



# Risk stratification and location of care for women with cardiovascular disease

## NOTES

This document will use the term 'women'/'woman' throughout. It is important to highlight that it is not only those who identify as women who require access to women's health and reproductive services. For example, some transgender men, non-binary people, and intersex people or people with variations in sex characteristics may also experience pregnancy. All healthcare services should be respectful and responsive to individual needs.

This guidance is not intended to be construed or to serve as a standard of care. Standards of care are determined based on all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve. Adherence to guidance recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. This judgement should only be arrived at following discussion of the options with the patient, covering the diagnostic and treatment choices available. It is advised, however, that significant departures from the national guideline or any local guidelines derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.

### Contents

|                                                                    |    |
|--------------------------------------------------------------------|----|
| Introduction .....                                                 | 3  |
| Levels of care .....                                               | 5  |
| Risk stratification and location of care .....                     | 6  |
| Congenital heart disease, aortopathy & pulmonary hypertension..... | 6  |
| Ventricular function & cardiomyopathy .....                        | 9  |
| Valvular heart disease (non-congenital) .....                      | 11 |
| Arrhythmia & devices.....                                          | 13 |
| Acquired & coronary heart disease & other .....                    | 15 |
| Appendix 1 - Document governance .....                             | 17 |
| Appendix 2 - Group membership .....                                | 18 |

This document has been prepared by Public Services Delivery Scotland (PSDS) on behalf of the SOCN. Accountable to Scottish Government, PSDS works at the heart of the health service providing national strategic services to the rest of NHS Scotland and other public sector organisations to help them deliver their services more efficiently and effectively. SOCN is a collaboration of stakeholders involved in care of obstetric cardiology, who are supported by an PSDS Programme Team to drive improvement across the care pathway.

## Introduction

Recommendations for the location of preconception, antenatal and delivery care for women with cardiac disease are based on the mWHO maternal cardiac risk guidance and the availability of the Pregnancy Heart Team (PregHT) in Scotland. It is accepted that to access appropriate expertise women and their families may have to travel across health board boundaries. This framework applies to haemodynamically stable conditions however, additional factors such as symptom decline, co-morbidities, social determinants of health, or fetal concerns may influence the location of care.

A description of levels of care is described below (Figure 1). Local and regional expertise will vary and access to clinicians with greater experience across Scotland is essential. The table below provides information on cardiovascular conditions categorised by mWHO 2.0 classification and appropriate levels of care for each unit. **The conditions in purple are not in the mWHO 2.0 classification but have been added to support decision making in Scotland.**

For patients requiring review at a regional or specialist centre, antenatal and cardiac care will be coordinated with their local hospital to ensure streamlined management. For example, a patient with moderate left ventricular systolic dysfunction (LVSD) living in Kilmarnock may receive routine antenatal care and cardiac review locally while attending the regional PregHT clinic at the Queen Elizabeth University Hospital (QEUH) in Glasgow. Effective communication and coordination between sites, as emphasised in the antenatal care chapter, ensure continuity of care, avoiding gaps in follow-up or unnecessary multiple visits within short periods. A regional centre may also be the local centre for some patients.

Regional input refers to specialist advice provided by a cardiology or maternal medicine service with enhanced expertise, which may be delivered remotely (e.g. virtual review or case discussion) or through face-to-face consultation, depending on local capability and the patient's clinical needs. Tertiary review refers to care delivered by a specialist centre with comprehensive multidisciplinary expertise in managing complex cardiac disease in pregnancy. This requires face-to-face assessment at the tertiary centre, with the frequency of review determined by the patient's clinical condition and in coordination with local and regional teams.

For patients living in the Highlands and Islands, care location for local and regional review may vary e.g., Inverness, Glasgow, or Aberdeen based on NHS agreements, cardiac condition, and proximity to family support.

