



CORONARY ARTERY DISEASE

What is it?

Coronary artery disease (CAD) means narrowing of the blood vessels that supply the heart muscle with blood and oxygen (medical term: coronary arteries). Normally there is no narrowing of these blood vessels. (see The Normal Heart). Narrowing of these blood vessels leads to limited blood flow to the heart muscle. When blood flow is very severely limited or stopped altogether, the heart muscle can be damaged (medical term: myocardial infarction, heart attack).

CAD usually develops because of risk factors such as cigarette smoking, high blood pressure, high cholesterol levels, or high blood sugar levels (medical term: diabetes). Some families are more likely to develop CAD. More rarely, CAD is due to spasm of the blood vessels (medical term: coronary spasm), tearing of the blood vessel wall (medical term: coronary dissection), or as a result of cocaine use.

Women with CAD can experience chest pain (medical term: angina) or a heart attack (medical term: myocardial infarction).

How safe is it for me to become pregnant?

Pregnancy is associated with increased demands on the heart (see Cardiovascular Changes During Pregnancy) including the need for additional blood to the heart muscle. If the heart cannot accommodate the increased demands of pregnancy, complications may develop.

The ability of women with CAD to adapt to the stress of pregnancy depends on how much the blood vessels have narrowed. This can be assessed, before pregnancy, with special tests such as a treadmill stress test, a bicycle stress test, or a stress test using a medication to create the stress. It is important to sort out the diagnosis and whether the heart needs to be fixed before pregnancy begins, because some tests are associated with radiation exposure, and are best avoided because of risks to a developing baby.

Every pregnancy carries some risk for complications that can 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?

Some forms of birth control (medical term: contraceptives) are not safe for women with CAD. Contraceptive pills containing estrogen are not recommended in women with CAD because they are associated with the formation of blood clots. However, there are other acceptable contraceptive

methods such as progesterone-only contraception or intrauterine devices (IUD). (See Birth Control) Contraceptive selection should be discussed with a physician who has an understanding of your underlying heart condition.

What are my risks if I become pregnant?

In order to determine your risk during pregnancy, you should see your heart specialist before getting pregnant. You may benefit from additional heart tests such as an echocardiogram or stress testing on a treadmill or a bicycle or with a drug. Some stress tests may also image the heart with echocardiograms (ultrasound) or nuclear medicine imaging techniques.

Some women with milder forms of CAD may not develop symptoms during pregnancy. Women with more severe forms of CAD may develop chest pain, tightness (medical term: angina), or heart attacks. A heart attack can be very serious and is associated with a risk of death. Heart attacks can occur at any time during pregnancy, although in pregnancy they are most common in the third trimester (28-40 weeks gestation).

Spontaneous coronary artery tearing (medical term: dissection) is a rare, but a very serious event. Women who have this complication of pregnancy typically develop it late in pregnancy or in the early days after delivery. They have chest pain like the pain of heart attacks due to other sorts of CAD.

Women with CAD are often treated with aspirin or beta blockers, and both can be used during pregnancy when necessary. Other medications, like those used to treat high cholesterol (medical term: statins), may not be safe during 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

The health of a baby is very dependent on the health of the mother; therefore it is very important that you are optimally treated.

Medical care during pregnancy and delivery

Where should I be followed?

Once pregnant, you should be followed at a center that specializes in high-risk pregnancy. Your specialists will determine the frequency of follow up throughout 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 likely arrange ultrasounds of your heart (medical terms: echocardiograms) to help determine how your heart is adapting to pregnancy.

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

If you are worried about any symptoms 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.

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