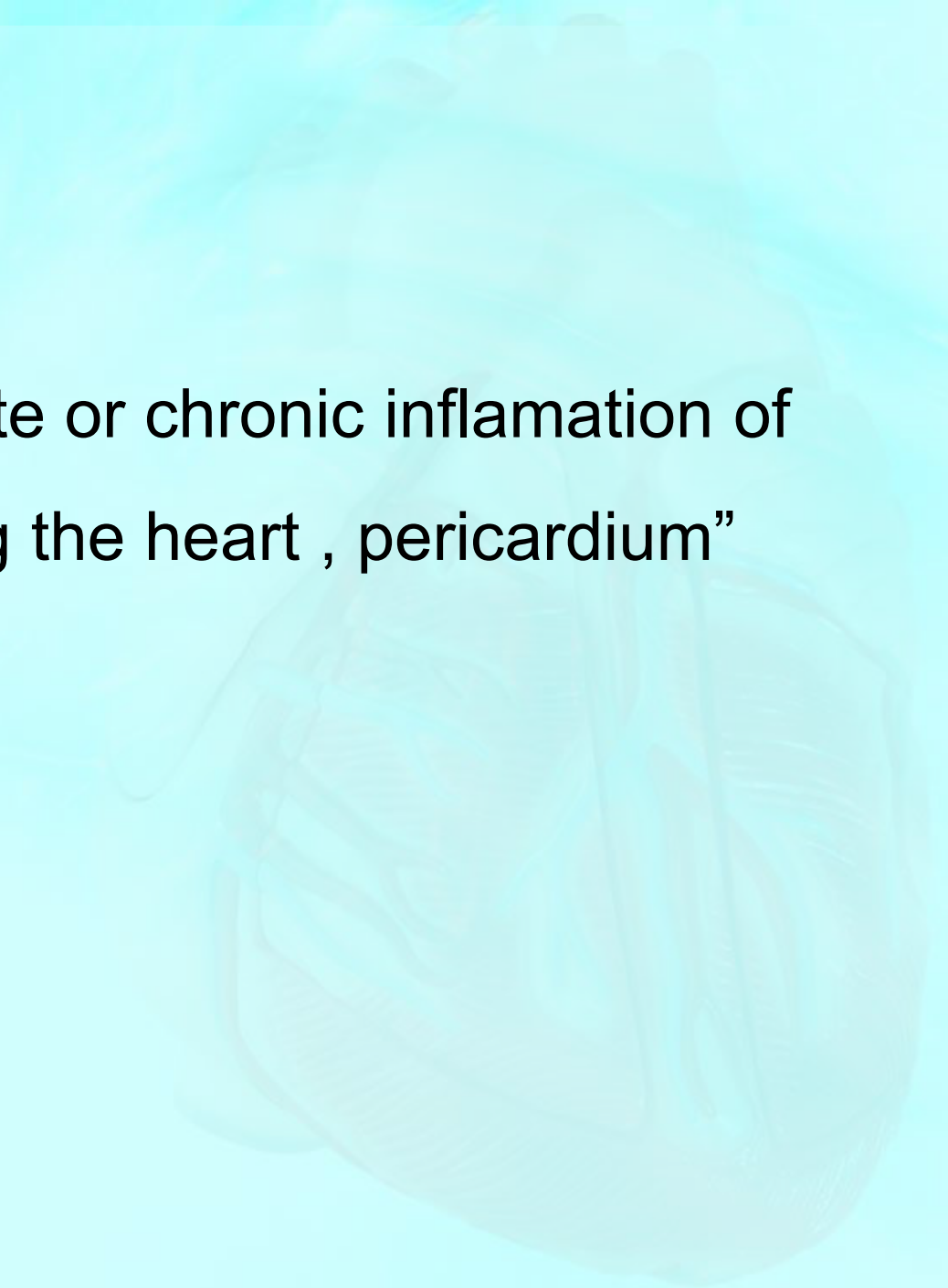
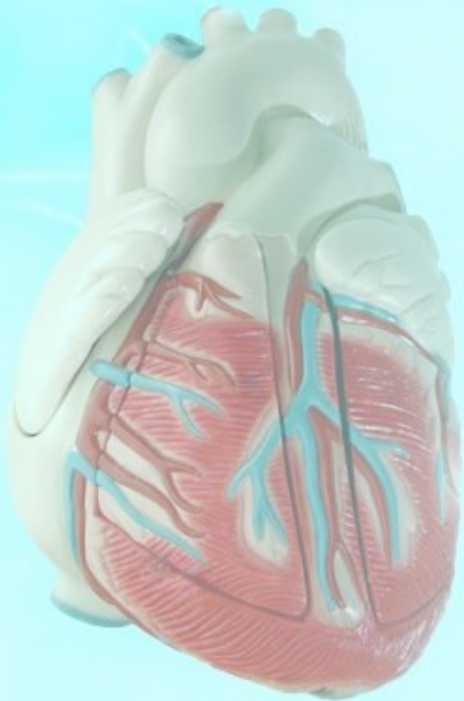
Left coronary artery supplies  
The left ventricle. Circumflex  
Curves left meeting with  
The right coronary artery.  
Left anterior descending  
Supplies the posterior  
Descending artery  
(interventricular).