Specific guidance for conditions:

- 2025 ESC Guidelines for the management of cardiovascular disease and pregnancy. *European Heart Journal*, 46(43) (<https://doi.org/10.1093/eurheartj/ehaf193>)

## Scottish Obstetric Cardiology Network

### Risk stratification and location of care for women with cardiovascular disease

- 2023 HRS expert consensus statement on the management of arrhythmias during pregnancy (<https://doi.org/10.1016/j.hrthm.2023.05.017>)
- West of Scotland Postnatal management of infants born to parents affected by LQT syndrome <https://clinicalguidelines.scot.nhs.uk/ggc-paediatric-guidelines/ggc-paediatric-guidelines/cardiac/postnatal-management-of-infants-born-to-parents-affected-by-lqt-syndrome/>

## Levels of care

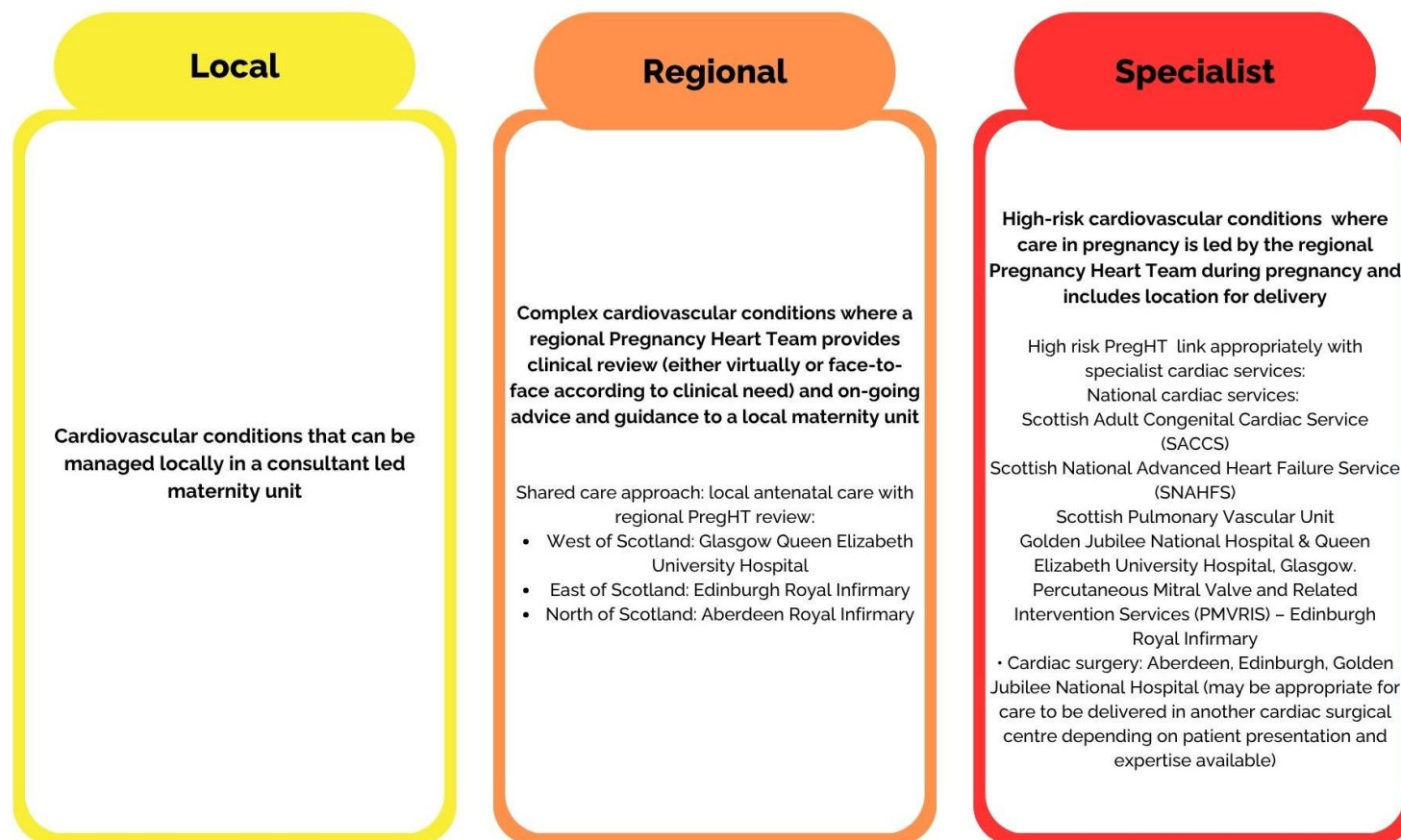


Figure 1 Levels of care

## Risk stratification and location of care

Note: The conditions in purple are not in the mWHO 2.0 classification but have been added to support decision making in Scotland

