**Cardiology Conditions**

Consideration of referral for an MDT opinion or transfer of care

The woman may need to be referred for care or discussion to the nearest specialist unit (as indicated in the table) either:

**1. Maternal Medicine Centres (MMC)** The MMCs have the responsibility for hosting the MDT, the regional guidelines and standards of care

**2. Regional Unit (RU)-** The RU has expertise and can manage pregnant women with the condition.

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| **Condition** | **Specialist level for maternal care** | **Maternal Medicine Centre (MMC)** | **Regional Unit (RU)** | **Pre-pregnancy counselling** | **Notes – e.g. Geographical variants** |
| **LOW RISK Congenital Heart Disease/Aortopathy**  **(mWHO I):**  Small/repaired patent ductus arteriosus  Anomalous pulmonary venous drainage repair  Repaired atrial or ventricular septal defect  Mild/moderate pulmonary stenosis  Mild mitral/aortic regurgitation  Mild aortic stenosis  **AORTOPATHY**  Bicuspid aortic valve, no aortopathy | Local expertise  Advice and guidance from Cardiac Obstetric MDT if required by unit | Bristol-UHBW | Plymouth | Advised  local unit +/-visiting obstetric cardiologist | Swindon refer to Bristol |
| **MODERATE RISK Congenital Heart Disease/Aortopathy**  **(mWHO II/II-III):**  Repaired coarctation  Repaired Tetralogy of Fallot  Unoperated atrial or ventricular septal defect  Atrioventricular septal defect  Ebstein’s anomaly  Transposition of the great arteries: arterial switch repair  Moderate to severe mitral/aortic regurgitation  Severe pulmonary stenosis/ regurgitation  Mild mitral stenosis  Moderate aortic stenosis  A**ORTOPATHY**  Bicuspid aortic valve aortopathy < 45mm | Discuss with Cardiac Obstetric MDT about most appropriate further care and place of delivery  Likely to be shared care with MMC/RU  Delivery wherever possible at the local unit with MDT plan | Bristol-UHBW | Plymouth | Advised  local unit with visiting obstetric cardiologist or MMC/RU | Swindon refer to Bristol  Truro has obstetric cardiology, so MDT discussion with UHB, usually without visits  NBT to consider transfer booking to UHB |
| **HIGH RISK Congenital Heart Disease / Aortopathy (mWHO III)**  Transposition of the great arteries: following Mustard or Senning repair or congenitally corrected transposition  Fontan circulation  Cyanotic heart disease (without pulmonary hypertension)  Moderate mitral stenosis  Severe asymptomatic aortic stenosis  **AORTOPATHY**  Marfan syndrome/hereditary thoracic aortopathy <45mm  Turner syndrome aortic size index 20–25 mm/m2  Bicuspid aortic valve aortopathy 45–50 mm | Refer to MMC / RU  Antenatal care and delivery at MMC/RU | Bristol-UHBW |  | Strongly advised  MMC/RU | Swindon refer to Bristol  Truro has obstetric cardiology, so MDT discussion with UHB, interval visits and transfer to UHB for delivery  For ACHD Yeovil may transfer to UHB or Southampton (dependent on usual cardiac care)  For ACHD, Plymouth likely to liaise with Southampton (dependent on usual cardiac care)  NBT to transfer care to UHBW |
| **VERY HIGH RISK Congenital Heart Disease/ Aortopathy (mWHO IV) – *pregnancy contraindicated***  Systemic right ventricle with moderate or severely decreased ventricular function  Severe (re)coarctation  Fontan with any complication  Severe mitral stenosis  Severe symptomatic aortic stenosis  Pulmonary arterial hypertension (including Eisenmenger syndrome)  **AORTOPATHY**  Marfan syndrome/hereditary thoracic aortopathy >45mm  Bicuspid aortic valve aortopathy >50 mm  Turner syndrome aortic size index >25 mm/m2  Vascular Ehlers-Danlos Syndrome | Refer to MMC / RU **within 6 weeks** of conception  Antenatal care and delivery at MMC/RU | Bristol-UHBW  National Centre for PAH |  | Strongly advised  MMC/RU | Swindon refer to Bristol  Truro has obstetric cardiology, so MDT discussion with UHB, some visits and transfer to UHB for delivery  For ACHD, Plymouth likely to liaise with Southampton (dependent on usual cardiac care)  NBT to transfer care to UHBW |
| **Acquired mitral and aortic valve disease** (including rheumatic heart disease and bioprosthetic valves) | Review or advice and guidance from Cardiac Obstetric MDT if required (as per mWHO criteria above for similar valve disease) | Bristol-UHBW | Plymouth | Advised as for categories above  MMC/RU | Swindon refer to Bristol  Truro has obstetric cardiology, so MDT discussion with UHB, frequency of visits and delivery as per congenital valve disease above |
| **Mechanical Heart Valves** | Refer to MMC / RU **within 6 weeks** of conception  Antenatal care and delivery at MMC/RU | Bristol-UHBW | Plymouth | Strongly advised  MMC/RU | Swindon refer to Bristol  Truro has obstetric cardiology, so MDT discussion with UHB, some visits and transfer to UHB for delivery |
| **Cardiomyopathy**  Dilated, hypertrophic, arrhythmogenic, peripartum cardiomyopathy | Discuss with Cardiac Obstetric MDT about most appropriate further care and place of delivery  Refer to MMC/RU **within 6 weeks** of conception **if** severe (EF <30%) or previous PPCM with residual LV impairment (mWHO Class IV) | Bristol-UHBW | Plymouth | Advised  MMC/RU | Swindon refer to Bristol  NBT to transfer care to UHBW |
| **Coronary artery disease** | Discuss with Cardiac Obstetric MDT about most appropriate further care and place of delivery | Bristol-UHBW | Plymouth | Advised  MMC/RU | Swindon refer to Bristol  NBT to transfer care to UHBW  Delivery needed in unit with 24-hour access to coronary intervention |
| **Arrhythmias**  Supraventricular arrhythmias, atrial or ventricular ectopic beats  Postural orthostatic tachycardia syndrome (POTS)  Ventricular tachycardia (mWHO III)  Inherited arrhythmias e.g. long QT/ Brugada  Pacemakers | Local expertise appropriate  Local expertise appropriate  Refer to Cardiac Obstetric MDT  Antenatal care and delivery at MMC/RU  Discuss with Cardiac Obstetric MDT about most appropriate further care and place of delivery  Discussion with MMC/RU if required | Bristol- UHBW | Gloucester, Bath, Swindon, NBT, Exeter,  Taunton, Plymouth, Truro  Local expertise sufficient  Plymouth  Plymouth  Plymouth | Local expertise sufficient  Local expertise sufficient  Local expertise sufficient  May need discussion with MMC/RU  Local expertise | Swindon refer to Bristol if indicated (as below)  Truro has obstetric cardiology, so MDT discussion with UHB if indicated (as below) |
| **Heart Transplant** | Care led by MMC/RU and delivery in MMC/RU | UHB  In conjunction with original transplant centre | Plymouth  In conjunction with original transplant centre | Strongly advised  MMC /RU in conjunction with transplant centre | Cardiac obstetric MDT  Swindon refer to Bristol |

**Guidelines to be used for SW MMN management of women with heart disease in pregnancy:**

2018 European Society of Cardiology (ESC) guidelines on cardiovascular diseases during pregnancy <https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/Cardiovascular-Diseases-during-Pregnancy-Management-of>