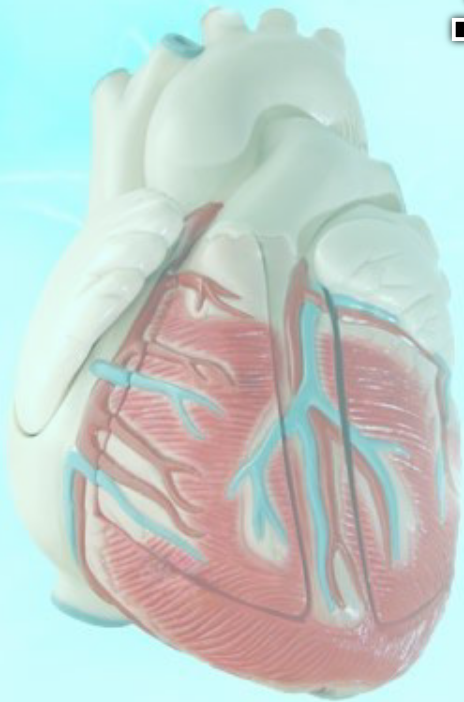


# Definition

“Pericarditis is acute or chronic inflammation of the sac surrounding the heart , pericardium”



# ETIOLOGY



# Pathophysiology

Due to Etiological Factors



Injury to pericardial cells



Release of fluid , fibrin and cells  
in an inflammatory response



Dry / exudative pericarditis



# Dry pericarditis

The exudates roughen the two layers

```
graph TD; A[The exudates roughen the two layers] --> B[Friction between layers]; B --> C[influx of neutrophils];
```

Friction between layers

influx of neutrophils

# Cont....

Increase pericardial  
vascularity

```
graph TD; A[Increase pericardial vascularity] --> B[Fibrin deposition on the visceral pericardium]; B --> C[Irritation and inflammation of surrounding tissue];
```

Fibrin deposition on the  
visceral pericardium

Irritation and inflammation  
of surrounding tissue

# Exudative pericarditis

Increase pericardial  
vascularity

```
graph TD; A[Increase pericardial vascularity] --> B[Accumulation of exudates in the pericardial sac]; B --> C[Pericardial effusion];
```

Accumulation of exudates  
in the pericardial sac

Pericardial effusion



# Cont....

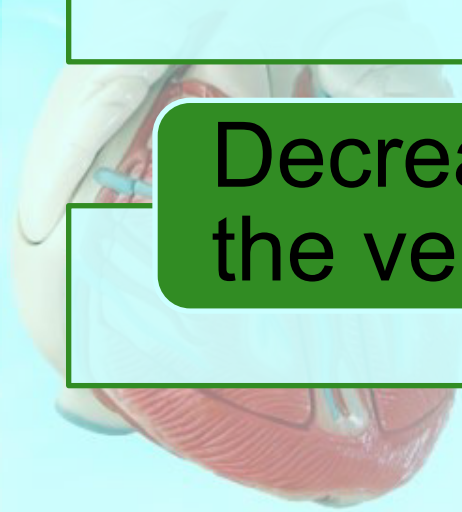
Increase in amount of fluid in the pericardium



Compression of heart



Decreased blood flow to the ventricles



# Cont....

Decreased Cardiac output  
and blood pressure

```
graph TD; A[Decreased Cardiac output and blood pressure] --> B[Tachycardia, Peripheral vasoconstriction]; B --> C[Cardiac Arrest];
```

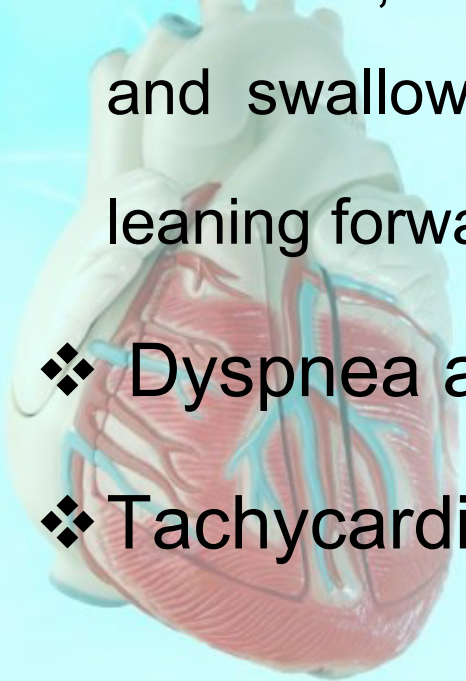
The diagram is a vertical flowchart with three green rounded rectangular boxes. The first box contains the text 'Decreased Cardiac output and blood pressure'. A green arrow points downwards from the bottom center of the first box to the top center of the second box. The second box contains the text 'Tachycardia, Peripheral vasoconstriction'. Another green arrow points downwards from the bottom center of the second box to the top center of the third box. The third box contains the text 'Cardiac Arrest'. The background of the slide features a faint anatomical illustration of a human heart and a red ECG waveform.

Tachycardia, Peripheral  
vasoconstriction

Cardiac Arrest

# Clinical Manifestations

- ❖ Anxiety ,restlessness , irritability
- ❖ Chest Pain (severe progressive pain radiating to neck, shoulder , usually aggravated by deep breathing , coughing and swallowing some times relieved in sitting position or leaning forward. Usually 4-48 hrs before a rub is heard)
- ❖ Dyspnea and Tachypnea
- ❖ Tachycardia





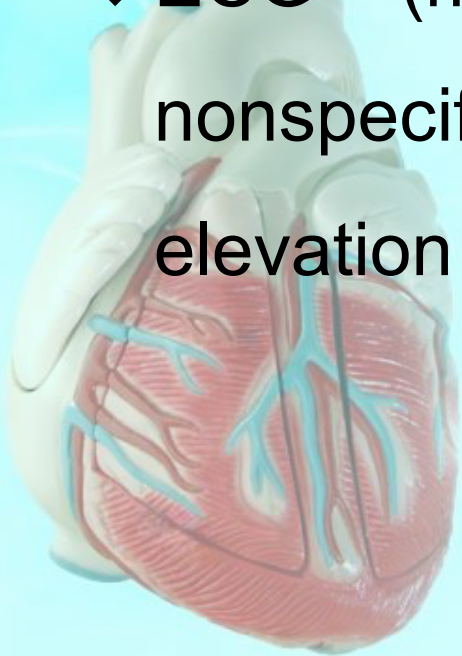
# Cont....