| Congenital heart disease, aortopathy & pulmonary hypertension                                                                                                                                                                                                                         |                           |                                                               |                                                                                |                                                                         |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------|
| Cardiac condition                                                                                                                                                                                                                                                                     | Level of care             | Preconception counselling                                     | Antenatal care                                                                 | Delivery                                                                | Additional information |
| <b>mWHO 2.0 I</b>                                                                                                                                                                                                                                                                     |                           |                                                               |                                                                                |                                                                         |                        |
| <ul style="list-style-type: none"> <li>Successfully repaired simple lesions without significant residual (haemodynamic) complications (atrial or ventricular septal defect, patent ductus arteriosus, anomalous pulmonary venous drainage)</li> </ul>                                 | Local obstetric unit      | Local obstetric unit with advice from local ACHD cardiologist | Local obstetric unit with advice from regional PregHT if required              | Local obstetric unit with advice from regional PregHT if required       |                        |
| <b>mWHO 2.0 II</b>                                                                                                                                                                                                                                                                    |                           |                                                               |                                                                                |                                                                         |                        |
| <ul style="list-style-type: none"> <li>Unoperated, uncomplicated atrial or ventricular septal defect.</li> <li>Repaired tetralogy of Fallot without significant residual haemodynamic/arrhythmic lesions</li> <li>Transposition of the great arteries with arterial switch</li> </ul> | Local obstetric unit care | Local obstetric unit with advice from local ACHD cardiologist | Local obstetric unit with advice/review from regional cardiac obstetric PregHT | Local obstetric unit with advice from regional cardiac obstetric PregHT |                        |

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### Risk stratification and location of care for women with cardiovascular disease

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>without significant residual lesions</li> <li>Turner syndrome without cardiovascular features (BAV, coarctation, AHT, aortic dilatation)</li> </ul>                                                                                                                                                                                                         |                                                      |                 |                                                                                      |                                                      |                                                                |
| <b>mWHO 2.0 II-III</b>                                                                                                                                                                                                                                                                                                                                                                             |                                                      |                 |                                                                                      |                                                      |                                                                |
| <ul style="list-style-type: none"> <li>Repaired atrioventricular septal defect without significant residual lesions</li> <li>Uncomplicated Ebstein anomaly; mild to moderate TR, no tricuspid stenosis, no accessory pathway.</li> <li>Marfan or other HTAD syndrome without aortic dilatation</li> <li>Aorta &lt;45mm in bicuspid aortic valve pathology</li> <li>Repaired coarctation</li> </ul> | Local obstetric unit care and regional PregHT review | Regional PregHT | Local obstetric unit with advice and review from regional PregHT at least once       | Local obstetric unit if appropriate with PregHT plan |                                                                |
| <b>mWHO 2.0 III</b>                                                                                                                                                                                                                                                                                                                                                                                |                                                      |                 |                                                                                      |                                                      |                                                                |
| <ul style="list-style-type: none"> <li>Systemic right ventricle with good or mildly decreased ventricular function (ccTGA, TGA switch [Mustard, Senning])</li> <li>Uncomplicated Fontan circulation: good ventricular function, no significant valve</li> </ul>                                                                                                                                    | Local antenatal care and regional PregHT review      | Regional PregHT | Local obstetric unit with regional PregHT-led review<br><br>Refer to regional PregHT | Regional PregHT centre                               | If cardiovascular deterioration escalate to specialist service |

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NSD610-025.07 V1

Page 7 of 18

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------|
| <p>disease or arrhythmias, good exercise tolerance and normal arterial saturations</p> <ul style="list-style-type: none"> <li>▪ Unrepaired cyanotic heart disease (not Eisenmenger)</li> <li>▪ Ebstein anomaly with any complication</li> <li>▪ Moderate aortic dilatation: 40–45 mm in Marfan syndrome or other HTAD; 45–50 mm in bicuspid aortic valve, Turner syndrome ASI 20–25 mm/m<sup>2</sup>, other aortic dilatation &lt;50 mm)</li> <li>▪ Marfan with previous aortic root replacement</li> <li>▪ Previous aortic dissection with stable diameter</li> </ul> |                                                                              |                                                                        | <p>as soon as pregnancy known</p> <p>Shared care with relevant specialist service</p>                                  |                               |                                                     |
| <b>mWHO 2.0 IV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                              |                                                                        |                                                                                                                        |                               |                                                     |
| <ul style="list-style-type: none"> <li>▪ Pulmonary arterial hypertension</li> <li>▪ Eisenmenger syndrome</li> </ul> <p>Systemic right ventricle with moderate or severely decreased ventricular function</p> <ul style="list-style-type: none"> <li>▪ Fontan with any complication</li> <li>▪ Severe aortic dilatation (&gt;45 mm in Marfan syndrome or other HTAD, &gt;50 mm in bicuspid aortic valve, Turner</li> </ul>                                                                                                                                              | <p>Local antenatal care and regional PregHT review with specialist input</p> | <p>Specialist service with input from regional PregHT if requested</p> | <p>Local obstetric unit with regional PregHT-led review</p> <p>Refer to regional PregHT as soon as pregnancy known</p> | <p>Regional PregHT centre</p> | <p>Shared care with relevant specialist service</p> |

