Management of cardiac involvement in patients with systemic sclerosis (SSc): Investigation, monitoring and treatment

### Identification of patients with cardiac disease

- **Primary cardiac**
  - History
  - Shortness of breath on exertion (exclude ILD, Pulm HTN, PE)
  - Palpitation
  - Dizziness/Blackout (pre-syncope/syncope)
  - Muscle weakness
  - Macrovascular (CAD)

- **Examination findings**
  - Pulse abnormalities
  - Murmur(s)
  - Xanthelasma
  - Bruits
  - Murmur (MR, heart failure)

- **History**
  - Cardiac ischaemic symptoms (angina, SOBOE)
  - History of diabetes, peripheral or cerebro-vascular disease, high cholesterol, family history, smoking
  - Xanthelasma

- **Examination findings**
  - Peripheral pulses
  - Bruits

### Investigation of patients with cardiac disease

- **Primary cardiac and CAD**
  - Baseline
    - Resting 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)
  - +/- NT-proBNP
  - +/- CK/troponin
  - Cardiac MRI
  - Stress testing (ECHO or treadmill)
  - +/- coronary angiography

- **Asymptomatic**
  - ECHO LV/RV dysfunction (not pulm HTN)
  - ECHO RWMA (not ACS)
  - +/- NT-proBNP
  - +/- CK/troponin
  - Cardiac MRI
  - Stress testing (ECHO or treadmill)
  - +/- coronary angiography

### Management of patients with cardiac disease

- **Primary Cardiac**
  - Ankylosis
    - 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

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