

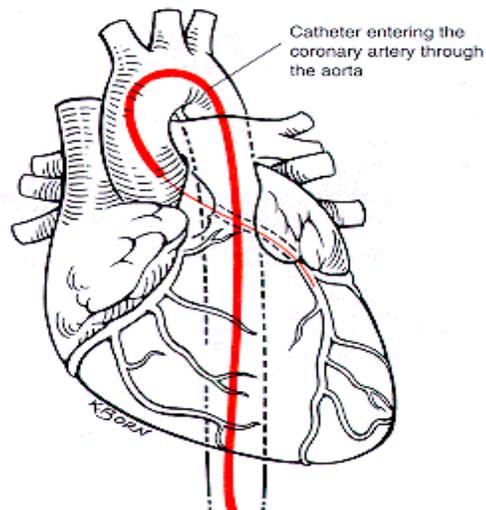
Cardiac Catheterization

What Other Terms Are Used To Describe Cardiac Catheterization?

- Heart Cath (catheter)
- Angiogram

What Is Cardiac Catheterization?

- This procedure is nonsurgical and is performed under X-ray guidance in the Cardiac Catheterization Lab.
- A catheter (a long, thin, flexible tube) is inserted through an artery (blood vessel) in the thigh up into the heart. Occasionally an artery in the arm is used.
- X-rays (pictures) are taken of the heart and coronary arteries. **Refer to page 4.**
- The patient is given a mild sedative to help him relax but remains awake during the procedure to allow him to answer questions regarding his comfort level, any chest pain or shortness of breath.
- A small area of the groin or arm is shaved and cleansed where the catheter will be inserted.
- Medication will be used to anesthetize (numb) this area so a small incision can be made where the catheter will be inserted.
- The catheter is inserted through the femoral artery in the groin (or an artery in the arm at the crease of the elbow). X-ray is used to guide the catheter up into the heart.
- A colorless dye is injected through the catheter, and X-ray pictures are taken of the heart and coronary arteries.
- The patient can watch the procedure on the monitor if he wants to.



An angiogram is a kind of x-ray test that can show if you have clogged arteries that can lead to heart attack.

- The test takes about an hour.

Why Is A Cardiac Catheterization Done?

- This test will help the doctor to evaluate the patient's cardiac condition related to:
 - How well the heart muscle and valves are working
 - The extent of damage to the heart after a heart attack
 - Which coronary arteries are narrowed
 - The extent and degree of the narrowing
 - What treatment is required: medical management, an angioplasty (PTCA) or surgery. **Refer to page 5**

What Symptoms May Be Experienced During The Procedure?

- Slight burning or stinging from the medicine used to numb the catheter insertion site.
- Slight discomfort or pressure as the catheter is being inserted.
- Slight nausea, extra heartbeats, and/or a warm flushing throughout the body (10-20 seconds) as the dye is being injected.

What Happens After The Procedure Is Completed?

- After X-rays are taken, the catheter is removed.
- A Band-Aid or pressure dressing will be placed over the area where the catheter was inserted.
- Firm pressure is applied for 15-30 minutes until the bleeding stops.
- If an artery in the arm is used, pressure will be applied.
- The patient will be observed for 6-8 hours before discharged home.
- The insertion site will be checked frequently for signs of bleeding.
- Blood pressure and the pulse in the leg (or arm) used will be checked frequently.
- A knot under the skin where the catheter was inserted may occur. This is only temporary.
- Bruising to the leg/groin area where the catheter was inserted may occur. The bruising may spread down the leg and is only temporary.
- Most patients are discharged in 8 hours with minimal activity restrictions.

What Precautions Should be Observed Following The Procedure?

- Avoid bending the leg at the hip (groin area) for 6 to 8 hours.
- Hold the Band-Aid firmly, if need to cough or sneeze.
- Avoid bending or using the arm for several hours, if it was used for the insertion of the catheter.

What Signs And Symptoms Should Be Reported Immediately?

- Discomfort or sudden pain at the insertion site.
- A warm, moist and sticky feeling, or bleeding.

