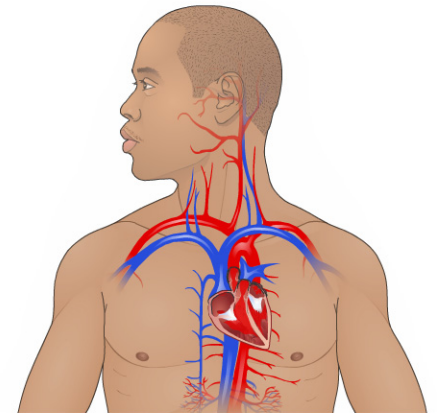


Coronary Angiography and Possible Angioplasty

Introduction

Sometimes people have serious problems with their heart and the arteries that go into it. Angiography is an exam that helps health care providers look at the blood vessels of the heart. If needed, an angioplasty is a procedure to open arteries that are too narrow for adequate blood flow.

If your health care provider recommends coronary angiography and possible angioplasty, the decision whether or not to have the procedures is also yours. This reference summary will help you understand the benefits and risks of coronary angiography and possible angioplasty.



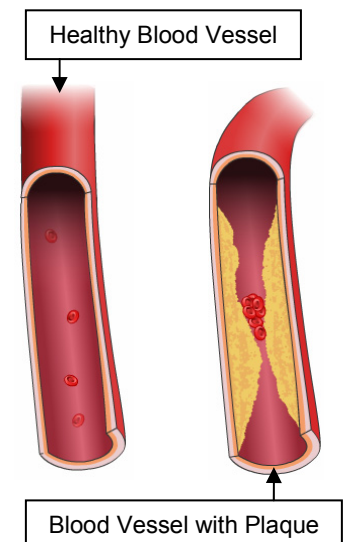
Anatomy

The main function of the heart is to pump blood to the lungs and to the rest of the body. The heart needs blood like the rest of the body. It pumps blood to itself through many blood vessels that go directly to the heart muscles. These are known as coronary arteries.

Symptoms and Their Causes

Cholesterol can build up in the coronary arteries, forming plaque that narrows the arteries. Narrowed arteries do not let enough blood go through. This causes blood flow to decrease, which could lead to a heart attack.

Blood flows through normal blood vessels easily. Blood vessels that are clogged with plaque are narrower, making it harder for blood to flow through them. Cholesterol buildup and reduced blood flow cause the heart to work harder. If the condition worsens or the coronary arteries become blocked, the heart can be damaged.



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Angiography is a test that helps show the plaque in the coronary arteries and helps check for any narrowing or blockage.

Other tests such as EKGs, or heart tracings, and special CT scans can cause a health care provider to think there may be a blockage in the coronary arteries. But these tests do not show the blood vessels. Coronary angiography is the only test that shows the blood vessels of the heart, and allows an angioplasty to be performed at the same time.

Procedure

Your health care provider may ask you not to eat or drink for several hours before the procedure. If your procedure is in the morning, this usually means no food or drink after midnight the night before.

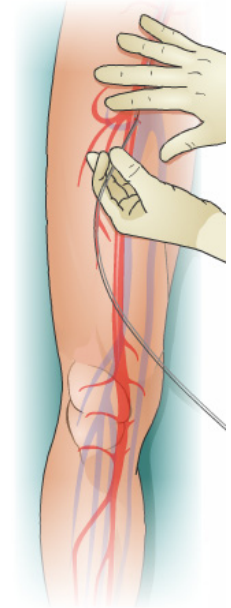
During angiography, the health care provider inspects the coronary arteries for blockage. Your health care provider can fix a blockage with an angioplasty while the tubes and other instruments are in place. If the angiogram does not show a blockage in the arteries, you will probably be able to go home after the test is complete. The procedure usually takes 1 to 2 hours.

This procedure is done while you are awake. There is usually no pain. You will be asked to lie down on an x-ray table. During the procedure, your health care provider will monitor your heart rate, blood pressure and vital signs.

Before the procedure, your groin area will be cleaned and made numb with a local anesthetic. This means that you will be awake but will not have feeling in that area during the procedure. A catheter is then inserted into the artery through the skin in the leg and threaded all the way up into the coronary arteries.