Publication: 16 September 2026    Review: 1 May 2029

NSD610-025.07 V1

Page 8 of 18

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### Risk stratification and location of care for women with cardiovascular disease

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| syndrome ASI >25 mm/m <sup>2</sup> ,<br>other aortic dilatation >50mm)<br><ul style="list-style-type: none"> <li>▪ Vascular Ehlers–Danlos</li> <li>▪ Severe (re)coarctation</li> <li>▪ Previous aortic dissection with increasing diameter</li> </ul> |  |  | Shared care with relevant specialist service |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|----------------------------------------------|--|--|

| Ventricular function & cardiomyopathy                                                                                                                                                            |                                                 |                                                          |                                                                                |                                                                   |                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------|
| Cardiac condition                                                                                                                                                                                | Level of care & minimum review                  | Preconception counselling                                | Antenatal care                                                                 | Delivery                                                          | Additional information               |
| <b>mWHO 2.0 I</b>                                                                                                                                                                                |                                                 |                                                          |                                                                                |                                                                   |                                      |
| HCM: genotype-positive + phenotype negative                                                                                                                                                      | Local obstetric unit                            | Local obstetric unit with advice from local cardiologist | Local obstetric unit with advice from regional PregHT if required              | Local obstetric unit with advice from regional PregHT if required |                                      |
| <b>mWHO 2.0 II</b>                                                                                                                                                                               |                                                 |                                                          |                                                                                |                                                                   |                                      |
| <ul style="list-style-type: none"> <li>▪ Family history of inherited cardiomyopathy (hypertrophic, arrhythmogenic, dilated)</li> </ul>                                                           | Local obstetric unit                            | Local obstetric with advice from regional PregHT         | Local obstetric with advice from regional PregHT                               | Local obstetric with advice from regional PregHT                  | Regional ICC cardiologist for advice |
| <b>mWHO 2.0 II-III</b>                                                                                                                                                                           |                                                 |                                                          |                                                                                |                                                                   |                                      |
| <ul style="list-style-type: none"> <li>▪ HCM without complication</li> <li>▪ Mild left ventricular impairment: EF&gt;45%</li> <li>▪ Significantly impaired RV (subpulmonary) function</li> </ul> | Local obstetric unit and regional PregHT review | Regional PregHT                                          | Local obstetric unit with advice and review from regional PregHT at least once | Local obstetric unit if appropriate with PregHT plan              |                                      |

Publication: 16 September 2026    Review: 1 May 2029

NSD610-025.07 V1

Page 9 of 18

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>DCM/NDLVC with normal or mild left ventricular impairment: EF&gt;45%*</li> <li>Low risk ARVC: genotype-positive + no or mild phenotype</li> </ul>                                                                                                                                                           |                                                                    |                                                                 |                                                                                                                                                                     |                        |                                                                |
| <b>mWHO 2.0 III</b>                                                                                                                                                                                                                                                                                                                                |                                                                    |                                                                 |                                                                                                                                                                     |                        |                                                                |
| <ul style="list-style-type: none"> <li>Moderate left ventricular impairment: EF 30–45%*</li> <li>Previous peripartum cardiomyopathy with not more than mild residual left ventricular impairment</li> <li>Hypertrophic cardiomyopathy</li> <li>Arrhythmogenic cardiomyopathy with arrhythmic and/or moderate haemodynamic complications</li> </ul> | Local antenatal care and regional PregHT review                    | Regional PregHT                                                 | Local obstetric unit with regional PregHT-led review<br><br>Refer to regional PregHT as soon as pregnancy known<br><br>Shared care with relevant specialist service | Regional PregHT centre | If cardiovascular deterioration escalate to specialist service |
| <b>mWHO 2.0 IV</b>                                                                                                                                                                                                                                                                                                                                 |                                                                    |                                                                 |                                                                                                                                                                     |                        |                                                                |
| <ul style="list-style-type: none"> <li>Heart transplant</li> <li>Severe left ventricular dysfunction: EF &lt;30% or NYHA class III/IV</li> <li>Previous peripartum cardiomyopathy with more</li> </ul>                                                                                                                                             | Local antenatal care, regional PregHT review with specialist input | Specialist service with input from regional PregHT if requested | Local obstetric unit with regional PregHT-led review                                                                                                                | Regional PregHT centre | Shared care with specialist service                            |

