

ACTIVE LEARNING TEMPLATE: *Diagnostic Procedure*

STUDENT NAME _____

PROCEDURE NAME Cardiac Catheterization

REVIEW MODULE CHAPTER _____

Description of Procedure

This diagnostic procedure involves the placement of a catheter into a blood vessel in the groin, arm, or neck which is threaded through the blood vessel into the aorta and into the heart. Once in place, several tests could be performed. These include the placement of the tip of the catheter into the various parts of the heart to measure the pressures within the heart chambers or take blood samples to measure oxygen levels.

Indications

Diagnosis of Atherosclerosis, Cardiomyopathy, Congenital heart disease, Heart failure/Acute MI, Heart valve disease, Definitive or suspected myocardial ischemia, Syncope.
Also following MI, coronary artery bypass graft surgery, or percutaneous transluminal coronary angioplasty in patients having recurring symptoms, and after a heart transplant to monitor for rejection.

Interpretation of Findings

Narrowing of the coronary arteries over or preceding the area of infarct. Points to the existence of an atherosclerotic plaque that has reduced the blood flow to the area of the heart supplied by the artery and hence necrosis of the heart muscles in the areas that are poorly perfused.

Potential Complications

Blood vessel perforation
Air embolism
Allergic reaction to dye
Bleeding
Blood clots
Bruise
Heart attack
Infection
Kidney damage from the dye
Stroke
Arrhythmia

CONSIDERATIONS

Nursing Interventions (pre, intra, post)

Pretest:
Provide extensive client education about the procedure and answer their questions.
Provide additional educational tools such as booklets to reinforce learning.
Discuss the benefits and risks, such as dysrhythmias, bleeding, stroke, or MI.
Acquired informed consent from the patient.
Inquire about asthma or allergies especially significant allergies such as previous anaphylactic reaction to one or more allergens, including contrast media or any medication including commonly used local anesthetic.
Intratest:
Inform the patient of what to expect during the test itself.
Posttest:
Assess the patient for nausea or pain (including back pain from lying still) and provide medication as indicated.
Assess the catheter insertion site for bleeding or hematoma with vital signs as ordered.
Instruct the patient to report immediately if they experience chest discomfort or other anginal symptoms.

Client Education

How they need to prepare for the test.
What the test will entail
What they should expect during and after the test.
What they should and should not do during and immediately after the test.
How long the test will last (usually 30 minutes to 1 hour but the whole process lasts up to 4 hours).

Nursing Interventions

Arrest any bleeds that may occur following the procedure.
Give appropriate medications to stop allergic reactions (both prophylactically and as part of management of anaphylactic reactions).
Conduct the procedure under aseptic conditions to prevent infections. Give appropriate medications to curb any infection should they occur.
Give appropriate medication to manage arrhythmias.
Use the appropriate concentration and levels of contrast media to prevent kidney damage.