

## Cardiovascular Disorders

### *Advanced Recognition and Treatment of Brady and Tachycardias*

*Faculty: Tarlan Hedayati, MD, FACEP*

During this course, the speaker will present a brief overview of the practical anatomy & physiology relevant to brady and tachyarrhythmias. This will be followed by a review of identification, management, & disposition of patients with brady and tachyarrhythmias, conduction blocks, & drug electrolyte-induced cases. An interactive session of clinical cases & ECGs also will be included. Particular emphasis will be placed on accepted management modalities, & comments will be made on therapeutic controversies.

- Identify the proximal & distal conduction blocks & discuss their treatment modalities.
- Discuss the identification & treatment of drug-induced bradycardia and tachycardias.
- Present a logical approach to diagnosis & treatment of brady and tachycardias based upon anatomy & etiology of the pathology.
- Differentiate wide-complex supraventricular tachycardias from ventricular tachycardias.

### *Acute Decompensated Heart Failure: Time Critical Interventions*

*Faculty: Amal Mattu, MD, FACEP*

The treatment of congestive heart failure (CHF) has remained relatively static for years. Not anymore! Utilization of cardiac biomarkers assists in both the diagnosis & treatment of CHF. The presenter will focus on cutting-edge therapies for decompensated CHF such as high-dose nitroglycerin, ACE inhibitors, & noninvasive ventilation. Using aggressive management protocols not only reduces morbidity & mortality in the short-term but long-term in the form of reduced re-admission rates.

- Describe advances in the diagnosis & treatment of CHF, including the use of biomarkers.
- Describe the advantages of biomarker-directed therapy in the management of decompensated CHF.
- Review recent AHA guidelines on CHF.
- Identify risk reduction strategies that will lead to a reduction in patient morbidity & mortality as well as a reduction in re-admission rates.

### *From Paper to Patient: Recent Advances in Emergency Electrocardiography That Will Save a Life*

*Faculty: Amal Mattu, MD, FACEP*

Tremendous advances have been made in the field of electrocardiography in the past several years. We are now able to detect subtleties that may literally mean either detection of disease and/or changing management that can save lives. Join this expert in finding & utilizing electrocardiographic pearls buried in years of bench studies. Once you have finished this review, you will have skills in new & improved methods of ECG analysis & the literature to back you up.

- Identify deficiencies in knowledge translation on electrocardiographic data that may not be utilized for improved patient care.
- Capture subtle manifestations of cardiac disease that are outside regular knowledge boundaries & teaching.
- Provide an algorithm for advanced electrocardiographic analysis.
- Utilize evidence-based electrocardiographic studies as a basis for practice patterns in cardiac care.

### *New Cardiac Drugs: How, What, and When to Use Them in the ED*

*Faculty: George C. Willis, MD, FACEP*

Each year new medications are developed and indications for other medications are refined to assist providers with the management of patients with cardiac disease. Are they beneficial or harmful? What is the cost? Which patients are they appropriate for? These and other questions make integration of new medications into clinical practice an enormous hurdle. The speaker will present a literature review of new drugs and indications for older drugs and compare these to medications currently in use.

- Identify new drugs and new indications for older drugs for the treatment of ED patients with cardiovascular disease to improve management of these patients.
- Apply an evidence-based approach to new drug utilization in ED patients with cardiovascular disease to optimize outcomes while considering costs.

### *Non-Traditional AMI Presentations: Don't Miss the Diagnosis*

*Faculty: Amal Mattu, MD, FACEP*

Atypical presentations of ACS are medical & legal challenges. Groups at higher risk of these unusual presentations include extremes of age, female gender, & those with comorbid disease such as diabetes. These patient presentations are reviewed highlighting key caveats & pitfalls.

- Describe the typical "atypical" presentations in ACS.
- Identify the common reasons for not identifying ACS in the ED.
- Highlight strategies to maximize ACS diagnosis.

### *Atrial Fibrillation Update 2020: Don't Miss a Beat*

*Faculty: Jeffrey Tabas, MD, FACEP*

Atrial fibrillation is the most common arrhythmia seen in emergency department patients. Several important clinical issues arise when discussing this important arrhythmia. First, is rate control superior to rhythm control? When & should patients with atrial fibrillation be cardioverted? What is the best rate control agent in clinical practice? When should patients be anticoagulated? Can patients receive cardioversion & then be discharged home? These questions & more will be discussed by the speaker who will review the pertinent findings of the 2014 Atrial Fibrillation Guidelines from the American College of Cardiology (ACC).

