

## A Brief Note on Cardiology Procedures

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### Abstract

Cardiac catheterization or heart cath is the approach where the insertion of the catheter into a chamber or vessel of the heart. It can be utilized as part of a therapeutic regimen to make better consequences for survivors of out-of-hospital cardiac arrest. Cardiac catheterization habitually obliges the use of fluoroscopy to visualize the path of the catheter as it penetrates the heart or as it enters the coronary arteries. Catheterization technique may be a few types which could comprise: Left heart catheterization, Right heart catheterization, Coronary catheterization.

Cardiac catheterization often necessitates the use of fluoroscopy to visualize the path of the catheter as it enters the heart or as it enters the coronary arteries. The coronary arteries are recognized as "epicardial vessels" as they are in the epicardium, the farthest layer of the heart. The use of fluoroscopy requires radiopaque contrast, which in rare cases can lead to contrast-induced kidney injury (see Contrast-induced nephropathy). People are constantly uncovered to down doses of ionizing radiation through procedures. Ideal table positioning amongst the x-ray source and receiver, and radiation monitoring via thermoluminescent dosimetry, are two key ways of easing a person's exposure to radiation. People with certain comorbidities (people who have more than one condition at the same time) have a higher peril of adverse events during the cardiac catheterization procedure. These comorbidity conditions comprise aortic aneurysm, aortic stenosis, extensive three-vessel coronary artery disease, diabetes, uncontrolled hypertension, obesity, chronic kidney disease, and unstable angina.

**Keywords:** Aortic aneurysm; Aortic stenosis; Uncontrolled hypertension; Obesity; Unstable angina

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### Cardiology Procedures

These procedures are used to evaluate and treat heart and blood vessel disease that include coronary artery disease or cardiovascular disorders.

There are several therapeutic and diagnostic procedures that are performed in cardiology. Some of the main procedures may include:

### Pulse palpation and auscultation

It can be Examined by palpation that is carried out to detect the pulse and a stethoscope which is used to listen the breathing and sounds in the chest which is called auscultation.

### Sphygmomanometer

Which is used to measure the Blood pressure.

## Electrocardiogram

An electrocardiogram (ECG) is carried out to measure the electrical activity of the heart. The ECG records the electrical impulses generated by the heart over a period and creates a pattern of the heart's rhythm and rate.

ECG monitoring may be continued throughout the day using a device called a Holter monitor, which is worn around the neck and rests against the heart recording electrical activity over 24 hours. This reveals more occasional abnormalities of heart function that would be difficult to identify over a shorter period.

## Cardiovascular magnetic resonance

Magnetic resonance imaging (MRI) provides a detailed image of the heart that can be used to examine the heart's anatomy as well as its function. This helps diagnose specific diseases such as cardiomyopathies (heart muscle diseases) or diseases of the outer lining of the heart (the pericardium).

## Echocardiogram

An echocardiogram uses high frequency sound waves to create an image of the heart, much like an ultrasound procedure.

## Biventricular pacing

Which is also called cardiac resynchronization therapy, this involves using a pacemaker to help the left and right ventricle pump in harmony to improve the overall output capacity of

the heart.

## Pacemaker implantation

Patients with abnormal electrical activity of the heart may be given a pacemaker to regulate the heart's rhythm and rate. A pacemaker is a battery-powered pulse generator that is implanted under the skin and connected to the heart.

## Percutaneous transluminal coronary angioplasty (PTCA)

This procedure is carried out to open blocked coronary arteries and restore blood flow. The narrowing is initially held open by inflating a small balloon to widen the passage and a stent is then inserted to hold the vessel open.

## Dobutamine nuclear imaging

This procedure is used to evaluate patients who cannot exercise. Dobutamine drug makes the heart pump faster and harder. A nuclear imaging material is also injected that enables pictures of the heart to be generated which helps determine whether stenosis or disease is restricting blood flow to any parts of the heart. Rotational atherectomy is a procedure where a small rotating blade is used to open a narrowing in an artery and restore blood flow to or from the heart. A small mesh type tube called a stent is often inserted into the artery to keep it open and prevent it from narrowing again.

Intervention cardiology Procedures which include the following which include Coronary artery stent, Balloon Angioplasty, Atherectomy, Laser angioplasty, Coronary artery bypass, Intra-aortic balloon pump, Percutaneous Coronary Intervention (PCI), Ventricular assist device (VAD), Heart transplant, Stent Implantation.