

CARDIAC ARRHYTHMIA

Cardiac arrhythmias are an abnormal heart rate or rhythm. The American Heart Association (AHA) states that in 2002, cardiac arrhythmias were associated with 480,400 deaths and 858,000 hospital discharges. Medical reimbursements for arrhythmia-related diagnoses were \$2.2 billion or \$6,041 per discharge in 2003. Many arrhythmias may lead to hospitalization or may result as a complication during hospitalization. Hospitalists identify and treat all types of arrhythmias, coordinate specialty and primary care resources, and guide patients safely and cost effectively through the acute hospitalization and back into the outpatient setting.

KNOWLEDGE

Hospitalists should be able to:

- Identify and differentiate the clinical presentation of common arrhythmias.
- Distinguish the causes of atrial and ventricular arrhythmias.
- Describe the indicated tests required to evaluate arrhythmias.
- Explain how medications, metabolic abnormalities and medical co-morbidities may precipitate various arrhythmias.
- Explain indications, contraindications and mechanisms of action of pharmacologic agents used to treat cardiac arrhythmia.
- Risk stratify patients with arrhythmias and determine the level of care required.
- Describe the management goals and options for patients hospitalized with arrhythmia.
- Identify the patient characteristics and co-morbid conditions that predict outcome.
- Explain goals for hospital discharge, including specific measures of clinical stability for safe care transition.

SKILLS

Hospitalists should be able to:

- Elicit a thorough history, including medication, family and social history.
- Perform a directed physical examination with special emphasis on identifying signs associated with hemodynamic stability, tissue perfusion, and occult cardiac and vascular disease.
- Order and interpret EKGs, rhythm monitoring, and telemetry to determine indicated management plan.
- Identify specific arrhythmias by utilizing 12-lead electrocardiogram (EKG) and rhythm strip, and continuous telemetry monitoring.
- Formulate patient-specific, evidence based care plans incorporating diagnostic findings, prognosis and patient characteristics.
- Develop patient-specific care plans that may include rate controlling interventions, cardioversion, defibrillation, or implantable medical devices.
- Utilize telemetry resources for identification of malignant rhythms in patients who require potentially arrhythmogenic interventions or patients who are otherwise at high risk for malignant arrhythmias.
- Limit the use of telemetry resources in patients with chronic stable arrhythmias.
- Quickly recognize high-risk arrhythmias that require urgent intervention, and implement emergency protocols as indicated.
- Assess patients with arrhythmias in a timely manner, identify the level of care required, and manage or co-manage the patient with the primary requesting service.

ATTITUDE

Hospitalists should be able to:

- Communicate with patients and families to explain the history and prognosis of cardiac arrhythmia.
- Communicate with patients and families to explain goals of care plan, discharge instructions and management after release from hospital.
- Communicate with patients and families to explain drug interactions for anti-arrhythmic drugs, and the importance of strict adherence to medication regimens and laboratory monitoring.
- Communicate with patients and families to explain tests and procedures and their indications, and to obtain informed consent.

- Recognize specific arrhythmias or effects of arrhythmias that require early specialty consultation and procedural interventions.
- Employ a multidisciplinary approach, which may include primary care, cardiology, nursing and social services, to develop a care plan for patients with cardiac arrhythmias that begins at admission and continues through all care transitions.
- Acknowledge and ameliorate patient discomfort from uncontrolled arrhythmias and electrical cardioversion therapies.
- Inform receiving physician of pending tests and determine who is responsible for checking results.
- Employ multidisciplinary teams to facilitate discharge planning and communicate to outpatient providers the diagnosis of the arrhythmia, the care plan that occurred in the hospital, and post-discharge needs.
- Utilize evidence based recommendations to guide diagnosis, monitoring and treatment of cardiac arrhythmias.

SYSTEM ORGANIZATION AND IMPROVEMENT

To improve efficiency and quality within their organizations, Hospitalists should:

- Lead, coordinate or participate in multidisciplinary teams to develop patient care guidelines and/or pathways based on peer reviewed outcomes research, patient/physician satisfaction, and cost.
- Implement systems to ensure hospital-wide adherence to national standards and document those measures as specified by recognized organizations (JCAHO, AHA, ACC, AHRQ or others).
- Lead, coordinate or participate in quality improvement initiatives to promote early identification of arrhythmias, reduce preventable complications, and promote appropriate use of telemetry resources.