- Any discomfort in chest, neck, jaw, arms or upper back, shortness of breath, weakness or dizziness.

What Preparation is Needed?

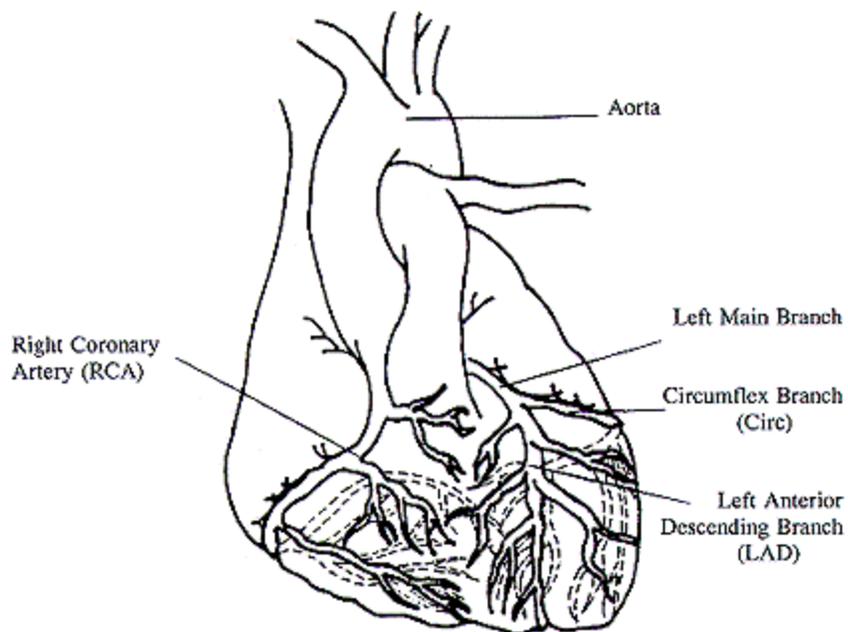
- Nothing to eat or drink after midnight.
- It is important for the patient to ask his doctor:
 - How to adjust insulin and food intake prior to the test if he is a diabetic
 - If he should take his regular medications the morning of the test
 - If taking blood thinners (ie. Coumadin), should they be withheld and, if so, how long prior to the procedure
- Leave all valuables at home.
- Make arrangements to be driven home.

NOTICE

The secretary at Cardiology of San Antonio P. A. will make the necessary arrangements for the scheduling of this procedure.

Coronary Arteries

- The heart is a muscle and, like the rest of the body, needs blood, oxygen and nutrients to survive.
- The heart muscle gets its blood supply from small blood vessels known as the coronary arteries. These arteries lie on the outside surface of the heart.
- There are 3 major branches of the coronary arteries:
 - Right Coronary Artery (RCA)
 - Left Anterior Descending (LAD)
 - Circumflex (Circ)
- Each of these major branches has many additional branches which supply all parts of the heart muscle with oxygen-rich blood.



Percutaneous Transluminal Coronary Angioplasty (PTCA)

What Other Terms are Used to Describe Percutaneous Transluminal Coronary Angioplasty?

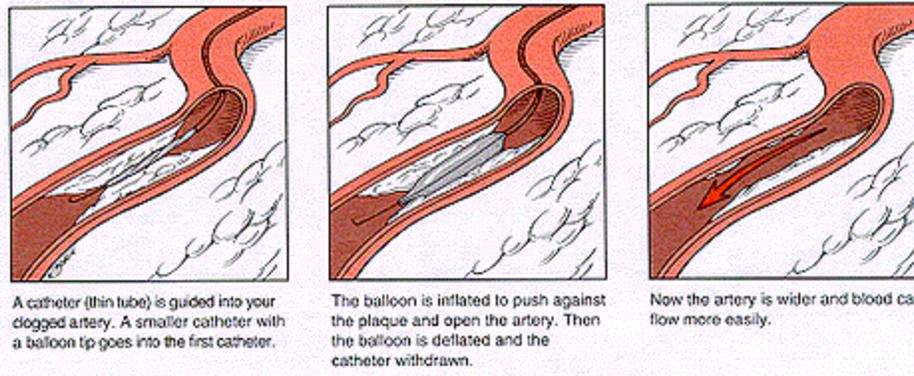
- Balloon Angioplasty
- Angioplasty
- PTCA

Why is an Angioplasty Done?

