

## **Presented by**

**Mary Ann "Cammy" House-Fancher, MSN, ACNP, CCRN-CSC-CMC, PCCN**

Cammy is a nationally known speaker with over 35 years of critical care experience. Cammy has taught the CCRN® Review as well as Critical Care Updates with an emphasis on the critical thinking skills of the bedside practitioner. As well as lecturing across the country, Cammy is a reviewer for several refereed nursing journals, has numerous publications in the area of critical care and continues to have an active practice as an acute care nurse practitioner at the University of Florida, Division of Cardiothoracic Surgery. As a critical care nurse practitioner, Cammy brings much clinical practice skill to the lectures as well as providing clinical pearls for bedside care.

## **11.25 Contact Hours | Course Length: 641 minutes**

## **Program Description**

This course is designed to prepare the adult cardiac medical/cardiac surgical nurse to take the American Association of Critical-Care Nurses (AACN) Certification Exam for Cardiac Medicine and/or Cardiac Surgery. The course will focus on adult cardiac abnormalities with a concentration on nursing assessment and medical/surgical interventions. Coronary artery disease, acute coronary syndrome, heart failure, endocarditis, valvular disease and aortic disease will be the major topics of discussion with related medical and surgical interventions. The course will also include a brief review of pulmonary, hematology, neurology and gastrointestinal and renal systems as they pertain to the cardiac patient.

## **Program Learning Outcomes**

*This program prepares the learner to:*

1. Discuss and practice test-taking skills.
2. Review critical anatomy, physiology and pathophysiology of the cardiac system.
3. Define in detail: preload, afterload, contractility and cardiac output/index.
4. Relate pharmacological interventions for the medical and surgical cardiac patient.
5. Discuss the role of hemodynamics as a diagnostic tool for the development of interventions for the cardiac patient.
6. Discuss significant assessment and diagnostic findings relevant to the cardiac adult patient: specifically coronary artery disease and heart failure.
7. Discuss the clinical presentation as well as specific patient management modalities of the cardiac medical problems.
8. Discuss the clinical presentation as well as specific patient management modalities of the patient undergoing cardiac surgery.

# Topics Covered

## 1 Introduction

11 minutes

### Module Description

This module will introduce the test format for the Cardiac Medicine Certification (CMC) Exam and the Cardiac Surgery Certification (CSC) Exam. The American Association of Critical-Care Nurses (AACN) blueprints for both exams is presented in detail and the application and renewal process is discussed.

### Module Learning Outcomes

*At the completion of this topic, the participant will be able to:*

1. List the blueprint components of the examinations.
2. Describe how to: apply for the examination and schedule the examination.

## 2 Cardiac Anatomy and Physiology

78 minutes

### Module Description

This session reviews cardiac anatomy, physiology and the essentials of vital signs and cardiac assessment. This session will introduce many of the advanced physical assessment and intervention skills required to care for the complex cardiac patient.

### Module Objectives

*This module prepares the learner to:*

1. List and discuss basic cardiac anatomy, including intracardiac structures and the great vessels.
2. Define: preload, afterload, contractility, cardiac output and cardiac index.
3. Identify normal and abnormal heart rate and rhythm, blood pressure, respiratory rate and temperature.
4. Discuss coronary artery circulation physiology.
5. List endocrine and neurologic control of cardiac function.

## 3 Cardiovascular Assessment

66 minutes

### Module Description

This module reviews cardiovascular assessment and a review of heart sounds and murmurs associated with valvular disease. Hemodynamics is discussed as it relates to ventricular function assessment and cardiac pharmacology. The 12-Lead ECG is discussed with detail to assessing myocardial ischemia and infarction.

### Module Learning Outcomes

*This module prepares the learner to:*

1. Review the systematic approach to cardiac assessment.
2. List and discuss the techniques of inspection, palpation and auscultation for cardiac assessment.
3. Review the assessment of the vascular system.
4. State the normal pressures within the cardiovascular system.
5. Define preload, afterload and contractility.
6. Discuss cardiac pharmacology as it relates to hemodynamic function.
7. Describe the normal QRS morphology in all 12-Leads.
8. Define and discuss the 12-Lead changes that occur with cardiac ischemia and infarction.

## 4 Cardiac Pathophysiology

60 minutes

### Module Description

This module pertains to coronary artery disease: identification, diagnosis, presentation and treatment modalities. Incidence, prevalence and acute coronary syndrome will be discussed at length.

*(continued)*

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### **Module Learning Outcomes**

*This module prepares the learner to:*

1. Define coronary artery disease, and discuss the progression of the disease.
2. Define stable angina, unstable angina, acute coronary syndrome and acute myocardial infarction.
3. List the pharmacological treatment modalities for coronary artery disease.
4. Define and discuss the medical and surgical treatment of coronary artery disease.
5. List and discuss the most common complications of coronary artery disease as well as the medical and surgical treatment of coronary artery disease.