- Discuss the issue of rate control vs. rhythm control in patients with atrial fibrillation.
- Describe an approach to deciding which patients to anticoagulate.
- Discuss the clinical controversy of “shock & discharge” (cardiovert & send home).
- Describe the most important atrial fibrillation updates in the 2014 ACC guidelines.

### *ECG in Syncope: An Expert Approach*

*Faculty: J. Scott Wieters, MD, FACEP*

The ECG is an essential tool not only for arrhythmia detection & analysis but can also risk stratify for disorders like syncope. Having the tools to diagnose a dysrhythmia is essential for the emergency physician with implications of not only treatment but disposition as well. Using a case-based approach, the speaker will review advanced dysrhythmia analysis.

- Provide an approach to the analysis of the ECG that will assist in detecting & analyzing dysrhythmias.
- Identify subtle ECG manifestations with potentially fatal outcomes if missed.
- Practice ECG analysis in a case-based format.

### *A Subtle & Deadly Presentation: Myocarditis*

*Faculty: Trevor J. Lewis, MD, FACEP*

Myocarditis occasionally presents in straightforward fashion with chest pain & pulmonary congestion, with or without dysrhythmia. However, myocarditis can also present subtly & can mimic either gastrointestinal or respiratory viral illness. The speaker will review the presentations & diagnostic strategies you need to identify this deadly diagnosis.

- Review the classic & atypical presentations of myocarditis in adults & children.
- Discuss the diagnostic strategies available to identify myocarditis in adults & children.



### *ACLS Guidelines 2020: What's New and Why*

*Faculty: Cameron K. Berg, MD, FACEP*

AHA/ACC guidelines are new in 2020. The speaker will discuss the new recommendations, the evidence behind them, and what should change your practice.

- Describe the new guidelines for cardiac arrest management.
- Apply evidence-based recommendations to your practice.
- Identify areas of controversy and confusion on managing cardiac arrest.

### *Acute Limb Ischemia: Red, White, or Blue - What to Do?*

*Faculty: Deborah B. Diercks, MD, MSc, FACEP*

Time is critical when caring for the cold, hypoperfused extremity. Venous & arterial occlusion are managed differently & it is imperative that providers identify the cause early & differentiate them correctly. Join the speaker as they discuss how to quickly determine whether limb ischemia is caused by venous or arterial occlusion & which interventions are needed to “salvage that leg”.

- Identify key history & physical exam findings concerning for acute limb ischemia in patients presenting with limb to avoid missing the diagnosis.
- Utilize bedside ultrasound to differentiate venous & arterial causes of limb ischemia to decrease delays to critical interventions in ED patients.
- Explain the optimal chance of limb salvage by initiating best evidence interventions to care for patients with acute limb ischemia.

### *Aortic Dissection: Are You Missing the Diagnosis?*

*Faculty: George C. Willis, MD, FACEP*

Thoracic aortic dissection is an uncommon but extremely lethal condition of which the emergency physicians should be keenly aware. Aortic dissection has a high mortality rate, and is commonly missed for a number of reasons. This presentation will highlight why the diagnosis is missed and what emergency physicians can do to decrease their miss rates.

- Describe the workup of the patient with aortic dissection.
- Identify what types of patient presentations warrant an evaluation for thoracic aortic dissection.
- Incorporate a strategy into clinical practice to decrease the chance of missing the diagnosis.

### *Cardiac Tamponade: It Isn't a Thrill to Have No Fill*

*Faculty: Jennifer M. Wilson, MD*

Cardiac tamponade is deadly & emergent intervention is required. The death spiral can be protracted however, & the emergency provider must learn a systematic approach & the appropriate interventions that account for their different stages of descent.

- Review the causes & presentations of cardiac tamponade.
- Develop a systematic approach to diagnosis & interventions in patients with cardiac tamponade.
- Describe critical mistakes that make tamponade patients worse.

### *Cardiology Controversies: ACEP Connect*

*Faculty: Cameron K. Berg, MD, FACEP; J. Scott Wieters, MD, FACEP*

Care of patients with cardiac emergencies is constantly evolving. Listen in while a team of emergency cardiology experts review challenging cases and debate the optimal diagnostic and therapeutic approaches. Compare your care to those of the panel and weigh in during this interactive discussion.

- Describe the role of medications during cardiac arrest.
- Describe the approach to management in patients in cardiogenic shock.
- Analyze the risk and benefits of implementing high and ultra-high sensitivity troponins.

### *Catch 22: Treating the Hypotensive Heart Failure Patient*

*Faculty: Jennifer M. Wilson, MD*

Fluids for the failing heart or withhold? Pressors? Which one - Inotropes, chronotropes? The speaker will discuss approaches to managing patients in cardiogenic shock. Review recent literature & current guidelines on inotropic, vasoactive, diuretic, & other agents that optimize the odds for saving these complex, high-risk patients.

