**Rheumatic Heart Disease**

**Definition**
- Acute, immunologically mediated
- Multisystem inflammatory disease
- Occurs 2 weeks after an episode of Streptococcal group A Pharyngitis infection

**Streptococcal Pharyngitis** (Group A Beta Hemolysis Streptococcus spp)

- Production of antibodies against M protein of Streptococcus within 2 weeks of time

**M protein has molecular mimicry towards self-antigen of heart, skin and connective tissue**

**Inflammatory response**

**Acute Phase**
- Skin
  - Destruction of Subcutaneous connective tissue
    - Erythema Marginatum
  
- Joints
  - Destruction of Corpus Striatum of Basal Ganglia controlling the joint movement
    - Sydenham Chorea
  - Subcutaneous Nodules over joint and bone
    - Polyarthritis

**Heart**
- Acute inflammatory response
  - Formation Aschoff bodies (Granulomatous Nodules)
  - Fibrinoid Necrosis
  - Mitral Valve Stenosis
    - Diastolic Murmur
      - Impaired Ventricular filling
  - Aortic Valve Stenosis
    - Systolic Murmur
      - Reduced ejection fraction
  - Pericarditis
  - Myocarditis
  - Endocarditis
    - Mitral Valve Stenosis
    - Aortic Valve Stenosis

**Chronic Phase**
- Neovascularization and Fibrose tissue formation
- Building up of fibrous tissue in the Endocardium especially the Valves
  - Fibrous thickening/Calcification of valve leaflets/ Fusion of commissures

**Acute Rheumatic Carditis/Heart Disease is the heart manifestation of Acute Rheumatic Fever**

**Jone’s Criteria**

**Acute Rheumatic Fever**

**Chronic Rheumatic Heart Disease**

**Definition**
- Acute, immunologically mediated
- Multisystem inflammatory disease
- Occurs 2 weeks after an episode of Streptococcal group A Pharyngitis infection
### Signs and Symptoms of Acute Rheumatic Fever

<table>
<thead>
<tr>
<th>Major/ Jones Criteria</th>
<th>Minor</th>
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<tr>
<td>Carditis</td>
<td>Fever</td>
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<tr>
<td>Migratory Polyarthritis</td>
<td>Arthralgia</td>
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<tr>
<td>Subcutaneous Nodules</td>
<td>Increased number of Acute Inflammatory cells</td>
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<tr>
<td>Erythema Marginatum</td>
<td>Positive serological test for Post-Streptococcal Infection</td>
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<td>Sydenham Chorea</td>
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</tbody>
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### Diagnosis of Acute Rheumatic Fever

- Positive Serological test and >2 Jones criteria
- 1 Jones criteria and 2 minor clinical manifestations

### Complications of Rheumatic Heart Disease

- Cardiac Murmur
- Cardiac Arrhythmias
- Cardiac Failure
- Infective Endocarditis
- Left Atrial Thrombus formation