



AORTIC STENOSIS

What is it?

The aortic valve is made of flaps (medical term: cusps) that open to allow blood to leave the heart when it is pumped to the body, and then close while the heart is filling to get ready for the next heart beat. (see The Normal Heart)

When the aortic valve becomes stiff it is unable to open fully (medical term: stenosis). The narrowed aortic valve makes it more difficult for blood to exit the heart and so the heart needs to work harder to pump blood to the body. Aortic valve stenosis is graded as mild, moderate, or severe depending on the degree of narrowing.

Aortic stenosis occurs for many reasons, but the most common cause in young women is due to a heart malformation called a “bicuspid aortic valve”. You are born with a bicuspid aortic valve. The bicuspid aortic valve has 2 leaflets (flaps), instead of the usual 3 leaflets. Because the bicuspid valve is not normal, it can become stiff and narrow (aortic stenosis). If it becomes really narrow and only opens a small amount, it can cause a person to feel short of breath, have chest pain, or have fainting spells. People with a bicuspid aortic valve may also have enlargement of the large blood vessel connected to the heart called the aorta. (see The Normal Heart)

How safe is it for me to become pregnant?

Pregnancy is associated with increased demands on the heart. (see Cardiovascular Changes During Pregnancy) The ability of the body to pump blood through the narrowed valve depends upon the degree of narrowing (it is more difficult if the valve is more narrow) and the strength of the heart muscle (it is more difficult if the heart is weak). If the valve is very narrow (severe aortic stenosis), the heart may not be able to pump enough blood to the body and the baby to maintain good health for both during pregnancy

Your valve may need to be fixed if you have severe aortic stenosis and have symptoms such as difficult breathing, chest pain, or fainting spells. If your valve needs to be fixed, it is much better and safer to have it fixed before a pregnancy.

Pregnancy is generally not advised if you have a very large aorta, at least until you have surgery to take care of this problem. It is important that testing be done to look at the aorta before you become pregnant, as pregnancy itself can cause more enlargement of the aorta. If your aorta is very enlarged or is enlarging quickly, then pregnancy is very high risk for you and your unborn baby.

Every pregnancy carries some risk for complications and this risk may be increased by underlying heart disease. All women have to consider the safety of a pregnancy, taking their underlying heart disease into account. Every person's heart condition is different and therefore the safety of pregnancy differs too. Before proceeding with trying to have a baby you should discuss your specific condition and the details of your situation with a heart specialist who knows about the care of women with heart disease in pregnancy.

Issues for the mother

Which forms of birth control are safe?

For most women with aortic stenosis, the choice of birth control (medical term: contraceptives) is usually not limited by your heart disease. (See Birth Control) Contraceptive selection should be discussed with a doctor who has an understanding of your underlying heart condition.

What are my risks if I become pregnant?

In order to determine your risks during pregnancy, you should see your heart specialist before getting pregnant. You may need additional heart tests such as an echocardiogram or a magnetic resonance imaging scan (MRI scan) to better determine the risks of pregnancy.

Most women with mild or moderate aortic stenosis do well during pregnancy. In women with severe aortic stenosis the risk is higher. Women can develop heart failure or rhythm problems (medical term: arrhythmias). If you had heart failure or rhythm problem before pregnancy, your risk for complications during pregnancy is higher. Other cardiac characteristics can have an impact on pregnancy outcomes (see General Considerations). Deaths have been reported in women with severe aortic stenosis who attempt pregnancy, though they are rare. It is very important to see a heart specialist before pregnancy to discuss your risk of pregnancy.

Some medications are not safe in pregnancy. Do not stop medications without first checking with your doctor, but do check your medications out before pregnancy so you will have a plan. If you did not do that, then do so as soon as you know you are pregnant. The MOTHERISK website is an excellent resource. (<http://www.motherisk.org>)

Issues for the baby

In women with significant aortic stenosis (narrowing), there is an increased risk of early delivery (medical term: premature delivery) and of having a small baby (medical term: low birth weight).

In the general population, the risk of having a baby with congenital heart disease is about 1%. If a mother has aortic stenosis, the risk increases to about 10%.

Women will be offered ultrasound screening of the baby's heart (fetal echocardiogram) at the end of the fifth month of pregnancy (20 weeks gestation). The fetal echocardiogram can detect most major cardiac defects in the developing baby. Minor defects may not be detected until after birth.

Medical care during pregnancy and delivery

Where should I be followed?

Once pregnant, and unless your aortic stenosis is mild, you should be followed at a center that specializes in high-risk pregnancy. Your specialists will determine the frequency of follow up through your pregnancy.

What can I do and expect during pregnancy?

Your heart specialist will arrange for check up visits during your pregnancy. In addition to your clinic visits, your doctors will arrange echocardiograms to help determine how your heart is adapting to the pregnancy.

It is important that you pay attention to symptoms during your pregnancy. Notify your doctor if you develop any worrying symptoms such as shortness of breath, swelling of your legs, heart palpitations, and chest pain or fainting.

If your symptoms are worrying and you cannot get in touch with your doctor, go to your nearest emergency department. It is helpful to keep a letter from your doctor explaining your condition so that other health care professionals can better help you in an emergency situation.

Rarely, women need to have their valve fixed during pregnancy. Cardiac procedures during pregnancy are riskier for the mother and the unborn baby and are only considered after all other options have been explored.

Labour and delivery should be planned carefully with a team including a heart specialist, an experienced anesthetist and a high-risk obstetrician. A vaginal delivery is usually recommended. Good pain management is important.