

## 2.4 EMERGENCY PROCEDURES

In hospital medicine, emergency procedures refer to a set of immediate actions that may be necessary to stabilize or resuscitate patients with impending or established cardiorespiratory arrest or other major organ failure. Such actions may include cardiopulmonary resuscitation using advanced cardiac life support (ACLS) protocols and advanced airway management via endotracheal intubation. In addition, patients may require short-term advanced respiratory support such as mechanical ventilation until their transition to a

higher level of care (for example, to an intensive care unit) or until their recovery from a short-term critical illness. Hospitalists care for patients admitted with critical illnesses, or who may become critically ill during the course of their hospitalization, and thus need to perform and supervise such emergency procedures. Hospitalists should lead efforts that ensure the delivery of timely, effective, and standardized responses to such inpatient emergencies.

### CARDIOPULMONARY RESUSCITATION

#### KNOWLEDGE

*Hospitalists should be able to:*

- Describe the normal anatomy of the upper airway, thorax, heart, and lungs.
- Describe the clinical findings or disease processes that require cardiopulmonary resuscitation and advanced life support.
- Describe clinical and electrocardiographic findings that affect cardiopulmonary arrest outcome.
- List indicated laboratory and other diagnostic testing during cardiopulmonary distress or arrest and immediately following successful resuscitation.
- Distinguish between current basic life support (BLS) and ACLS protocols, including selection of interventions appropriate to the clinical situation.
- Describe the equipment needed to manage the airway, identify cardiac rhythms, and perform defibrillation.
- Describe cardiac rhythms and clinical situations that require immediate defibrillation.
- Describe the uses of and mechanisms of action of medications used during ACLS implementation.
- Explain the indications for procedural interventions that may be used during the course of resuscitation.
- Define return of spontaneous circulation.
- Describe postresuscitation care protocols.
- Recognize the indications for emergent specialty consultation when available, which may include otolaryngology, surgery, or critical care medicine.

#### SKILLS

*Hospitalists should be able to:*

- Promptly identify acute cardiopulmonary distress or arrest and call for assistance.
- Assess the patient and the clinical situation in a timely manner and attempt to identify the cause and other

complicating factors.

- Elicit additional pertinent information from available sources such as the patient's family, other healthcare providers, and the medical record when available.
- Interpret cardiac rhythms and other diagnostic indicators.
- Perform, coordinate, and lead prompt and effective resuscitation in a manner consistent with current ACLS protocols.
- Facilitate interactions between healthcare professionals regarding the roles that each will perform during the resuscitation effort.
- Synthesize diagnostic information to deliver medications and/or defibrillation and perform procedures required during resuscitation efforts.
- Maintain safety of all team members by taking necessary precautions and using appropriate protective wear.
- Evaluate the quality of ongoing resuscitation efforts and implement changes as necessary.
- Discontinue resuscitation efforts when interventions have been unsuccessful and continued efforts are deemed medically futile.
- Arrange for appropriate care transitions following successful resuscitation.
- Review the resuscitation documentation for accuracy immediately following the event.
- Communicate with families to explain the procedures performed as well as outcomes and next steps in management.

#### ATTITUDES

*Hospitalists should be able to:*

- Review and respect the advance directives and resuscitation choices of patients and/or their surrogates.
- Rapidly respond to emergencies without distraction.
- Appreciate the value of spiritual support services during and following resuscitation efforts.

## ENDOTRACHEAL INTUBATION

### KNOWLEDGE

*Hospitalists should be able to:*

- Describe the normal anatomy of the upper airway.
- Describe clinical findings or disease processes that may require securing an airway.
- Describe the indications, contraindications, benefits, and risks of endotracheal intubation.
- Describe the necessary equipment and medications required for routine and complicated intubations.
- Describe the process of endotracheal intubation from laryngoscope assembly to assessment of tube placement.
- Differentiate among alternatives to endotracheal intubation.
- Recognize indications for appropriate specialty consultation for difficult or unsuccessful intubations or when clinician experience level precludes intubation trial.

### SKILLS

*Hospitalists should be able to:*

- Identify patients who may benefit from endotracheal intubation.
- Assess patients for degree of procedural complexity and complication risk.

- Perform prompt and safe endotracheal intubation using techniques selective to the patient's anatomy and condition.
- Determine and place the endotracheal tube at an appropriate depth in the airway.
- Confirm endotracheal tube placement by approved methods and make adjustments as necessary.
- Use an alternative suitable airway control for patients with difficult or unsuccessful intubations.
- Maintain safety of all team members by taking necessary precautions and using appropriate protective wear.
- Evaluate for procedural complications and adopt necessary measures.
- Communicate with families to explain the procedures performed as well as outcomes and next steps in management.

### ATTITUDES

*Hospitalists should be able to:*

- Review and respect the advance directives and resuscitation choices of patients and/or their surrogates.
- Rapidly respond to emergencies without distraction.
- Demonstrate awareness of and ability to address periprocedural emotional and physical discomfort.

## SHORT-TERM MECHANICAL VENTILATION

### KNOWLEDGE

*Hospitalists should be able to:*

- Describe the normal anatomy of the respiratory system.
- Describe disease processes that lead to respiratory failure.
- Describe the indications, benefits, and risks of mechanical ventilation.
- Describe indications and contraindications for noninvasive ventilation in selected patients.
- Explain the role of arterial blood gas analysis in the management of ventilated patients.
- Explain the basic components and workings of a ventilator.
- Describe available modes of ventilation and process of selection of suitable ventilator settings.
- List causes of ventilator alarms.
- Recognize the indications for specialty consultation, which may include critical care medicine.

### SKILLS

*Hospitalists should be able to:*

- Use nursing and respiratory therapy reports, physical examination findings, and ventilator data to identify complications due to mechanical ventilation.
- Provide adequate sedation, comfort management, and paralysis when indicated for patients requiring mechanical ventilation.
- Select and adjust the ventilator mode and settings on the basis of the disease process, patient factors, ventilator

data, and laboratory findings.

- Institute indicated interventions when complications of mechanical ventilation are encountered.
- Order and interpret laboratory and imaging studies on the basis of changes in the patient's clinical status.
- Evaluate and treat underlying conditions leading to respiratory failure.
- Implement evidence-based interventions known to reduce risk of ventilator-associated complications.
- Communicate with families to explain the procedures performed as well as outcomes and next steps in management.

### ATTITUDES

*Hospitalists should be able to:*

- Review and respect the advance directives and resuscitation choices of patients and/or their surrogates.
- Rapidly respond to emergencies without distraction.
- Appreciate the value of spiritual support services during and following resuscitation efforts.

### SYSTEM ORGANIZATION AND IMPROVEMENT FOR EMERGENCY PROCEDURES

*To improve efficiency and quality within their organizations, hospitalists should:*

- Lead, coordinate, and/or participate in multidisciplinary teams, which may include critical care nurses, respiratory

therapists, and critical care and emergency physicians, to establish ongoing training to ensure high-quality performance of emergency procedures.

- Lead, coordinate, and/or participate in multidisciplinary efforts to review antecedent events to identify changes in clinical status that, if promptly identified and acted upon, may have prevented the emergency intervention.
- Facilitate appropriate organization and consolidation of equipment in multiple identifiable and accessible locations in the hospital for the optimal performance of emergency procedures.
- Lead, coordinate, and/or participate in evaluation of resuscitation and mechanical ventilation outcomes and identify and implement improvement initiatives.