Publication: 16 September 2026    Review: 1 May 2029

NSD610-025.07 V1

Page 10 of 18

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| than mild left ventricular impairment <ul style="list-style-type: none"> <li>■ HCM with symptomatic severe outflow tract obstruction <math>\geq 50\text{mmHg}</math></li> <li>■ HCM with severely symptomatic LV dysfunction (<math>\text{EF} &lt; 50\%</math>)</li> </ul> |  |  | Refer to regional PregHT as soon as pregnancy known<br><br>Shared care with relevant specialist service |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------------------------------------------------------------------------------------------|--|--|

\* in context of medical therapy and withdrawal

| Valvular heart disease (non-congenital)                                                                                                                                                                                                                 |                                                 |                                                                   |                                                                                |                                                                   |                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Cardiac condition                                                                                                                                                                                                                                       | Level of care & minimum review                  | Preconception counselling                                         | Antenatal care                                                                 | Delivery                                                          | Additional information                                                                                 |
| <b>mWHO 2.0 I</b>                                                                                                                                                                                                                                       |                                                 |                                                                   |                                                                                |                                                                   |                                                                                                        |
| Small or mild: <ul style="list-style-type: none"> <li>■ mitral valve prolapse without significant regurgitation</li> <li>■ Pulmonary stenosis</li> </ul>                                                                                                | Local antenatal care                            | Local obstetric unit with advice from regional PregHT if required | Local obstetric unit with advice from regional PregHT if required              | Local obstetric unit with advice from regional PregHT if required | Local valvular heart disease cardiologist                                                              |
| <b>mWHO 2.0 II-III</b>                                                                                                                                                                                                                                  |                                                 |                                                                   |                                                                                |                                                                   |                                                                                                        |
| <ul style="list-style-type: none"> <li>■ Native, homograft or tissue valve disease not considered mWHO 2.0 I or IV             <ul style="list-style-type: none"> <li>○ mild mitral stenosis</li> <li>○ moderate aortic stenosis</li> </ul> </li> </ul> | Local obstetric unit and regional PregHT review | Regional PregHT                                                   | Local obstetric unit with advice and review from regional PregHT at least once | Local obstetric unit if appropriate with PregHT plan              | Local valvular heart disease cardiologist<br><br>For mitral stenosis Inform PMVRIS* at Edinburgh Royal |

Publication: 16 September 2026    Review: 1 May 2029

NSD610-025.07 V1

Page 11 of 18

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### Risk stratification and location of care for women with cardiovascular disease

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>○ mild/moderate aortic or mitral regurgitation</li> <li>▪ Moderate valvular regurgitation</li> </ul>                                                                                                                      |                                                                    |                                                                 |                                                                                                                                                                            |                        | Infirmery of pregnancy early                                                                                                         |
| <b>mWHO 2.0 III</b>                                                                                                                                                                                                                                              |                                                                    |                                                                 |                                                                                                                                                                            |                        |                                                                                                                                      |
| <ul style="list-style-type: none"> <li>▪ Moderate mitral stenosis</li> <li>▪ Severe asymptomatic aortic stenosis</li> <li>▪ Uncomplicated mechanical heart valve with stable well controlled INRs</li> <li>▪ Severe left sided valvular regurgitation</li> </ul> | Local antenatal care and regional PregHT review                    | Specialist service with input from regional PregHT if requested | <p>Local obstetric unit with regional PregHT-led review</p> <p>Refer to regional PregHT as soon as pregnancy known</p> <p>Shared care with relevant specialist service</p> | Regional PregHT centre | <p>Shared care with specialist service</p> <p>For mitral stenosis Inform PMVRIS* at Edinburgh Royal Infirmery of pregnancy early</p> |
| <b>mWHO 2.0 IV</b>                                                                                                                                                                                                                                               |                                                                    |                                                                 |                                                                                                                                                                            |                        |                                                                                                                                      |
| <ul style="list-style-type: none"> <li>▪ Severe mitral stenosis</li> <li>▪ Severe symptomatic aortic stenosis</li> </ul>                                                                                                                                         | Local antenatal care, regional PregHT review with specialist input | Specialist service with input from regional PregHT if requested | <p>Local obstetric unit with regional PregHT-led review</p> <p>Refer to regional PregHT as soon as</p>                                                                     | Regional PregHT centre | For mitral stenosis Inform PMVRIS* at Edinburgh Royal Infirmery of pregnancy                                                         |

