

## The Effect of Pregnancy on the Heart

In a pregnancy, the foetus will bring about increased demand as well as hormonal changes. This causes a significant increase in the amount of blood pumped out of the heart (cardiac output). As such, problems like palpitations and high blood pressure are common during pregnancy. These problems, if untreated, may lead to maternal and fetal complications. Up to 8% of normal pregnancy may be affected by hypertensive disorders in pregnancy. Some patients with congenital heart defects may be diagnosed for the first time due to the stress of pregnancy on the heart.

### Talk to Us

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## Contact information

### Heart Clinic @ Level 1

Main Building 1, Level 1

**Opening Hours:** 8.30 am - 6.00 pm (Mondays - Fridays)  
Closed on Saturdays, Sundays & Public Holidays

### For appointments, please contact

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### For International Patients And Visitors

The International Patients Liaison Centre (IPLC) is a one-stop service centre to support all the medical needs of our foreign patients

Tel : (65) 6779 2777 (24-Hours Helpline)

Fax : (65) 6777 8065

Website : [www.nuh.com.sg/iplc.html](http://www.nuh.com.sg/iplc.html)

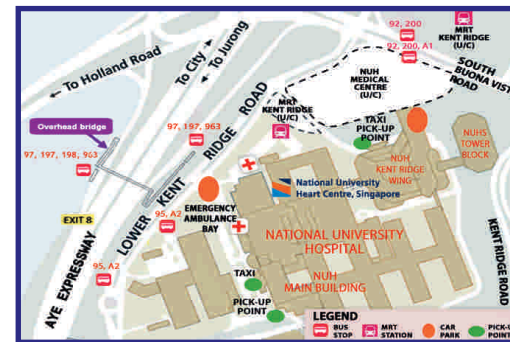


### National University Hospital

5 Lower Kent Ridge Road, Singapore 119074

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## Location



## Free Shuttle Bus Service

Free Shuttle Bus Service from Dover MRT Station to NUH

**Operation hours :** 8.00 am – 8.30 pm (Mondays – Fridays)  
8.00 am – 2.00 pm (Saturdays)  
Not available on Sundays and Public Holidays

**Dover/NUH passenger pickup/ drop off point :**  
1. Dover MRT Station (opposite Singapore Polytechnic)  
2. Main Building, Lobby Entrance (near roundabout)  
3. Kent Ridge Wing, Level 3, South Entrance

For more information on Shuttle Bus schedule, log on to [www.nuh.com.sg](http://www.nuh.com.sg)

Information in this brochure is given as a guide only and does not replace medical advice from your doctor. Please seek the advice of your doctor if you have any questions related to the surgery, your health or medical condition.

Information is correct at time of printing (June 2011) and subject to revision without notice.

## Pregnancy in Heart Disease Adult Congenital and Structural Heart Disease Programme



With advances in surgical techniques, more females will survive their cardiac conditions to reach child-bearing age. As such, the incidence of pregnant women with heart disease is on the rise. About 1% - 5% of the pregnant women has some form of cardiac conditions, ranging from congenital heart defects like mitral valve prolapse (a disorder in which the heart's mitral valve billows out and does not close properly) to rheumatic heart disease.

Such pregnancy can carry significant risks to the mother and foetus.

Patients with problems like Pulmonary Hypertension (high pressure in the lung), Marfan syndrome (an inheritable disorder of connective tissue affection the cardiovascular system) and cyanotic congenital heart disease (congenital heart defects resulting in low oxygen levels in the blood) form the highest risk group.

## Who should seek advice

1. All women with pre-existing cardiac condition or congenital heart disease. (Male spouses with congenital heart defects can be referred for genetic counseling)
2. Women with cardiac symptoms during pregnancy (like palpitations, chest pain and breathlessness)
3. Women with hypertension during pregnancy

## Monitoring the Heart Condition

Symptoms like palpitations (unusually rapid heart beats), leg swelling, and breathlessness present in normal women may worsen in pregnancy. From the 28 to 32 weeks of gestation, the effects of pregnancy on the heart are the greatest and patients with valvular disorders (e.g. mitral stenosis), pulmonary hypertension, or cardiomyopathy (weak heart function) may find a sudden deterioration in their condition. Close monitoring of these patients are needed during pregnancy.

Pregnant women may be at increased risk of thromboembolism (complications caused by the formation of blood clots) due to hormonal effects, enlarging

uterus and reduced mobility. This may present with swelling and pain in the calf (caused by venous blood clots). Some of these conditions may need treatment with blood thinning drugs (e.g. warfarin) which can cause fetal abnormalities depending on the stage of pregnancy.

Female patients with a congenital heart defect carry a 2.5% to 18% risk of having a child with congenital heart disease, ranging from a simple lesion to complicated heart abnormalities. Some rare genetic abnormalities have a 50% risk of transmission to the next generation (e.g. Marfan Syndrome, 22Q11 deletion syndrome). Thus, genetic counseling of the patient and spouse should take place before conception.

## How Do I Know If I Am Healthy Enough To Get Pregnant?

As the situation for each individual varies, you need advice based on your specific conditions, medical history, and present health status. An assessment should be done before planning a pregnancy. This will often include tests which are specific to your condition. If you become pregnant before such an assessment is done, it should be arranged as soon as possible.

Many women with congenital heart conditions and surgical repairs have had children. The risk of pregnancy will depend on the specific cardiac condition.



- With appropriate assessment and care, the pregnancy outlook for women with heart disease is generally favourable.
- Some medications should not be taken during pregnancy (e.g. high blood pressure medications ACE inhibitors), thus early review of your medications is needed. Some supplements, like folic acid should be taken early in pregnancy to reduce the incidence of birth defects.
- If you require surgery for your heart condition in the near future, it is wise to consider its timing in relation to pregnancy. Sometimes, the surgical procedure should be done first, as this may increase the probability of a successful pregnancy without cardiac complications.
- More often than not your condition will be low risk, and you may be reassured that little or no specialised care is required.

## Will My Child Have A Congenital Heart Problem?

Some heart conditions can be passed on from parent to child. The risk depends on what condition you have and whether your family members are affected. Your cardiologist can help to determine the risk, they can also refer you to a clinical geneticist for counseling, if appropriate.

When the mother or father has a congenital heart defect, one can screen for major fetal congenital heart defects by performing a fetal echocardiography. This test is helpful as it allows early planning for the baby's care after delivery and reassurance to parents if it is normal.

## What If I Have A Child Already? How Would I Know If He/She Has A Heart Defect?

Heart defects in children do not always occur in an identical form to those of their parents. They may be milder, the same or more severe than their parent's condition. All children of parents with a congenital heart defect should be examined by a pediatrician soon after birth. Occasionally, an echocardiogram is indicated if the examination is abnormal.

This should be discussed with your pediatrician who can make the appropriate arrangements for your child to be screened. Your cardiologist may also be able to help. Screenings should be done again after the child is two months old, as evidence for some cardiac defects will not show up until that time.