- A PTCA is a procedure that opens narrowed arteries to increase blood flow.
- A PTCA may be done instead of coronary artery bypass surgery depending upon the type and location of the narrowing, the extent of the disease and the risk involved.
- The rate of restenosis (renarrowing) is 25-80 % within the first six months.

How is A Balloon Angioplasty Done?

- This procedure is non surgical and is performed under X-ray guidance in the Cardiac catheterization lab.
- A PTCA may be done immediately following a cardiac catheterization or sometime later.
- The patient is given a mild sedative to help him relax but remains awake during the procedure to allow him to answer questions regarding his comfort level, any chest pain or shortness of breath.
- A small area of the groin or arm is shaved and cleaned where the catheter is inserted.
- Medication is used to anesthetize (numb) the area so a small incision can be made where the catheter will be inserted.
- A catheter with a deflated balloon on the tip is inserted through the artery in the groin or arm. X-ray is used to guide the catheter up into the heart.
- The catheter is threaded up into the narrowed artery of the heart. The balloon is then inflated and deflated several times to squeeze the plaque deposits against the wall of the artery.
- The test takes 1-2 hours.



What Symptoms May be Experienced During the Procedure?

- A slight burning or stinging from the medicine used to numb the catheter insertion site.
- Slight discomfort or pressure as the catheter is being inserted.
- Slight nausea and or, extra heartbeats.
- Chest pain may occur as the balloon catheter is being inflated, but it is temporary.

What Happens After the Procedure is Completed?

- After X-rays are taken, the balloon and catheter are removed, but the sheath (IV) will remain in place.
- A sheath (IV) is usually left in place in the leg overnight until the blood thinning medications are discontinued and your clotting time returns to normal.
- A Band-Aid or pressure dressing will be placed over the area where the catheter was inserted.
- You will be admitted to a special cardiac care unit (POU or ICCU) to monitored closely.
- When the sheath is removed from the groin firm pressure is applied to the sheath insertion site for 15-30 minutes until the bleeding stops.
- If an artery in the arm is used, pressure will be applied over sheath insertion site for 15-30 minutes also.
- The insertion site will be checked frequently for signs of bleeding.
- Blood pressure and the pulse in the leg (or arm) used will be checked frequently.
- A knot may occur under the skin where the catheter was inserted. This is only temporary.
- Bruising may occur in the area of the leg/groin where the catheter was inserted and may spread down the leg and is only temporary.
- Most patients are discharged 8 hours after the sheath is removed with minimal activity restrictions.

What Precautions Should Be Observed Following the Procedure?

- Avoid bending the leg at the hip (groin area) for 6-8 hours after the catheter is removed.
- Hold the Band-Aid firmly if you need to cough or sneeze.
- Avoid bending or using the arm for several hours if it was used for the insertion of the catheter.

What Signs and Symptoms Should Be Reported Immediately?

- Discomfort or sudden pain at the insertion site.
- A warm, moist and sticky feeling, or bleeding.
- Any discomfort in chest, neck, jaw, arms or upper back, shortness of breath, weakness or dizziness.

What Follow Up Can Be Expected?

- The patient will continue to have routine follow-up visits with the cardiologist after this procedure.

What Preparation is Needed?

- Nothing to eat or drink after midnight.
- It is important for the patient to ask his doctor:
 - How to adjust insulin and food intake prior to the test if he is a diabetic
 - If he should take his regular medications the morning of the test
 - If taking blood thinners (i.e. Coumadin), should they be withheld and, if so, how long prior to the procedure
- Leave all valuables at home.
- Plan to be admitted to the hospital overnight.
- Make arrangements to be driven home the following day.