Publication: 16 September 2026    Review: 1 May 2029

NSD610-025.07 V1

Page 12 of 18

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### Risk stratification and location of care for women with cardiovascular disease

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|  |  |  | pregnancy known                              |  |  |
|  |  |  | Shared care with relevant specialist service |  |  |

\* Percutaneous Mitral Valve and Related Intervention Services

| Arrhythmia & devices                                                                                                                                                                                                       |                                                 |                                                                   |                                                                                |                                                                   |                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------|
| Cardiac condition                                                                                                                                                                                                          | Level of care & minimum review                  | Preconception counselling                                         | Antenatal care                                                                 | Delivery                                                          | Additional information                                                  |
| <b>mWHO 2.0 I</b>                                                                                                                                                                                                          |                                                 |                                                                   |                                                                                |                                                                   |                                                                         |
| <ul style="list-style-type: none"> <li>Atrial or ventricular ectopic beats, isolated</li> <li>Sinus bradycardia, Mobitz 1 heart block (in the absence of structural heart disease, symptoms)</li> <li>Pacemaker</li> </ul> | Local antenatal care                            | Local obstetric unit with advice from regional PregHT if required | Local obstetric unit with advice from regional PregHT if required              | Local obstetric unit with advice from regional PregHT if required | Pacing check<br>Local arrhythmia cardiologists for pre-pregnancy advice |
| <b>mWHO 2.0 II</b>                                                                                                                                                                                                         |                                                 |                                                                   |                                                                                |                                                                   |                                                                         |
| <ul style="list-style-type: none"> <li>Most supraventricular arrhythmias</li> <li>Bradycardia requiring pacemaker</li> <li>Family history of inherited arrhythmias or</li> </ul>                                           | Local obstetric unit and regional PregHT review | Regional PregHT                                                   | Local obstetric unit with advice and review from regional PregHT at least once | Local obstetric unit if appropriate with PregHT plan              | Regional ICC/local arrhythmia cardiologist for advice                   |

Publication: 16 September 2026    Review: 1 May 2029

NSD610-025.07 V1

Page 13 of 18

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### Risk stratification and location of care for women with cardiovascular disease

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------|--|
| <ul style="list-style-type: none"> <li>arrhythmogenic cardiomyopathy</li> <li>Rate-controlled atrial fibrillation</li> <li>Symptomatic SVT</li> <li>Brugada Syndrome with no previous events</li> <li>Long QT syndrome with no previous events and QTc <math>\leq 470\text{ms}</math></li> <li>Gene-positive catecholaminergic polymorphic ventricular tachycardia without any phenotype</li> </ul> |                                                 |                                                                 |                                                                                |                                                      |  |
| <b>mWHO 2.0 II-III</b>                                                                                                                                                                                                                                                                                                                                                                              |                                                 |                                                                 |                                                                                |                                                      |  |
| <ul style="list-style-type: none"> <li>ICD</li> <li>Brugada syndrome with no previous events</li> <li>Low risk LQTS: no previous events and on full dose beta-blocker therapy</li> <li>Low risk CPVT: well controlled by medical therapy</li> </ul>                                                                                                                                                 | Local obstetric unit and regional PregHT review | Regional PregHT                                                 | Local obstetric unit with advice and review from regional PregHT at least once | Local obstetric unit if appropriate with PregHT plan |  |
| <b>mWHO 2.0 III</b>                                                                                                                                                                                                                                                                                                                                                                                 |                                                 |                                                                 |                                                                                |                                                      |  |
| <ul style="list-style-type: none"> <li>Sustained ventricular tachycardia from any aetiology</li> <li>LQT2 (post-partum)</li> <li>BrS with previous events</li> </ul>                                                                                                                                                                                                                                | Local antenatal care and regional PregHT review | Specialist service with input from regional PregHT if requested | Local obstetric unit with regional PregHT-led review                           | Regional PregHT centre                               |  |