- Pericardial Friction Rub :- High pitches scratching / grating sound believed to arise from roughened pericardial surfaces. It is best heard with the stethoscope diaphragm firmly placed at the lower left sternal border of the chest.
- Fever :- in case of infectious pericarditis



# Diagnostic Evaluations

- ❖ History collection
- ❖ Physical Examination
- ❖ ECG – (may be normal or may exhibit specific or nonspecific changes) There may be ST segment elevation in limb and pericardial lead



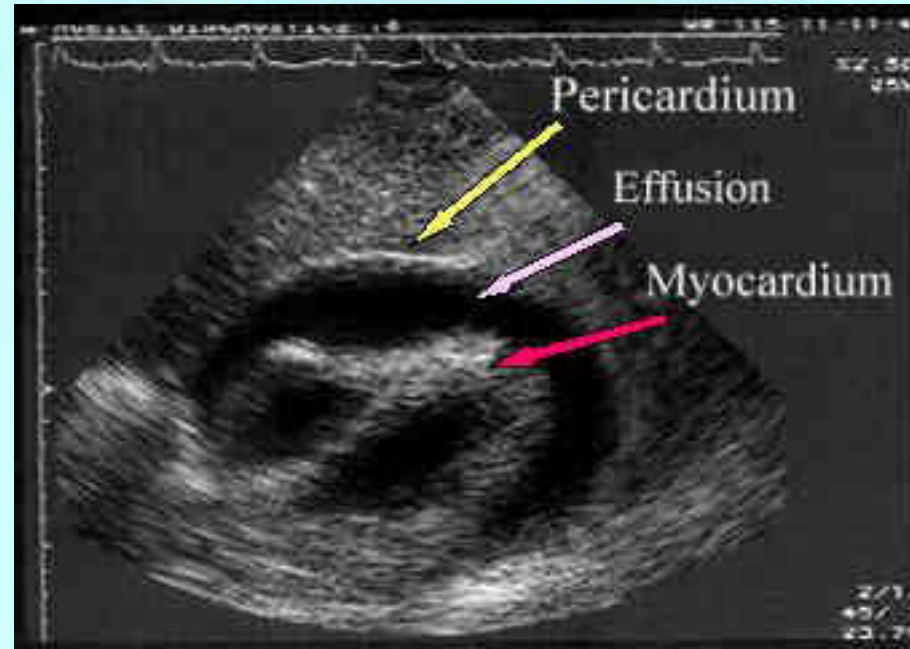
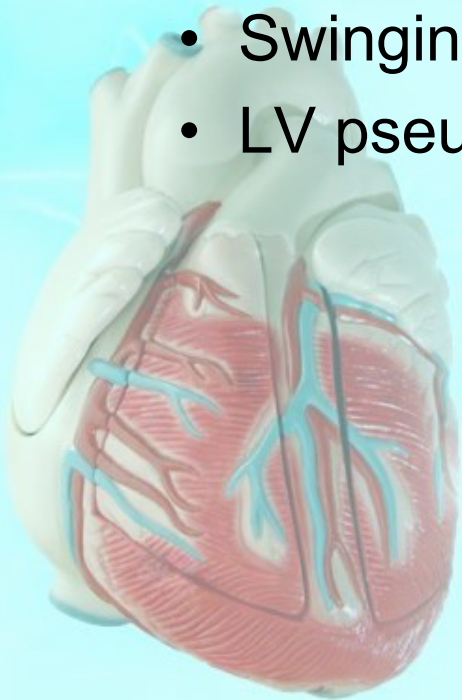
CXR :- enlarge cardiac silhouette, water bottle shaped heart