## **5 Heart Failure**

**73 minutes**

### **Module Description**

This module will deal with the physiology, pathophysiology and treatment of acute and chronic heart failure. Systolic and diastolic heart failure will be discussed. The focus of the module is the complex treatment of patients with decompensated heart failure.

### **Module Learning Outcomes**

*This module prepares the learner to:*

1. Discuss the definitions of heart failure: systolic and diastolic.
2. List and discuss types of heart failure and the treatment modalities of each.
3. Discuss the clinical presentation of acute decompensated heart failure.

## **6 Valvular Disease: Physical Findings, Diagnosis, Treatment**

**48 minutes**

### **Module Description**

This module is designed to review adult cardiac valvular disease. Congenital and acquired valvular disease is presented. Identification, diagnosis, patient presentation, hemodynamics and treatment modalities are discussed in detail.

### **Module Learning Outcomes**

*This module prepares the learner to:*

1. Discuss the pathophysiology related to aortic stenosis and regurgitation and mitral stenosis and regurgitation.
2. Discuss medical and surgical treatment modalities of common adult valvular disease.
3. List and discuss the common complications of adult valvular disease.

## **7 Introduction to Cardiac Surgery**

**22 minutes**

### **Module Description**

This module introduces the sections on cardiothoracic surgery. A brief review of the history of cardiothoracic surgery is presented as well as a review of coronary artery disease and heart failure.

### **Module Learning Outcomes**

*This module prepares the learner to:*

1. List the diagnosis and treatment plans for the patient with coronary artery disease.
2. List the diagnosis and treatment plans for the patient with heart failure.
3. Define cardiac sudden death.
4. Discuss the treatment strategy of induced controlled hypothermic therapy in the face of cardiac sudden death.
5. List nursing strategies in the care of the patient undergoing controlled hypothermic therapy.

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## 8 Indications for CABG and Valve Surgery

46 minutes

### Module Description

This module begins the introduction to the cardiac surgical patient. Indications for coronary artery bypass grafting (CABG) and valvular repair and/or replacement are discussed with mortality and morbidity rates described. The preoperative evaluation, perioperative care and the procedures utilized during surgery are discussed as they relate to the care of the patient. The effects of cardiopulmonary bypass and hypothermia are discussed in detail as well as “on-pump” and “off-pump” strategies.

### Module Learning Outcomes

*This module prepares the learner to:*

1. Describe the indications for CABG and valve surgery in the adult patient.
2. Discuss the preoperative, intraoperative and postoperative care of the cardiovascular patient.
3. Discuss the effects of cardiopulmonary bypass and induced hypothermia.

## 9 Aortic Disease

37 minutes

### Module Description

The purpose of this module is to briefly review aortic disease: blunt chest trauma and aortic dissection. A brief description of blunt chest trauma with associated aortic transection is outlined: identification, treatment and nursing care. The focus of this presentation is acute aortic dissection: types, diagnosis, treatment and nursing care.

### Module Learning Outcomes

*This module prepares the learner to:*

1. Discuss the identification and treatment of blunt chest trauma and aortic transection.
2. Discuss the incidence and pathology of aortic dissection.
3. Discuss the clinical manifestations as well as the physical assessment findings of aortic dissection.
4. Outline the medical and surgical management modalities of patients with aortic dissection.

## 10 Postoperative Care

199 minutes

### Module Description

This module is designed to review the immediate postoperative patient goals and immediate nursing and surgical interventions to obtain the goals. A description of the nursing interventions is comprehensive and relates to physical assessment and hemodynamic monitoring of the patient. A review of postoperative complications is also reviewed.

### Module Learning Outcomes

*This module prepares the learner to:*

1. Discuss the postoperative care of the cardiovascular patient.
2. Define low cardiac output syndrome.
3. List and discuss the complications of cardiac surgery, including those which occur secondary to the bypass pump.
4. Synthesize nursing interventions for the acute cardiac surgical patient with cardiovascular, pulmonary, renal, hematological, gastrointestinal and neurological alterations
5. Discuss the common pulmonary complications associated with the medical and surgical treatment of adult cardiac dysfunction.
6. Synthesize nursing interventions for the acute cardiac medical and surgical patient with pulmonary complications.
7. List and discuss common postoperative neurologic, renal and endocrine complications in the cardiac medical and surgical patient.
8. Synthesize nursing interventions for the acute cardiac medical and surgical patient with renal, hematological and neurological alterations.
9. List and discuss gastrointestinal complications in the postoperative cardiac medical and surgical patient.
10. Synthesize nursing interventions for the acute medical and surgical cardiac patient with gastrointestinal alterations.

# Accreditation

## RN/LPN/LVN/Other: 11.25 Contact Hours

MED-ED, Inc. is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation (**ANCC**).

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