

CORE SKILLS**NON-INVASIVE MONITORING****INTRODUCTION**

Collection and monitoring of objective data such as vital signs and pulse oximetry measurements are essential components of care for hospitalized children. Combined with clinical assessments, these data are critical when making therapeutic or diagnostic decisions. A complete understanding of non-invasive monitoring techniques is necessary to accurately interpret the data generated. Pediatric hospitalists regularly incorporate this data into their clinical practice and, especially when overseeing procedural sedation or emergent clinical situations, may be responsible for implementing or supervising the appropriate type and level of monitoring.

KNOWLEDGE

Pediatric hospitalists should be able to:

- List the different types of non-invasive monitoring techniques and devices that are available and describe the indications for each.
- Compare and contrast the types and level of monitoring generally available on the inpatient ward compared to the intensive care unit or other care settings.
- Describe the proper procedures for common non-invasive monitoring techniques, including vital sign measurement, cardiopulmonary monitoring, pulse oximetry, and capnography.
- List the limitations or complications associated with common non-invasive monitoring techniques, such as inadequate wave form for pulse oximetry.
- Discuss the importance of accurate and timely interpretation of information generated by monitoring devices, as well as the importance of an immediate response when abnormal data is noted.

SKILLS

Pediatric hospitalists should be able to:

- Determine the type and level of monitoring needed based on the clinical situation and medical complexity of the patient.
- Identify the need for a higher or lower level of monitoring as changes in the clinical status occur and transfer the patient to the appropriate inpatient setting.
- Ensure proper placement of monitoring equipment (e.g., placement of monitor leads) and execution of proper technique (e.g., use of correct size blood pressure cuff) in order to obtain accurate data.
- Correctly interpret monitoring data and respond with appropriate actions.

ATTITUDES

Pediatric hospitalists should be able to:

- Assume responsibility for ordering the appropriate monitoring and interpreting monitoring data.
- Collaborate with nurses, subspecialists, and other healthcare providers to determine the appropriate level of monitoring and the corresponding care setting, especially when clinical changes occur.
- Communicate effectively with patients and the family/caregiver regarding the need for non-invasive monitoring, the findings, and the care plan.

SYSTEMS ORGANIZATION AND IMPROVEMENT

In order to improve efficiency and quality within their organizations, pediatric hospitalists should:

- Lead, coordinate, or participate in the development and implementation of cost-effective, safe, evidence-based procedures and policies related to non-invasive monitoring.
- Work with hospital administration, biomedical engineering, and others to obtain high quality and reliable monitoring equipment.
- Lead, coordinate, or participate in the development of continuing education programs focused on non-invasive monitoring and the interpretation of related data.
- Lead, coordinate or participate in the development and implementation of a system for review of family/caregiver and healthcare provider satisfaction into monitoring strategies.