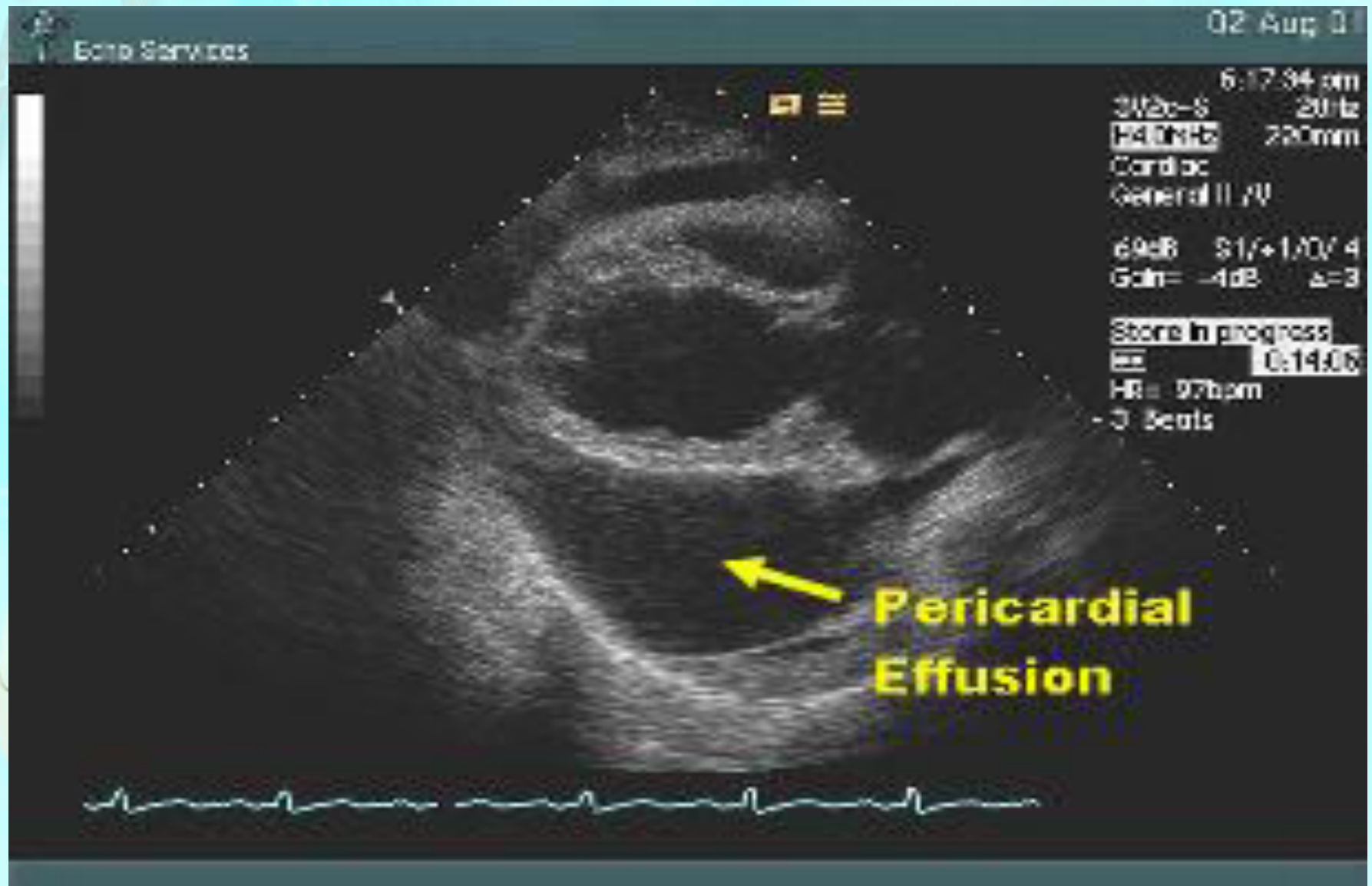




# Echocardiogram

- Pericardial effusion
- Early diastolic collapse of the right ventricular free wall
- Late diastolic compression/collapse of the right atrium
- Swinging of the heart in its sac
- LV pseudohypertrophy





## Cont....

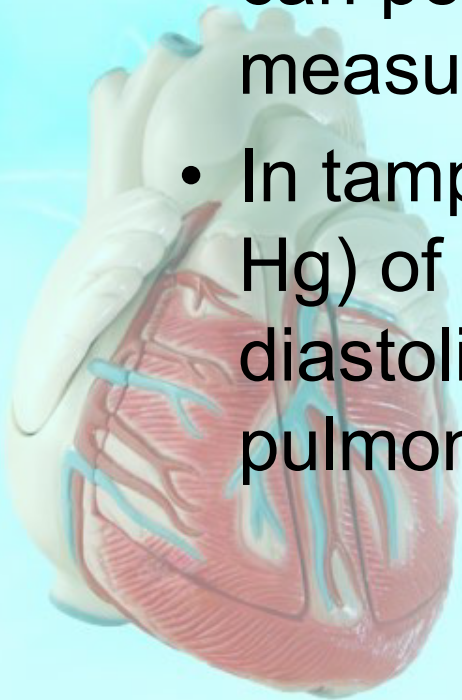
- Computed Tomography [ C.T. ]
- Magnetic resonance imaging [ MRI ]
- Complete blood count – may show elevated WBC count
- Erythrocyte sedimentation rate – usually elevated
- chemistry profile – to identify metabolic causes
- Serological bacterial / viral studies





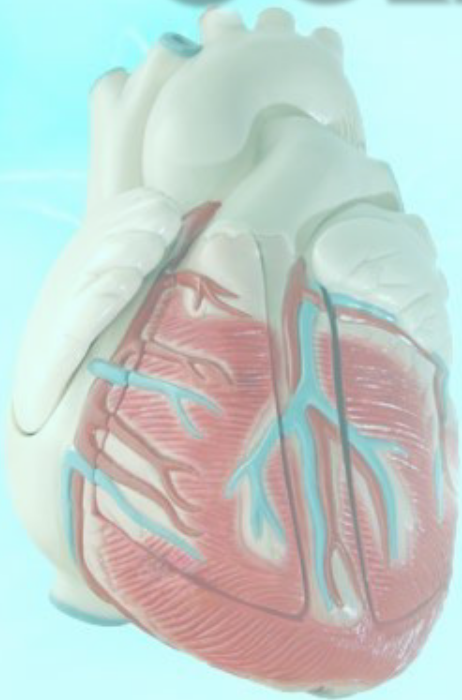
# Cardiac Catheterization

- To evaluate presence and sensitivity of pericardial constriction
- If patient is stable and diagnosis is in doubt can perform a cardiac catheterization to measure Rt sided pressures
- In tamponade, near equalization (within 5 mm Hg) of the right atrial, right ventricular diastolic, pulmonary arterial diastolic, and pulmonary capillary wedge pressure

