

About angioplasty and bypass surgery

Angioplasty

In coronary angioplasty (also called percutaneous transluminal coronary angioplasty, or PTCA), a tube called an inducer catheter, or sheath, is inserted into the femoral artery in your groin. A dye is used so that the narrowed artery can be viewed on a TV screen, or monitor. Through the sheath, a thin tube with a balloon at the tip is carefully threaded to the area of narrowing in your coronary artery. Once it is in place, the balloon is inflated for several seconds. As the balloon fills, it splits and compresses the fatty material in the artery wall. The opening of the artery is enlarged to allow blood to flow more easily through it. The balloon catheter is then removed. The procedure usually lasts about three hours.

Coronary bypass surgery

Two types of blood vessels are commonly used for the coronary artery bypass graft: the saphenous veins in the legs, or the left or right internal mammary artery (also called thoracic arteries), which lies in the chest wall. Both types of blood vessels can be used because there are other pathways that circulate blood to and from the tissues of the chest and legs. The surgeon determines which graft(s) to use depending on the location and amount of blockage in the coronary arteries. If the saphenous vein is used, it is surgically removed from the leg. The vein graft is then sewn from the aorta (the large artery leaving the heart) to the coronary artery below the site of blockage. Oxygen-rich blood flows from the aorta, through the saphenous vein graft, past the site of blockage to the coronary artery to nourish the heart muscle. If a mammary artery is used, it is kept intact at its origin and sewn to the coronary artery beyond the blockage site. Because it is an artery, it does not have to be sewn to the aorta. Arteries have their own oxygen-rich blood supply to offer the heart muscle.