Publication: 16 September 2026    Review: 1 May 2029

NSD610-025.07 V1

Page 14 of 18

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### Risk stratification and location of care for women with cardiovascular disease

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|---------------------------------------------------------------------------------------------------------|--|--|----------------------------------------------------------------------------------------------------------------|--|--|
| <ul style="list-style-type: none"> <li>Any arrhythmia syndrome with poorly controlled events</li> </ul> |  |  | <p>Refer to regional PregHT as soon as pregnancy known</p> <p>Shared care with relevant specialist service</p> |  |  |
|---------------------------------------------------------------------------------------------------------|--|--|----------------------------------------------------------------------------------------------------------------|--|--|

| Acquired & coronary heart disease & other                                                                                                                                                                                              |                                                 |                                                                 |                                                                                |                                                      |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------|
| Cardiac condition                                                                                                                                                                                                                      | Level of care & minimum review                  | Preconception counselling                                       | Antenatal care                                                                 | Delivery                                             | Additional information              |
| mWHO 2.0 II-III                                                                                                                                                                                                                        |                                                 |                                                                 |                                                                                |                                                      |                                     |
| <ul style="list-style-type: none"> <li>Ischaemic heart disease (without ongoing angina, no/mild, ventricular dysfunction or arrhythmia)</li> </ul>                                                                                     | Local obstetric unit and regional PregHT review | Regional PregHT                                                 | Local obstetric unit with advice and review from regional PregHT at least once | Local obstetric unit if appropriate with PregHT plan |                                     |
| mWHO 2.0 III                                                                                                                                                                                                                           |                                                 |                                                                 |                                                                                |                                                      |                                     |
| <ul style="list-style-type: none"> <li>Prior ischaemic cardiac event (STEMI/NSTEM ACS)</li> <li>Prior adverse pregnancy outcome requiring hospitalisation</li> <li>Prior adverse cardiovascular effects of cancer treatment</li> </ul> | Local antenatal care and regional PregHT review | Specialist service with input from regional PregHT if requested | Local obstetric unit with regional PregHT-led review                           | Regional PregHT centre                               | Shared care with specialist service |

Publication: 16 September 2026    Review: 1 May 2029

NSD610-025.07 V1

Page 15 of 18

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## Scottish Obstetric Cardiology Network

### Risk stratification and location of care for women with cardiovascular disease

|                                                              |                                                        |                                                                        |                                                                                                                                                                            |                               |  |
|--------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--|
| <ul style="list-style-type: none"> <li>Prior SCAD</li> </ul> |                                                        |                                                                        | <p>Refer to regional PregHT as soon as pregnancy known</p> <p>Shared care with relevant specialist service</p>                                                             |                               |  |
| mWHO 2.0 IV                                                  |                                                        |                                                                        |                                                                                                                                                                            |                               |  |
| <ul style="list-style-type: none"> <li></li> </ul>           | <p>Local antenatal care and regional PregHT review</p> | <p>Specialist service with input from regional PregHT if requested</p> | <p>Local obstetric unit with regional PregHT-led review</p> <p>Refer to regional PregHT as soon as pregnancy known</p> <p>Shared care with relevant specialist service</p> | <p>Regional PregHT centre</p> |  |

## Appendix 1 - Document governance

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Authors</b>               | This document was developed by the Known Pathways Subgroup on behalf of the SOCN Steering Group. Full membership of the group is available in Appendix 2.                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Stakeholders involved</b> | A wide range of health care professionals working in the area of obstetric cardiology were involved in the development of this document. This includes Obstetricians, Cardiologists, Anaesthetists, Pharmacists, Clinical Geneticists, Specialist Nurses, Midwives and Sexual Health consultants. Feedback from patients throughout the development of all of the SOCN materials was sought.                                                                                                                                            |
| <b>Methodology used</b>      | Evidence-based literature reviews and engagement with clinical experts within the field of obstetric cardiology across Scotland.                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Rationale</b>             | Cardiac disease remains the leading indirect cause of death in pregnancy. The network was established to support and develop Obstetric Cardiology services throughout Scotland in improving standards of clinical care for pregnant women and their families affected by heart disease in pregnancy. The network supports the delivery of evidence based, patient centred care for both mother and baby through the development and implementation of clinical guidelines, care pathways, clinical standards and information resources. |
| <b>Scope</b>                 | The aim of this document is to support the delivery of services to improve outcomes for women with cardiac disease and support implementation of optimal care to any women with a cardiac condition who is contemplating a pregnancy or has a pregnancy in Scotland. .                                                                                                                                                                                                                                                                  |
| <b>Approval process</b>      | Members of the Scottish Perinatal Network and Network for Inherited Cardiac Conditions Scotland were able to review and provide feedback on the final draft of this document. The SOCN Steering Group endorsed this document on 1 May 2026. Full membership of the group is available in Appendix 2.                                                                                                                                                                                                                                    |