- Evaluate appropriate therapies to improve the chance of survival for patients suffering from cardiogenic shock.
- Recognize which hypotensive heart failure patients will benefit from fluid resuscitation to improve perfusion to critical organs.
- Develop a structured approach to inotropic & vasopressor use in patients with cardiogenic shock to optimize cardiac output & reduce complications.

### *Controversies in Cardiac Arrest Care: The Great Debate*

*Faculty: Deborah B. Diercks, MD, MSc, FACEP; Corey M. Slovis, MD, FACEP*

New evidence is challenging our long established practices during the care of patients in cardiac arrest. Emergency medicine experts in cardiac resuscitation will break down the evidence and challenge our long held practices, and each other, while discussing recent literature on topics ranging from medication administration during cardiac arrest to cooling patients emergently during the post resuscitation period.

- Describe the evidence for and against common cardiac arrest interventions.
- Recognize the value and appropriately prioritize interventions during the post resuscitation period.
- Describe the key clinical features and decision rules when deciding to terminate resuscitative efforts.

### *Crashing Patients: Peri-arrest Pearls for a New Decade*

*Faculty: Michael E. Winters, MD, FACEP*

Most patients in cardiac arrest have a dismal prognosis regardless of their management. On the other hand, it is the patient in the peri-arrest period – the “crashing patient” – in whom a significant improvement in outcome can be achieved. The speaker will discuss some critical considerations & interventions for patients who are in the pre- & post- cardiac arrest period that can result in the difference between life & death.

- Identify early markers that patients are at high risk for cardiovascular collapse.
- Describe common pitfalls during patient resuscitation.
- Identify how basic bedside ultrasonography can help in the diagnosis & treatment of “crashing” patients.
- Discuss new practices in the recent AHA guidelines, which improve outcomes in patients pre- & post- cardiac arrest.

### *Cruising the Cardiology Literature: 2020*

*Faculty: George C. Willis, MD, FACEP*

Medical journals abound with cardiology articles, & numerous multi-center trials have recently been published. New drugs are being introduced, existing medications have changing indications, & diagnostic & management strategies are being evaluated. Which of these articles should you integrate into your practice? The speaker will review the most important cardiology articles from the past year’s literature that will directly impact your patients.

- Discuss recent cardiology articles that are significant to emergency medicine.
- Describe how these articles should be integrated into today's emergency medicine practice.
- Discuss critical article appraisal in light of patient safety.

### *Hypertensive Emergencies: Drugs, Drips & Drops*

*Faculty: Philip H. Shayne, MD, FACEP*

Hypertension is an extremely common condition that is treated by emergency physicians on a daily basis. Several hypertensive emergencies necessitate the use of antihypertensive drip medications. The speaker will highlight common hypertensive emergencies & what antihypertensive drip medications to use. Useful pearls & pitfalls when dealing with the hypertensive patient will also be discussed.

- Identify which patients require aggressive management for severe hypertension.
- Describe a safe & effective approach to selecting & initiating intravenous antihypertensive medications for hypertensive emergencies.
- Describe an approach for converting intravenous antihypertensive drip medications to oral antihypertensive medications.

### *Myocardial Ischemia & Mimics: ECG Cases*

*Faculty: Amal Mattu, MD, FACEP*

One of the first priorities in ECG analysis is to look for patterns of injury. Myocardial ischemia can be subtle on an ECG & can be mimicked by several pathological processes. The speaker will focus on a diagnostic approach to the recognition of myocardial ischemia. Differentiation from other diseases & normal variants also will be reviewed. By the time you are finished, you won't be fooled by mimickers of ischemia, & recognition of acute coronary syndromes on ECG will be second nature.

- Provide an approach to the analysis of the ECG that will assist in detecting acute coronary syndromes.
- Identify subtle ECG manifestations with potentially fatal outcomes if missed.
- Practice ECG analysis in a case-based format.

### *Severe, Asymptomatic Hypertension: Don't Just Do Something! Stand There*

*Faculty: Philip H. Shayne, MD, FACEP*

How many times a day do we see an elevated blood pressure recorded on a patient's chart? When should you treat it, & when should you refer the patient for follow-up? Should a patient be started on antihypertensive medications or a new one added to the regimen? Based on the latest literature, the speaker will discuss the spectrum of hypertensive disease, particularly asymptomatic hypertension, & its ED evaluation & treatment.

- Define severe, asymptomatic hypertension.
- Describe the indications for diagnostic testing in patients with hypertension.
- Discuss the latest recommendations, guidelines, & clinical policies pertaining to patients with severe hypertension.

