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Continuing education available for Physician Assistants, Nurse Practitioners, Respiratory Therapists, and Nurses.

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Develop a 30-second approach to diagnosis of STEMI and

Learn from a renowned cardiac expert with more than 31 years of

experience how to make complex diagnostics simple, for more effective intervention and patient care

Identify the criteria and significance of axis deviation and bundle branch blocks differentiate changes beyond STEMI on 12-lead EKG

Utilize a systematic approach to chest X-ray evaluation

Differentiate between common cardiac and pulmonary disorders

on chest X-rays

Make more informed, timely patient care decisions through mastery of diagnostic interpretation

Apply interpretation skills using clinical case studies

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# 12-Lead EKG and Chest X-Ray Interpretation

# Time is Muscle...

In a cardiac event, the clock starts ticking as soon as the coronary artery becomes occluded. Are you ready to rapidly interpret STEMI (ST segment elevation myocardial infarction) changes with a 12-lead EKG to help meet the target of 90 minutes door-to-balloon time? The 12-lead EKG is one of the most frequently utilized cardiac assessment tools to identify STEMI changes. Yet, it provides us with so much more information that can help improve patient care. The purpose of this portion of the seminar is to assist the health care professional in mastering 12-lead EKG assessment skills in order to identify the common and not-so-common changes. You will examine criteria for and examples of the following EKG changes: STEMI, NSTEMI, atrial and ventricular hypertrophy, Wolff-Parkinson-White syndrome, and prolonged QT interval.

# As Easy as Black and White...

Chest X-rays are also a commonly ordered diagnostic test, yet viewing and interpreting them can be challenging. Chest X-rays can be as simple as black and white. The purpose of this portion of the seminar is to provide nurses and other clinicians with chest X-ray interpretation skills in order to help them easily assess changes in the patient's condition. You will develop skills in line identification; differentiations among atelectasis, pneumonia, ARDS, pleural effusion, and pulmonary edema; and identification of pneumothorax, cardiac tamponade, and cardiomyopathy. You will view examples of numerous chest X-rays in order to reinforce the concepts presented. Clinicians will walk away from this session with practical skills for better, quicker patient assessment allowing for more effective intervention.

# **Course Director**



CHERYL HERRMANN, RN, MS, APN, CCRN, CCNS-CSC/CMC, has 31 years of nursing experience—15 years as a bedside nurse in SICU, Neuro ICU, and CVICU, and 16 years as a cardiac clinical nurse specialist. As a cardiac CNS, she cares for patients in cardiac prep and recovery, cardiac catheterization, surgery, ICU, telemetry/progressive units, and at discharge. In addition, Ms. Herrmann is a Prehospital RN for the local ambulance service. She has a passion for cardiac nursing and is an advocate for heart health, particularly in raising awareness of heart disease in women. Ms. Herrmann is a reviewer for a critical care textbook as well as several nursing journals, one of which, *Critical Care Clinics*, recently published her article "A Woman's Heart is Different." She is a

popular presenter for local nursing colleges, church and service groups, and EMS groups, as well as national conferences such as the American Association of Critical Care Nurses NTI. In 23 years of volunteer work, she has provided vital medical supplies, services, and training to the poor and disadvantaged in Mexico, Ethiopia, Haiti, and Indonesia. She has been team leader of 40 medical-dental teams to Mexico and participated in a Critical Care Nursing Ambassador program to China.

In 2005, Ms. Herrmann was honored with the American Association of Critical-Care Nurses Circle of Excellence—Excellent Clinical Nurse Specialist Award and the Twenty-Five Women in Leadership Award in central Illinois. She is the recipient of the 2009 University of Illinois Alumni Award. Her nursing career has been profiled in *Advance for Nurses*. Ms. Herrmann believes that learning should be fun and stimulating. She has created numerous educational puzzles and games for nurses, three of which have been published in *AACN News*. She presents material in a way that all health professionals caring for the cardiac patient, regardless of where they are in the continuum, take home valuable knowledge and new skills. For more information about Ms. Herrmann, please visit www.cherylherrmann.com.

# What You Will Learn

- ◆ Differentiate the polarity and P-QRS-T configuration of each lead in the 12-lead EKG
- ◆ Examine the electrographic criteria, causes and significance of axis deviation
- ◆ Discuss the criteria, causes, and significance of left and right bundle branch blocks
- ◆ Analyze EKG changes associated with ischemia, injury, and infarction patterns
- Develop a quick approach to diagnosis of STEMI on 12-lead EKG
- ◆ Analyze EKG patterns beyond STEMI
- ◆ Develop a systematic approach to chest X-ray interpretation
- ◆ Identify correct placement of common invasive lines on chest X-rays
- ◆ Differentiate between common cardiac and pulmonary disorders on chest X-rays
- Discover the clinical pearls of EKG and chest X-rays in challenging case studies



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# **COURSE CONTENT**

#### **PART I: THE ABCS OF 12-LEAD EKG INTERPRETATION**

#### 12-Lead EKG 101

- ◆ Cardiac electrical conduction system
- Electrical vectors
- ◆ Introduction to the 12-leads
  - limb leads
  - augmented leads
  - chest leads
- Normal polarity and P-QRS-T configuration of each lead

#### Ace the Axis

- Left and right axis deviation
- ◆ Causes and criteria of axis deviation
- Methods to determine axis deviation
- ◆ Case presentations, analysis, and clinical application

#### **Beat the Bundles**

- ◆ Right and left bundle branch blocks (BBB)
- Criteria for right vs. left BBB
- ◆ Causes and complications of right and left BBB
- ◆ Left anterior and left posterior hemiblocks
- Case presentations, analysis, and clinical application

