**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 repairRepaired atrial or ventricular septal defectMild/moderate pulmonary stenosisMild mitral/aortic regurgitationMild aortic stenosis**AORTOPATHY**Bicuspid aortic valve, no aortopathy | Local expertiseAdvice and guidance from Cardiac Obstetric MDT if required by unit | Bristol-UHBW  | Plymouth | Advisedlocal unit +/-visiting obstetric cardiologist | Swindon refer to Bristol |
| **MODERATE RISK Congenital Heart Disease/Aortopathy****(mWHO II/II-III):**Repaired coarctation Repaired Tetralogy of FallotUnoperated atrial or ventricular septal defectAtrioventricular septal defectEbstein’s anomalyTransposition of the great arteries: arterial switch repairModerate to severe mitral/aortic regurgitationSevere pulmonary stenosis/ regurgitationMild mitral stenosisModerate aortic stenosisA**ORTOPATHY**Bicuspid aortic valve aortopathy < 45mm | Discuss with Cardiac Obstetric MDT about most appropriate further care and place of deliveryLikely to be shared care with MMC/RUDelivery wherever possible at the local unit with MDT plan | Bristol-UHBW  | Plymouth | Advisedlocal unit with visiting obstetric cardiologist or MMC/RU | Swindon refer to BristolTruro 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 stenosisSevere asymptomatic aortic stenosis**AORTOPATHY**Marfan syndrome/hereditary thoracic aortopathy <45mmTurner syndrome aortic size index 20–25 mm/m2Bicuspid aortic valve aortopathy 45–50 mm | Refer to MMC / RU Antenatal care and delivery at MMC/RU | Bristol-UHBW  |  | Strongly advisedMMC/RU | Swindon refer to BristolTruro 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 functionSevere (re)coarctationFontan with any complicationSevere mitral stenosisSevere symptomatic aortic stenosis Pulmonary arterial hypertension (including Eisenmenger syndrome)**AORTOPATHY**Marfan syndrome/hereditary thoracic aortopathy >45mmBicuspid aortic valve aortopathy >50 mmTurner syndrome aortic size index >25 mm/m2Vascular Ehlers-Danlos Syndrome | Refer to MMC / RU **within 6 weeks** of conceptionAntenatal care and delivery at MMC/RU | Bristol-UHBWNational Centre for PAH  |  | Strongly advisedMMC/RU | Swindon refer to BristolTruro 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 aboveMMC/RU | Swindon refer to BristolTruro 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 conceptionAntenatal care and delivery at MMC/RU | Bristol-UHBW | Plymouth | Strongly advisedMMC/RU | Swindon refer to BristolTruro 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 deliveryRefer 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 | AdvisedMMC/RU | Swindon refer to BristolNBT 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 | AdvisedMMC/RU | Swindon refer to BristolNBT to transfer care to UHBWDelivery needed in unit with 24-hour access to coronary intervention |
| **Arrhythmias**Supraventricular arrhythmias, atrial or ventricular ectopic beatsPostural orthostatic tachycardia syndrome (POTS)Ventricular tachycardia (mWHO III)Inherited arrhythmias e.g. long QT/ BrugadaPacemakers | Local expertise appropriateLocal expertise appropriateRefer to Cardiac Obstetric MDT Antenatal care and delivery at MMC/RUDiscuss with Cardiac Obstetric MDT about most appropriate further care and place of deliveryDiscussion with MMC/RU if required | Bristol- UHBW | Gloucester, Bath, Swindon, NBT, Exeter, Taunton, Plymouth, TruroLocal expertise sufficientPlymouth Plymouth Plymouth | Local expertise sufficient Local expertise sufficientLocal expertise sufficientMay 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 | UHBIn conjunction with original transplant centre | PlymouthIn conjunction with original transplant centre | Strongly advisedMMC /RU in conjunction with transplant centre | Cardiac obstetric MDTSwindon 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>