

Goals and Objective for the Pediatric Intensive Care Unit Rotation

Medical Knowledge

- 1) Describe the pathophysiology and develop a systematic approach to assess and manage conditions that cause critical illness in children including but not limited to:
 - a. Respiratory Failure: e.g. Acute respiratory distress syndrome, pneumonia, bronchiolitis, severe asthma, pulmonary emboli, near drowning, airway obstruction, chronic lung diseases
 - b. Cardiogenic shock e.g.: cardiomyopathy, shock, hypertension, cardiopulmonary arrest, dysrhythmias, pericardial effusion
 - c. Septic Shock and other life-threatening infections
 - d. Central Nervous System Dysfunction and Failure: e.g. head trauma, hypoxic ischemic injury, status epilepticus, stroke, altered mental status
 - e. Metabolic dysfunction and failure: e.g. diabetic ketoacidosis, and disorders of sodium and potassium metabolism, cortisol deficiency
 - f. Renal failure: e.g. acute renal failure, renal replacement therapy, hemolytic uremic syndrome
 - g. Gastrointestinal disorder: e.g. acute life-threatening GI bleed, acute and chronic liver failure
 - h. Hematologic and oncologic disorders
 - i. Multiorgan system failure
 - j. Major trauma
 - k. Transplantation
 - l. Poisoning
- 2) Discuss the indication for different modes and types of mechanical and non-invasive ventilation.
- 3) Discuss the indications for nitric oxide and other medical gases.
- 4) Discuss indications and risks and place appropriate intravascular catheters to include arterial catheter and central venous catheter. Interpret data provided by each of these catheters as well as PA catheter.
- 5) Discuss indications and risks of agents used for intravenous sedation, paralysis and conscious sedation and use of sedation scores.
- 6) List and discuss the indications for vasoactive medications, such as dopamine, epinephrine, norepinephrine, milrinone, and vasopressin and implement their use when necessary.
- 7) Discuss indications and risk of parenteral and enteral nutrition.
- 8) Explain severity of illness scoring systems used in the intensive care unit.
- 9) Discuss the indication, risk, and considerations of airway management.

Patient Care Skills

- 1) Gather essential historical information regarding the patients' illness or injury.
- 2) Demonstrate accurate physical diagnostic skills in the critical care setting.
- 3) Select appropriate imaging and laboratory studies for the initial evaluation of critically ill patients.
- 4) Recognize and stabilize the unstable critically ill child.
- 5) Generate a differential diagnoses for common critical care problems including but not limited to:
 - a. Respiratory distress
 - b. Hemodynamic instability
 - c. Altered mental status
 - d. Shock
 - e. Organ failure

- 6) Integrate clinical assessment and laboratory data to formulate management and therapeutic plans for critically ill patients. For example:
 - a. Evaluate, diagnose and treat patients with acute respiratory failure (to include asthma, ALI, ARDS, aspiration).
 - b. Provide ventilatory support for all types of critical care patients to include medical and surgical patients.
 - c. Evaluate blood gases (arterial, venous, capillary, and end-tidal carbon dioxide) and appropriately adjust mechanical ventilation on patients.
 - d. Evaluate and prescribe appropriate antibiotics to those patients with severe pneumonia, sepsis, and other serious bacterial infections.
 - e. Provide appropriate fluid management for those patients with fluid and electrolyte imbalances.
 - f. Provide care for the patient with CNS trauma to include management of intracranial hypertension.
 - g. Provide support for patients with acute and chronic renal failure. Discuss indications and risks of CVVH, hemodialysis, peritoneal dialysis.
 - h. Demonstrate safe, effective use of sedation and analgesic agents for procedures.
 - i. Provide adequate nutrition to critically ill patients.
- 7) Describe indications, risk and perform the following procedures under appropriate supervision:
 - a. Endotracheal intubation
 - b. Bag Mask ventilation
 - c. Moderate sedation
 - d. Tracheostomy tube replacement
 - e. Cardioversion
 - f. Cardiopulmonary resuscitation
 - g. Arterial line placement
 - h. Central venous line placement
 - i. Needle and tube thoracostomy
- 8) Describe principles of multidisciplinary approach to the management of a critically ill child with complex medical or surgical disease.
- 9) Describe the special medical problems associated with the care of the solid organ (heart, kidney, liver) and bone marrow transplant patient.
- 10) Resuscitate, stabilize and transport patients to the PICU and within the hospital.
- 11) Participate in decision making in the admitting, discharge, and transfer of patients in the intensive care unit.

Communication Skills

- 1) Demonstrates active listening skills including appropriate non-verbal behavior.
- 2) Effectively communicate with patients and families during critical illness, including end of life issues.
- 3) Demonstrate respect for individual patient concerns and perceptions.
- 4) Effectively communicate and collaborate with the team including nurses, respiratory therapists, and other health care providers and specialists.
- 5) Accurately record findings and assessments in the medical record in a timely and legible manner.

- 6) Contact attending appropriately.
- 7) Communicate effectively and demonstrate caring and respectful behaviors when interacting with PICU patients and families by updating patients and families on conditions and ongoing treatment.

Professionalism

- 1) Maintain confidentiality of patient information according to hospital and HIPAA regulations.
- 2) Respect patient self-autonomy and the right of the patient and a family to be involved in care decisions.
- 3) Place the needs of patients above personal concerns.
- 4) Demonstrate sanctity of the healing relationship.
- 5) Develop an ethically sound relationship with patients and families.
- 6) Demonstrate appropriate respect for other health care professionals.
- 7) Effectively communicate and collaborate with the team including nurses, respiratory therapists, and other health care providers and specialists.
- 8) Demonstrate sensitivity and compassion to a variety of patient populations.
- 9) Effectively communicate with patients and families during critical illness, including end of life issues.
- 10) Demonstrate respect for diversity of opinion, age, gender and ethnicity in the workplace.
- 11) Respond to pages and messages promptly.
- 12) Be punctual and respectful of others' time.
- 13) Effectively teach and mentors residents and students.
- 14) Demonstrate respect for individual patient concerns and perceptions.
- 15) Accurately record findings and assessments in the medical record in a timely and legible manner.
- 16) Be responsible for personal documentation and responsibilities (procedure log, evaluations, preparing presentations).

Practice-Based Learning and Improvement

- 1) Make changes in practice using performance self-improvement assessment.
- 2) Effectively search the medical literature, analyze the literature and determine its relevance for specific patients.
- 3) Effectively use online medical resources.
- 4) Facilitate professional learning with peers.
- 5) Learn from mistakes.
- 6) Prepare and present at Morbidity/Mortality conference, case discussions and Friday am teaching conference.

Systems-Based Practice

- 1) Recognize system errors and recommend quality improvements.
- 2) Discuss the relationship between specialty practices and how they integrate within the larger delivery system.
- 3) Describe non-acute provider settings (Rehab, Skilled Nursing).
- 4) Collaborate with other health care providers to facilitate orderly and effective transitions from one care environment to another such as floor-based nursing settings, rehabilitation settings, chronic care facilities, and home care settings.
- 5) Demonstrate an awareness of and skill in resource-efficient care.
- 6) Demonstrate advocacy for patients within the health care system.