#### **Correlate the Coronary Anatomy**

- Coronary arteries
  - right coronary artery (RCA)
  - left coronary artery (LCA)
  - left anterior descending artery (LAD)
  - circumflex artery (CX)
  - posterior descending artery (PDA)
- ◆ Left ventricular walls
  - inferior
  - anterior
  - septal
  - lateral
  - posterior
- Relationship of coronary arteries and ventricular walls to the 12-leads
  - Inferior—RCA—leads II, III, AVF
  - anterior/septal—LAD—leads V1–V4
  - lateral—circumflex—leads I, AVL, V5, V6
  - posterior—PDA—reciprocal changes V1–V4

#### Differential Diagnosis: 12-Lead EKG in Acute Coronary Syndrome

- ◆ Ischemia pattern
- ♦ Injury pattern
- Infarction pattern
- Reciprocal changes
- ◆ ST segment elevation myocardial infarction (STEMI)
- ◆ Non-ST segment elevation myocardial infarction (NSTEMI)
- ◆ Coronary spasm
- ◆ Takotsubo cardiomyopathy (broken heart syndrome)

#### Example and analysis time—Piecing it all together

- ◆ 30-second diagnosis of STEMI on 12-lead EKG
- Coronary angiographic correlation to 12-lead EKG
- Case presentations, analysis, and clinical application

#### **Advanced 12-Lead: Challenging Clinical Presentations**

- Atrial and ventricular hypertrophy
- ◆ Wolff-Parkinson-White syndrome
- Prolonged QT intervals

# PART II: CHEST X-RAY INTERPRETATION—AS EASY AS BLACK AND WHITE

Note: Most chest X-ray examples will be AP films

#### **Chest X-ray basics**

- Technique
- Black and white principles
- Projections
  - anterior-posterior (AP)
  - posterior-anterior (PA)
  - lateral

#### **Systematic Approach**

- Bone structures
- ◆ Intercostal spaces
- Soft tissues
- Lungs/trachea/pulmonary vasculature
- Pleural surfaces
- ◆ Diaphragm
- ◆ Mediastinum
- Heart and great vessels
- ◆ Invasive lines

#### As Easy as Black

- ◆ Pneumothorax
- Subcutaneous emphysema
- Clinical application and treatment

#### As Easy as White

- ◆ Pleural effusion
- Pulmonary edema
- ◆ Pneumonia
- Atelectasis
- Acute respiratory distress syndrome (ARDS)
- **♦** Cardiomyopathy
- ◆ Pericardial effusion
- ◆ Cardiac tamponade
- Clinical application and treatment

#### **Beyond the Basics**

- Aortic aneurysm
- Post-op changes with pneumonectomy
- Hydropneumothorax
- Esophagogastrectomy
- Dextrocardia
- Clinical application and treatment

# PART III: CXR AND 12 LEAD EKG CASE PRESENTATIONS, ANALYSIS, AND CLINICAL APPLICATION

# **Dates & Locations**

#### SAN ANTONIO - January 11, 2013

Hilton San Antonio Airport Hotel

611 NW Loop 410, San Antonio, TX 78216 210-340-6060

#### **HOUSTON - January 12, 2013**

Hilton Houston Hobby Airport

8181 Airport Blvd, Houston, TX 77061 713-645-3000

# **Course Hours**

Registration begins at 7:30 a.m. The seminar **begins at 8:00 a.m.** and **concludes at 3:30 p.m.** Coffee/hot tea provided in a.m. One-hour break for lunch on your own. For late arrivals or early departures, please see amended certificate information under Continuing Education Credit.

### Who Should Attend

- Registered Nurses in:
  - Critical and Intensive Care
  - Acute Care
  - Cardiac Care
  - Emergency Departments
  - Physician Offices
- Physician Assistants

- ◆ Clinical Nurse Specialists
- ◆ Emergency Medical Technicians
- ◆ Paramedics/EMTs
- Respiratory Therapists
- Acute Care and Family Nurse Practitioners

# **Confirmations & Cancellations**

Confirmations of registration are sent via email within three days of receipt in our office. Add customerservice@crosscountryeducation.com to your email address book to ensure delivery. If you have not received a confirmation, you may call our office at 800-397-0180 or 615-331-4422 to verify registration. Cancellations received at least five working days before the event are refundable less a \$20 administrative charge per registrant. There is no refund for cancellations received later; however, a credit will be issued toward a future event or product order. Please note that if you register and do not attend, you are still liable for full payment. Substitutions may be made at any time. The expense of continuing education, when taken to maintain and improve professional skills, may be tax deductible. Please contact your accountant for complete details.

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# **Continuing Education Credit**

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**Physician Assistants:** This program has been reviewed and is approved for a maximum of 6 hours of AAPA Category 1 CME credit by the Physician Assistant Review Panel. Physician assistants should claim only those hours actually spent participating in the CME activity. This program was planned in accordance with AAPA's CME Standards for Live Programs and for Commercial Support of Live Programs.



**Nurses:** Cross Country Education, LLC is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. This course is offered for 6 contact hours.

Cross Country Education is an approved provider with the lowa Board Of Nursing, approved provider #328. This course is offered for 7.2 contact hours. Cross Country Education is approved by the California Board of Registered Nursing, Provider #CEP 13345, for 7.2 contact hours. Cross Country Education is an approved provider by the Florida Board of Nursing, provider #50-466. This course is offered for 6.0 contact hours.

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**Other professions:** This educational offering qualifies for 6 continuing education hours as required by many national, state and local licensing boards and professional organizations. Save your course outline and certificate of completion, and contact your own board or organization for specific filing requirements.

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