### Network Contact Details

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NSD610-025.07 V1

Page 17 of 18

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## Appendix 2 - Group membership

| <b>Known Pathways Subgroup Membership</b> |                                         |                             |
|-------------------------------------------|-----------------------------------------|-----------------------------|
| <b>Name</b>                               | <b>Job Title</b>                        | <b>Organisation</b>         |
| Dr Julia Anderson                         | Consultant Haematologist                | NHS Lothian                 |
| Dr Sonal Anderson                         | Consultant in Obstetrics & Gynaecology  | NHS Ayrshire & Arran        |
| Dr Katrina Bramley                        | Consultant Anaesthetist                 | NHS Lothian                 |
| Dr Adelle Dawson                          | Consultant Cardiologist                 | NHS Grampian                |
| Dr Fiona Dennison                         | Consultant Obstetrician                 | NHS Ayrshire & Arran        |
| Dr Richard Dobson                         | Cardiology Registrar                    | NHS Golden Jubilee          |
| Jacqueline Dunlop                         | Principle Genetic Counsellor            | NHS Tayside                 |
| Dr Stuart Hanna                           | Consultant Anaesthetist                 | NHS Forth Valley            |
| Mary Hannaway                             | Senior Charge Midwife                   | NHS Greater Glasgow & Clyde |
| Dr Shahzya Huda                           | Consultant Obstetrician/Sub-group Chair | NHS Forth Valley            |
| Dr Jayne McLaren                          | A&E Consultant                          | NHS Ayrshire & Arran        |
| Dr Lucy Michie                            | Obstetrics & Gynaecology Registrar      | NHS Ayrshire & Arran        |
| Dr Giles Roditi                           | Consultant Radiologist                  | NHS Greater Glasgow & Clyde |
| Maggie Simpson                            | Lead Clinician                          | NHS Golden Jubilee          |
| Dr Caroline White                         | Consultant Cardiologist                 | NHS Lanarkshire             |

| <b>SOCN Steering Group Membership (2025/2026)</b> |                                         |                                  |
|---------------------------------------------------|-----------------------------------------|----------------------------------|
| <b>Name</b>                                       | <b>Job Title</b>                        | <b>Organisation</b>              |
| Dr Ros Burns                                      | Obstetric Anaesthetist                  | NHS Lothian                      |
| Dr Rachel Darling                                 | Consultant Anaesthetist                 | NHS Greater Glasgow & Clyde      |
| Richard Forsyth                                   | Health Systems Insights Manager         | British Heart Foundation         |
| Dr Patrick Gibson                                 | Consultant Cardiologist                 | NHS Lothian                      |
| Dr Anja Guttinger                                 | Sexual & Reproductive Health Consultant | NHS Ayrshire & Arran             |
| Dr Duncan Hogg                                    | Consultant Cardiologist                 | NHS Grampian                     |
| Dr Shahzya Huda                                   | Consultant Obstetrician                 | NHS Forth Valley                 |
| Dr Vera Lennie                                    | Consultant Cardiologist                 | NHS Grampian                     |
| Dr Lynn Miller                                    | Consultant Cardiologist                 | NHS Fife                         |
| Lynsey Moir                                       | Pharmacist - Clinical Cardiology        | NHS Greater Glasgow & Clyde      |
| Dr Rebecca Northridge                             | Consultant Obstetrician                 | NHS Tayside                      |
| Dr Karolina Pesz                                  | Consultant Geneticist                   | NHS Greater Glasgow & Clyde      |
| Maggie Simpson                                    | Advanced Nurse Practitioner             | NHS Greater Glasgow & Clyde      |
| Dr Lorna Swan                                     | Consultant Cardiologist                 | Golden Jubilee National Hospital |
| Dr Niki Walker                                    | Consultant Cardiologist                 | Golden Jubilee National Hospital |