### *Syncope With a Lethal Twist*

*Faculty: Trevor J. Lewis, MD, FACEP*

Life-threatening conditions can present as fainting or syncope in children & young adults. Patients often present to the ED with no complaints after a syncopal episode. If not identified appropriately, these conditions can result in morbidity & death. Using a case-based approach, the speaker will discuss how to identify these rare but important syndromes including, subarachnoid hemorrhage, subaortic stenosis, congenital heart disease, pulmonary embolus, & aortic dissection.

- Describe the initial diagnostic testing approach to the patient with syncope.
- Review the life-threatening conditions associated with the well-appearing patient with a history of syncope.
- Discuss the admission criteria for patients with syncope.

### *The Forgotten Bundle: RBBB & STEMI Equivalent*

*Faculty: William D. Gregorie, MD, FACEP*

A new RBBB typically does not set off the same alarms for AMI but recent evidence suggests that in certain circumstances it should - new RBBB with left anterior fascicular block. The presenter will review recently elucidated STEMI equivalents on ECG.

- Discuss the importance of RBBB on ECG & its association with coronary artery disease & myocardial ischemia.
- Identify ST elevation on ECG in the setting of RBBB.
- Review commonly missed STEMI equivalents.

### *The Heart of the Matter - Risk Stratification Tools, Cardiac Imaging, & Latest Treatments: ACEP Connect*

*Faculty: Deborah B. Diercks, MD, MSc, FACEP; Jeffrey Tabas, MD, FACEP*

Despite billions of dollars in research & resultant litigation, acute coronary syndromes remain a leading cause of death & medical malpractice. The practicing clinician now has the ability to utilize risk scores & imaging modalities to not only risk stratify patients for ACS, but to impact patient management decisions. Join the speakers in discussing the utility of specific risk stratification tools, how to optimize the use of imaging in the cardiac patient, & which therapies need to be administered emergently to your patients with ACS for maximum benefit.

- Apply evidence-based risk stratification tools to avoid missing ACS in ED patients.
- Develop a strategy for determining the optimal imaging modality for specific individuals at risk for ACS to maximize diagnostic accuracy & time.
- Apply pre- & post-imaging risk assessment to ensure correct disposition & management in possible ACS patients.
- Implement time dependent, effective therapies to decrease morbidity & mortality in ED patients with ACS.

### *Therapy for AMI in a New Decade*

*Faculty: Tarlan Hedayati, MD, FACEP*

A number of established & new therapies exist in the management of patients with ST and non-ST elevation myocardial infarction & unstable angina. Every year however, these therapies are updated or changed completely. The speaker will review the most recent literature on risk stratification & treatment of AMI. Therapies, such as reperfusion strategies, heparin, nitrates, antiplatelet agents, antithrombins, & percutaneous coronary interventions will be reviewed, using the latest literature & guidelines.

- Review the current American College of Cardiology/American Heart Association (ACC/AHA) guidelines for treatment of ST and non-ST elevation MI & unstable angina.
- Identify the evidence behind therapies and under which clinical scenarios these therapies should be used.
- Discuss the pitfalls and complications of various therapies for ST and non-ST elevation MI & unstable angina.

### *VADs, Vests, & Zaps: Managing Malfunctioning Cardiac Devices*

*Faculty: Cameron K. Berg, MD, FACEP*

Many patients have cardiac devices such as LVADs, defibrillators, and pacemakers. Are you prepared to manage these patients when their devices go bad? Join the speaker in understanding the components of these devices & the potential problems with dysfunction. Explore how to troubleshoot the these devices with specific guidelines & recommendations.

- Describe components of the VAD & related complications and focus on diagnosis & management strategies.
- Discuss the wearable cardiac defibrillator vest; review diagnosis & management strategies when patients with the vest present to the ED.
- Review the internal cardiac defibrillator & understand the various "I got shocked" presentations with a focus on diagnosis & management.
- Describe the common complications and treatment of pacemaker malfunctions.

### *Wide & Whacked Tachycardias: A Rational Approach to Diagnosis & Management of Wide Complex Tachycardia*

*Faculty: Tarlan Hedayati, MD, FACEP*

Wide complex tachycardia can make the most experienced emergency provider sweat. Combining current evidence & a rational approach to diagnosis & management, the speaker will discuss how best to care for these patients while maximizing the opportunity for rhythm diagnosis.

- Discuss the differential diagnosis of wide complex tachycardia.
- Review existing clinical decision rules in the management of wide complex tachycardia.
- Design an appropriate management strategy for these patients.