# Management of Cardiac Involvement in Patients with Systemic Sclerosis (SSc): Investigation, Monitoring and Treatment

## Identification of Patients with Cardiac Disease

<table>
<thead>
<tr>
<th>Primary Cardiac Disease</th>
<th>History</th>
<th>Examination Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortness of breath on exertion (exclude ILD, Pulm HTN, PE)</td>
<td>Pulse abnormalities</td>
<td></td>
</tr>
<tr>
<td>Palpitation</td>
<td>Murmur(s)</td>
<td></td>
</tr>
<tr>
<td>Dizziness/Blackout (pre-syncope/syncope)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle weakness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Identify**

- Primary Cardiac Disease
- History
  - Shortness of breath on exertion
  - Palpitation
  - Dizziness/Blackout
  - Muscle weakness
- Examination Findings
  - Pulse abnormalities
  - Murmur(s)

**Red Flag Symptoms**

- Breathlessness
- Palpitations
- Dizziness
- Pre-syncope/Blackout
- Chest Pain

**Specifically Assess**

- Raynaud’s, skin thickening, digital ulcers, oesophageal reflux, joint pain
- Muscle weakness

**Investigation of Patients with Cardiac Disease**

**Asymptomatic**

- Primary Cardiac Disease
- Baseline
  - ECG
  - ECHO (link to protocol and Pulm HTN)
  - Blood tests: CK +/- troponin, lipid profile, fasting glucose
  - Possible CAD: stress testing (ECHO or treadmill) +/- angiogram/cardiac CT

**Symptomatic**

- ECHO LV/RV dysfunction (not Pulm HTN)
- ECHO RWMA (not ACS)
- Blood tests: CK +/- troponin, lipid profile, fasting glucose, NT-proBNP
- If feasible: Cardiac MRI

**Prognostic**

- Aspirin (caution with PPI)
- Statin (caution myositis)
- ACEI
- Beta-blocker: selective

**Intervention**

- Treat traditional risk factors effectively (BP, diabetes, smoking cessation)
- If indicated as per usual practice

## Management of Patients with Cardiac Disease

### Primary Cardiac Disease

- **Arrhythmia**
  - Pharmacotherapy
  - Pacemaker/device
  - Ablation therapy
- **Fibrosis**
  - Consider Immunosuppression
- **Myocarditis (+/- part of wider myositis)**
  - Oral/iv steroid (caution risk of renal crisis)
  - +/- Immunosuppression
- **Immunosuppression**
  - MTX, MMF, pulse cyclophosphamide

### Macravascular/CAD

- **Pharmacotherapy**
  - Prognostic
  - Aspirin (caution with PPI)
- **ACEI**
- **Beta-blocker: selective**
  - [Anti-anginal (symptom control)]
- **Intervention**
  - Treat traditional risk factors effectively (BP, diabetes, smoking cessation)
  - If indicated as per usual practice