Sometimes, depending on your health care provider's preference and the state of your arteries, the catheter may be inserted in a big artery in the underarm or the arm instead of the groin.

Dye is then injected in the arteries and x-rays are taken. You should stay still during the x-rays so that the images are clear.



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If a blockage is found, your health care provider will decide whether it can be opened using either a balloon or another device. The procedure that uses a balloon is called angioplasty.

The balloon is attached at the end of the catheter and is threaded up to the area of the blockage through the artery used for the angiography. The balloon is then inflated to break up the plaque. This widens the artery, allowing more blood to flow through. The balloon is then deflated and removed.

Following the angioplasty, your health care provider may choose to place a stent at the site of the blockage to keep it open. A stent is a stainless steel mesh tube. If a stent is used, it is attached to the end of the catheter and placed at the site. A stent may also be used without a balloon to open a blocked artery.

Another way to open blocked arteries without angioplasty is with a small mechanical device that breaks the plaque into pieces. Your health care provider will make the decision to use a balloon or the mechanical device during the angiography. In addition to breaking up the plaque, a stent could be placed.



After the angiography with or without angioplasty, the catheter is taken out. You will lie flat and not bend your leg in order to prevent bleeding from the puncture site.

If your cardiologist uses a closure device, you will lie flat for about 1 hour. If not, you will lie flat for up to 8 hours. You should not bend the leg on the side of the groin that was catheterized. You will probably not be able to drive and will need someone to drive you home.

Risks and Complications

This procedure is safe. But there are several possible risks and complications. These are unlikely but possible. You need to know about them just in case they happen. By being informed, you may be able to help your health care provider detect complications early.

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The angioplasty may not remove the blockage. It could cause a complete blockage. This is rare. Even if the blockage is removed, the blockage could happen again or the stent could get moved out of position. This could lead to a heart attack or death.

X-rays are used during this procedure. The amount of radiation during this test is safe. But this same amount could be dangerous for unborn children. It is therefore important to make sure you are not pregnant before an elective radiological test. A pregnancy test may be done if you are not sure.

The coronary angiography can rarely lead to a heart attack. You may need an unplanned angioplasty or even open heart surgery if this happens.

The catheter placed in the artery can rarely injure that artery or other arteries of the body. This may cause decreased blood flow to the leg or arm involved, internal bleeding or possible strokes. You may need surgery to save the arm, the leg or your life. These complications are rare.

The insertion can also cause injury to a nerve in the leg or arm, depending on where the initial puncture was done. Infections can happen after this procedure, but they are rare.

Some people have allergies to the iodine dye used in this test. This could cause death. Make sure to tell your health care provider about your allergies and any possible reactions to any sort of dye used on you in the past.

In some people, dye can cause kidney failure, which can lead to death. This is rare. Let your health care provider know if you have kidney problems.

Kidney failure is more likely in patients taking metformin or Glucophage®, a diabetes medication. Tell your health care providers about all the medications you are taking. By being informed, you may be able to help your health care provider detect complications early.



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After the Angiography

Your health care provider will give you discharge instructions, which include a number to call in case of an emergency. Call this number if you have any new symptoms, such as:

- Fever.
- Numbness or weakness.
- Redness.
- Swelling or bleeding at the puncture site.

If you experience chest pain, you should go to a health care facility right away. You should also go to the nearest emergency room if you have difficulty breathing, arm pain or an irregular heartbeat.



Summary

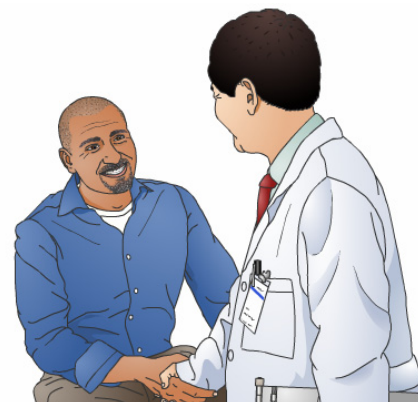
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