



# British Cardiovascular Society

9 Fitzroy Square, London W1T 5HW

T: +44 (0) 20 7383 3887 F: +44 (0) 20 7388 0903

enquiries@bcs.com www.bcs.com

## 2018 ESC Guidelines for the management of cardiovascular disease during pregnancy

<https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/Cardiovascular-Diseases-during-Pregnancy-Management-of>

### **Introduction**

The European Society of Cardiology saw the release of its second set of guidelines for management of cardiovascular disease in pregnancy, in August 2018. The guidelines updates are based on new evidence in diagnostic techniques, risk assessment and use of cardiovascular drugs.

### **Risk stratification in pregnancy**

There is huge scope related to cardiovascular disease in pregnancy. Although decisions remain on an individual basis, there is more evidence available and progress has been made to allow for standardised care. The most important concept of the guidelines is introduction of Pregnancy Heart Teams for patients with moderate to high risk complications during pregnancy, determined by the modified WHO classification of maternal risk (mWHO I-IV). This consists of a cardiologist, an obstetrician and an anaesthetist. Patients are to be managed in expert centres, with access to the services 24 hours a day. Risk stratification for all women with cardiac disease of child bearing age pre-conception is now an IC recommendation, allowing us to predict maternal cardiac event rate.

### **Changes related to pulmonary hypertension in pregnancy**

Pulmonary arterial hypertension (PAH) is classed as mWHO IV and mortality remains high. What remains the same is the recommendation to avoid pregnancy and if a patient does become pregnant, termination should be discussed. New recommendations include performing right heart catheterisation to confirm (PAH), including during pregnancy (IC). Low molecular weight heparin is also recommended in patients with chronic embolic pulmonary hypertension (CTEPH) (IC). Initiating treatment in treatment naïve patients should be considered (IIaC). Avoidance of endothelin receptor antagonists stands. For patients who continue with pregnancy, intensive monitoring should be in place in a tertiary centre, especially in the third trimester.

### **Changes related to pulmonary embolism and anticoagulation in pregnancy**

Important changes for the use of anticoagulation in pregnancy include: vitamin K antagonists (VKA) are recommended in women need only low dose VKA (<5mg of warfarin), during the second and third trimester until the 36th week. VKAs are not recommended in high doses, between 6-12 weeks of pregnancy (to avoid risk of embryopathy) or during delivery as there is a risk of fetal intracranial bleed. Low molecular weight heparin (LMWH) is now the drug of

choice in pregnancy, even in high risk patients. Dosing should be based on body weight. Monitoring anti-Xa or aPTT is recommended weekly in patients who are on LMWH/ heparin.

For patients who are being assessed for venous thromboembolism, the guidance has changed, with imaging by ultrasound now first line. If this is negative, magnetic resonance venography should be considered. For patients with pulmonary embolism, with haemodynamic compromise, thrombolysis is now recommended (1C).

For high risk patients who are already on therapeutic LMWH, the recommendation is to convert from LMWH to unfractionated heparin at least 36 hours prior to delivery and to stop the infusion 4-6 hours prior to delivery. aPTT should be normal prior to regional anaesthesia. Low risk patients are recommended to stop LMWH at least 24 hours prior to caesarean section.

### **Valvular heart disease in pregnancy**

Intervention is now recommended pre-pregnancy in patients with mitral stenosis and a valve area <1.0cm<sup>2</sup> (upgrade to 1C). For patients who require heart valve surgery or who already have a mechanical heart valve, it is recommended that they are in a centre with a pregnancy heart team.

### **Arrhythmia in pregnancy**

Sotalol is now no longer recommended for prevention of SVT in WPW, with the recommended agents now being Flecainide and Propafenone. There has been an upgrade to IIa in the guidelines, to consider catheter ablation in experienced centres for cases of drug refractory or poorly tolerated SVT.

### **Disease of the aorta in pregnancy**

Pregnancy is no longer recommended for patients with severe aortic dilatation or patients with vascular Ehlers Danlos syndrome (mWHO IV). Beta-blockers should be considered in patients with Marfans and other inherited thoracic aortic disease. With patients who have had previous aortic dissection a c-section should be considered.

### **Labour and breastfeeding in pregnancy**

Induction of labour should be considered in all patients with cardiac disease at 40 weeks. Bromocriptine may be considered to stop lactation and aid recovery of LV in patients with post-partum cardiomyopathy. Breastfeeding is not recommended for mothers taking antiplatelets other than low dose Aspirin.

### **Conclusion**

Many of the recommendations in pregnancy are based on census expert opinion, due to difficulty conducting large centre trials on patients and their individual physiological responses to pregnancy. However, there is increasing knowledge based on individual case experience.

Dr Nina Karia  
Cardiology Specialist Registrar  
Department of Cardiology, St Bartholomew's Hospital

---

*'Promoting excellence in cardiovascular care'*

#### **Affiliated Societies**

Arrhythmia Alliance (A-A)  
Association for Inherited Cardiac Conditions (AICC)  
British and Irish Hypertension Society (BIHS)  
British Association for Cardiovascular Prevention and Rehabilitation (BACPR)  
British Association for Nursing in Cardiovascular Care (BANCC)  
British Atherosclerosis Society (BAS)

British Cardio-Oncology Society (BCOS)  
British Cardiovascular Intervention Society (BCIS)  
British Congenital Cardiac Association (BCCA)  
British Heart Rhythm Society (BHRS)  
British Heart Valve Society (BHVS)  
British Junior Cardiologists' Association (BJCA)  
British Nuclear Cardiology Society (BNCS)

British Society for Cardiovascular Imaging (BSCI)  
British Society for Cardiovascular Research (BSCR)  
British Society for Heart Failure (BSHF)  
British Society of Cardiovascular Magnetic Resonance (BSCMR)  
British Society of Echocardiography (BSE)  
Cardiovascular Care Partnership (UK) (CCPUK)  
Society for Cardiological Science and Technology (SCST)