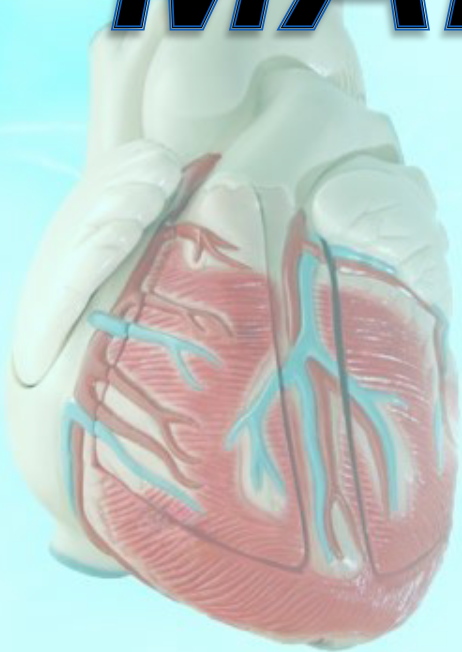




# COMPLICATIONS

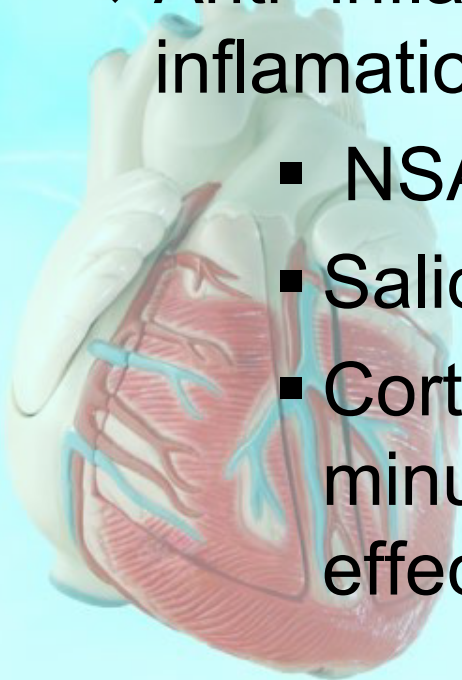


# ***MANAGEMENT***



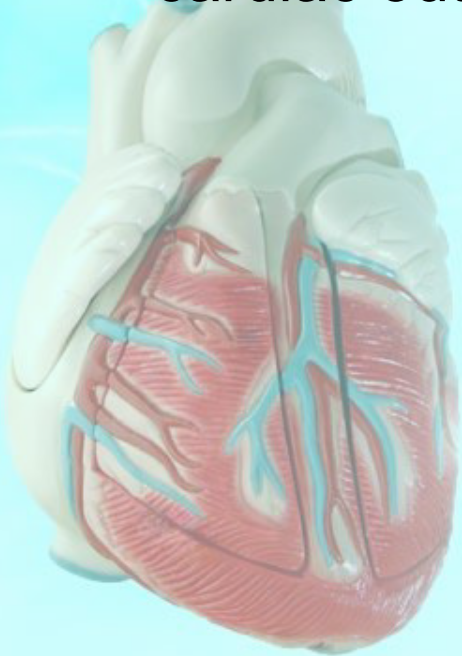
# ***MEDICAL MANAGEMENT***

- ❖ Narcotics :- Narcotics are given to control pain even though pain may respond to narcotics
  
- ❖ Anti- inflammatory agents :- to relieve pain and inflammation and to shrink some effusions
  - NSAID – eg: ibuprofen
  - Salicylates – [aspirin ]
  - Corticosteroids – can relieve pain within 30 minutes. Their use is controversial due to side effects like hypertension and sodium retention



# Cont....

- ❖ Antibiotic Agents
- ❖ Inotropic therapy – Choose inotropes that does not increase systemic vascular resistance while increasing cardiac output. Eg. – Dopamine





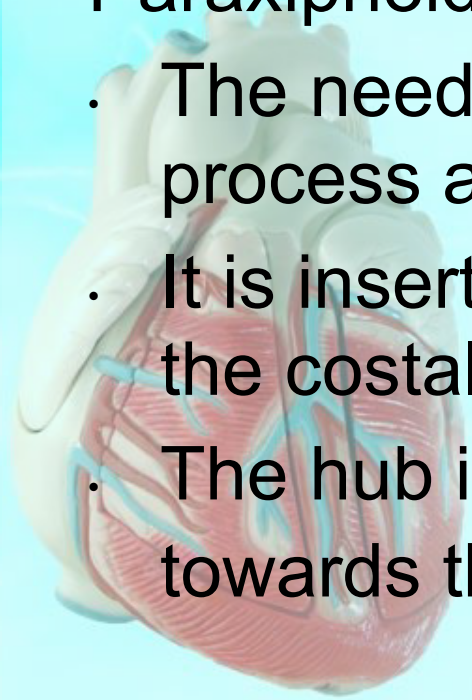
# ***SURGICAL MANAGEMENT***

## ❖ Pericardiocentesis

- Blindly in the case of an emergency, with ECHO, fluoroscopy or CT guidance

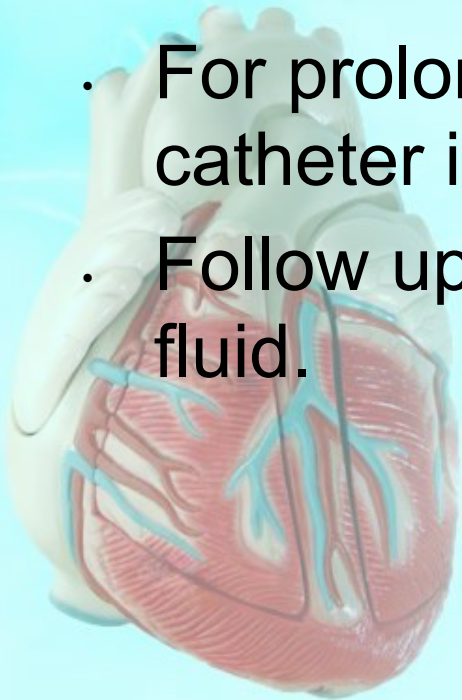
### Paraxiphoid:

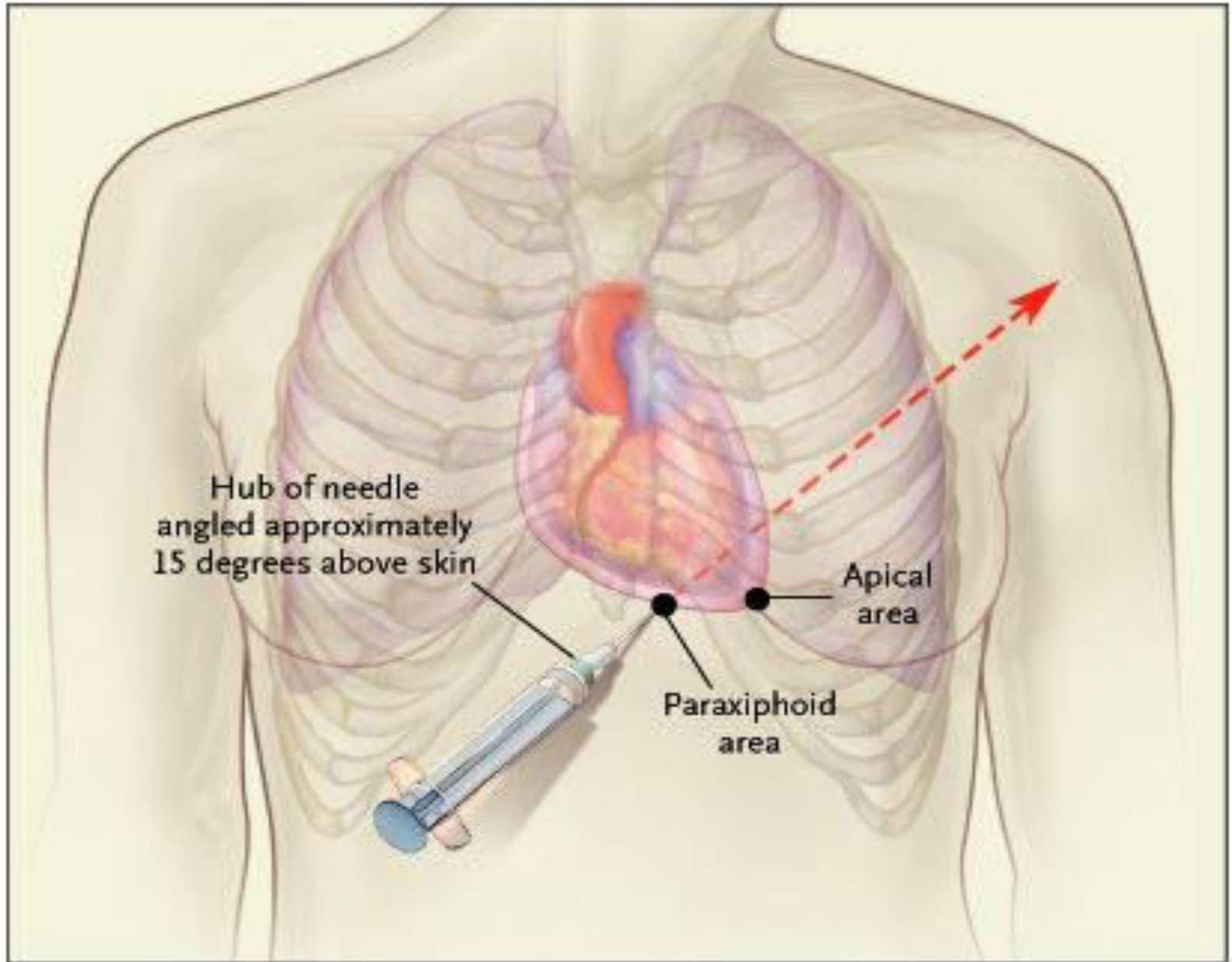
- The needle is inserted between the xiphoid process and left costal margin.
- It is inserted at an angle of 15 degrees to bypass the costal margin.
- The hub is depressed so that it is pointed towards the the left shoulder.



## Cont....

- The needle is advanced slowly until the pericardium is pierced and fluid is aspirated.
- A 16-18 guage sheathed needle is used to leave the sheath in the pericardial space.
- For prolonged drainage a pigtail angiographic catheter is placed in the pericardial space.
- Follow up doppler to assess reaccumulation of fluid.

