

COURSE OUTLINE
CARD-206
Diagnostic & Interventional Cardiovascular Procedures
4 Semester Hours

HOWARD COMMUNITY COLLEGE

Description

The theory and application of vascular access and angiographic procedures is presented. Students study the indications and contraindications to diagnostic and interventional adult and pediatric cardiac catheterization and specific vascular imaging examinations. Emphasis will be placed on pressure wave form analysis and measurement, hemodynamic calculations, image enhancement procedures, proper operation of catheterization equipment and new technologies. (4 hours lecture)

This course is planned for students currently employed in a cardiac catheterization laboratory.

Overall Course Objectives

1. Identify and differentiate the various catheters used in the cardiac cath lab.
2. Describe the most common entry sites and the technique used for cardiac catheterization.
3. Identify and describe the coronary arteries and the radiographic views to best demonstrate coronary artery disease.
4. List and describe current diagnostic and therapeutic procedures employed in the Invasive Laboratory and describe their indications and contraindications.
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6. Recognize the causes and prevention of complications in the invasive Cardiovascular Laboratory.
7. List and describe techniques used for studying the right and left side of the heart.
8. Describe the cardiovascular lab protocol, indications and contraindications for ergonovine testing.
9. Describe endomyocardial biopsy. List indications and contraindications, explain the techniques used in this procedure.
10. List and describe the indications and contraindications of pediatric cardiac catheterizations.
11. Enter the clinical setting prepared to successfully complete all required clinical objectives as stated in the clinical criteria for circulating, monitoring and scrubbing.
12. Identify and describe the major equipment used in the modern Cardiac Catheterization Laboratory.
13. Describe the surgical procedures for revascularization of the coronary arteries including coronary artery bypass and heart valve replacement include indications, contraindications and complications.

Major Topics

- I. Review anatomy and physiology of the cardiovascular system. Clinical requirements.
- II. Invasive Procedures performed in Cardiac Cath Lab
 - Left heart catheterization
 - Right heart catheterization
 - Transseptal technique
 - Arterial/venous access
- III. Coronary arteriography and ventriculography
 - anatomy
 - catheters
- IV. Pulmonary angiography
 - Vascular imaging
- V. Coronary Artery By-Pass Valve Replacement
- VI. Endomyocardial Biopsy
- VII. Ergonovine testing
- VIII. Pericardiocentesis
- IX. Percutaneous Transluminal Coronary Angioplasty.

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

Final grade will be calculated on the bases of exams, quizzes, clinical and class participation.

Writing

Specific writing assignments will be determined by the individual faculty member but will include at least 500 words of formal writing.

Other Course Information

This is a Cardiovascular Major Course.

Successful completion of the course requires that the student maintain a C grade or better to remain in this program.