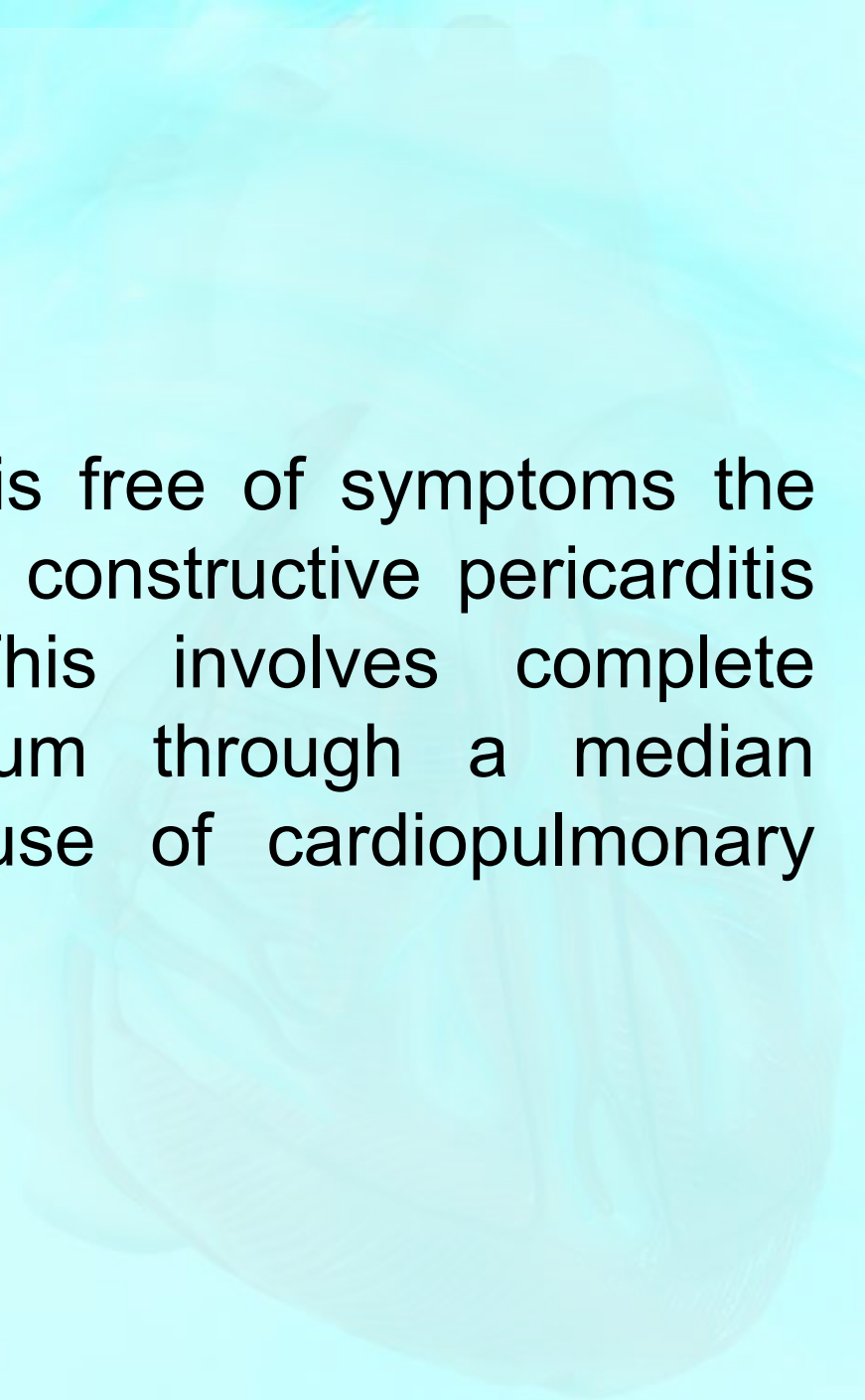
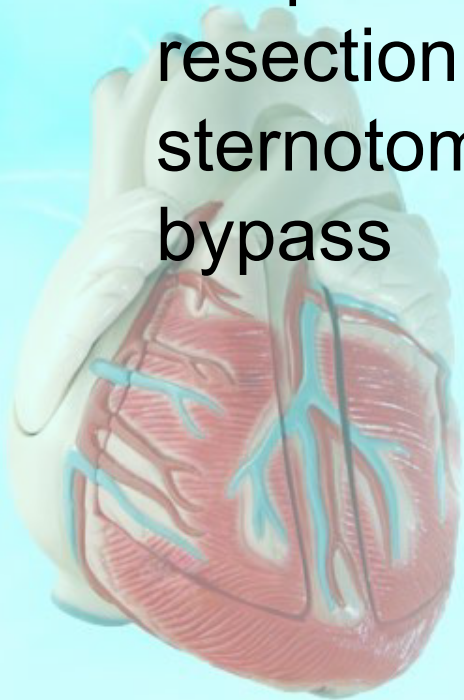






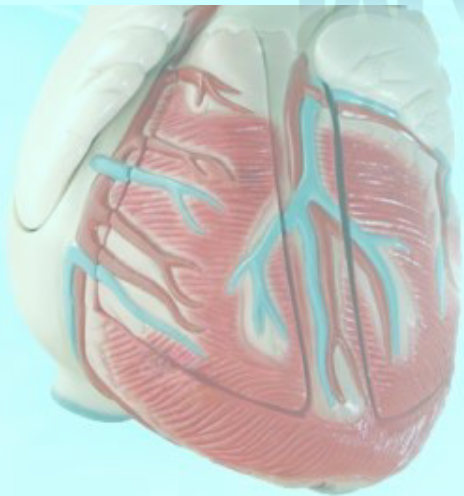
# Pericardiectomy

Unless the patient is free of symptoms the treatment of choice for constrictive pericarditis is pericardiectomy. This involves complete resection of pericardium through a median sternotomy with the use of cardiopulmonary bypass



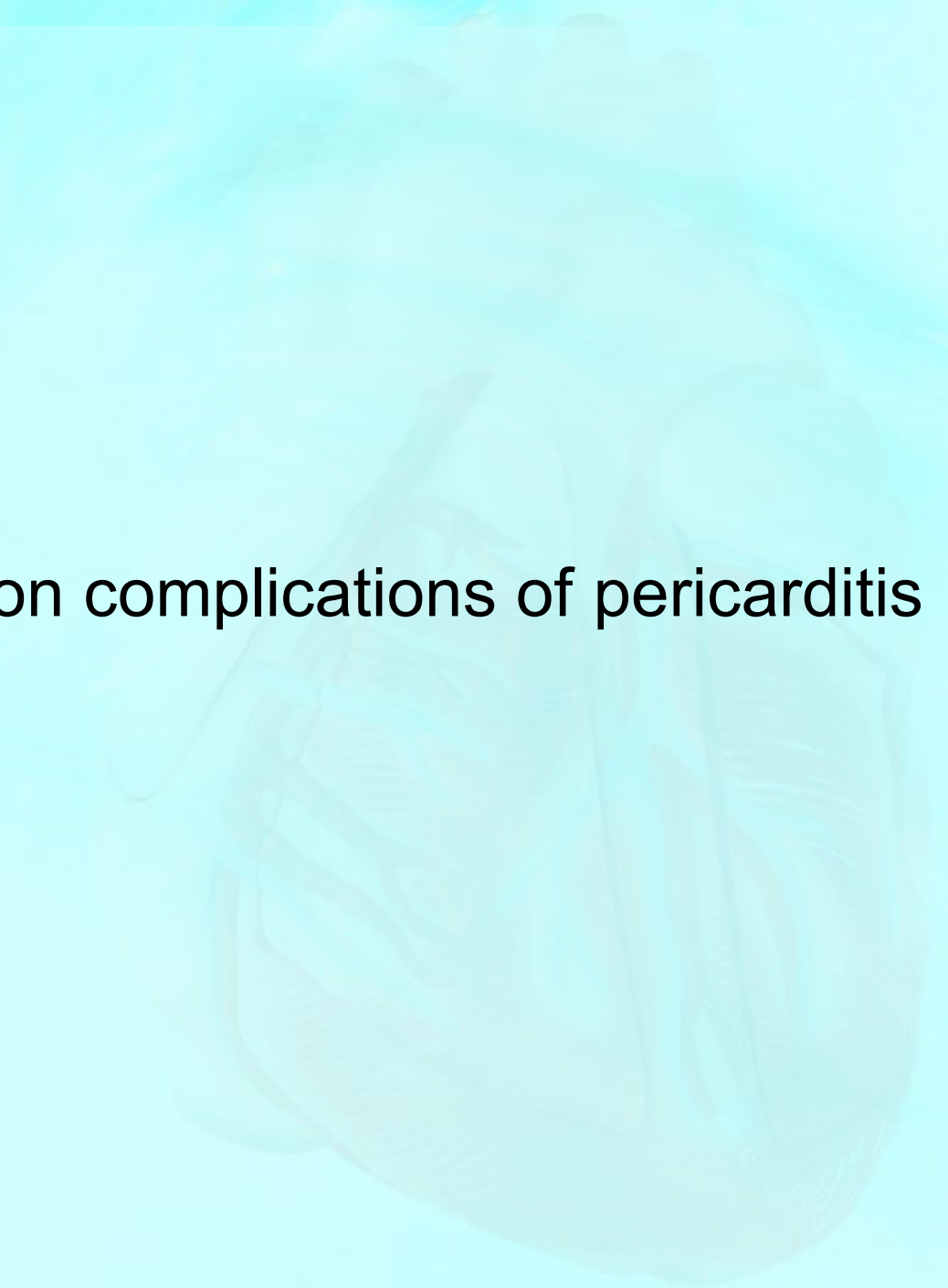
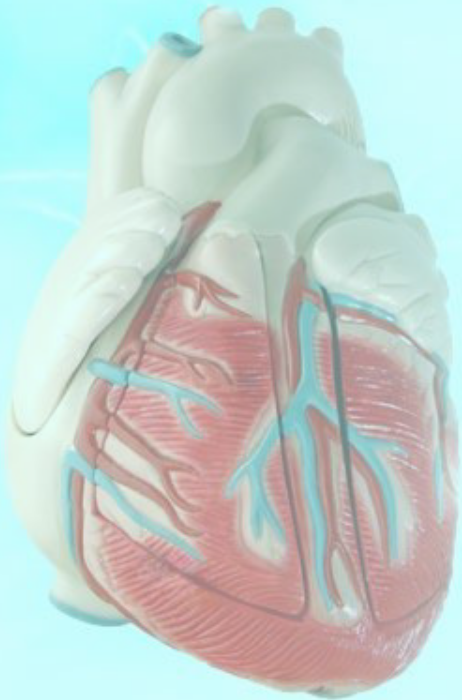


# **NURSING MANAGEMENT**



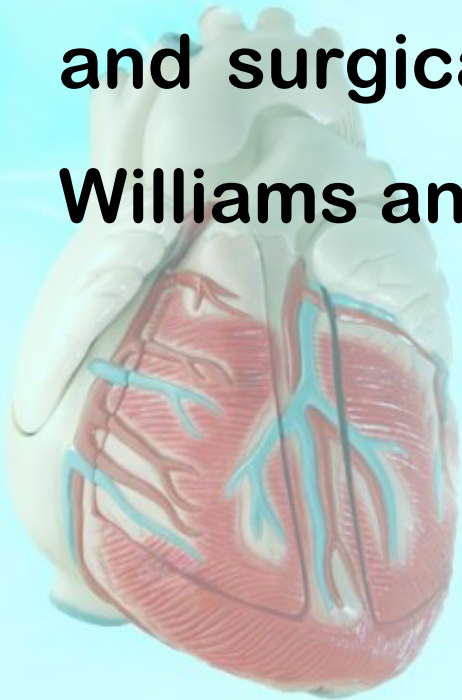
# ***Assignment***

Write an assignment on complications of pericarditis

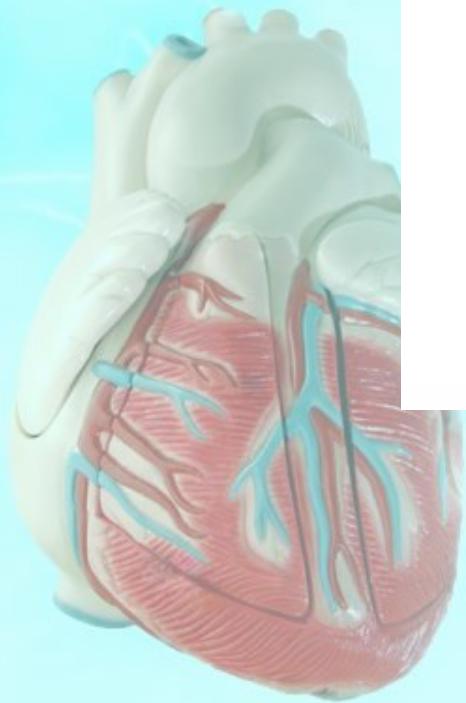


# ***Reference***

**Suddarth and Brunner , Text book of medical and surgical nursing , 10<sup>th</sup> Edition , Lippincott Williams and Wilkins , Philadelphia , 2008**



# CONCLUSIÓN





***Thank You...***

