

## PAPD Common Goals and Objectives ICU Rotation

The following are goals and specific objectives for the completion of the ICU rotation for pediatric anesthesiology fellows. Successful completion of the rotation is not necessarily dependent on fulfillment of all of these objectives, and remains at the sole discretion of the program director.

### **Patient Care**

General: Fellows must be able to participate fully in the complex and dynamic critical care environment during this month, and to apply knowledge (as outlined below) to the care of patients. Specific objectives include:

1. Obtain a complete history and physical exam of the critical care patient, with emphasis on the events leading to ICU admission, the rapid evaluation/assessment of the patient, and triage/determination of severity of illness in the critically ill child.
2. During ICU work rounds, collect and integrate pertinent clinical and laboratory data in order to formulate management and therapeutic plans for critically ill patients.
3. Optimize the critically ill child for surgery.
4. Manage pain, sedation, hemodynamics, thermoregulation, and fluid and electrolyte homeostasis in routine post-operative patients in the ICU setting.
5. Diagnose and manage unexpected post-operative complications in the ICU setting, including hemodynamic instability, acute respiratory failure, hemorrhage, infection, SIRS, and metabolic derangement.
6. Act in the capacity of a team leader during the resuscitation and stabilization of the pediatric patient in acute cardiopulmonary decompensation or cardiac arrest.
7. Select appropriate vasoactive bolus and infusion medications to treat patients with acute hemodynamic compromise.
8. Assess and manage patients in respiratory failure, including escalation and de-escalation of traditional and nontraditional modes of invasive and noninvasive mechanical ventilation for patients with both acute and chronic respiratory failure.
9. Discuss techniques to treat increased intracranial pressure.
10. Recognize the presence of both single organ dysfunction and multi-organ system failure, and develop appropriate complex treatment plans in conjunction with the multi-disciplinary team.

11. Discuss short-term and long-term sedation strategies for patients in the ICU. Describe the risks of long-term sedative administration.
12. Discuss the pros and cons of both enteral and parental nutrition in critically ill patients.
13. Demonstrate a familiarity with uncommon, high-risk procedures and therapies, including ECMO, inhaled nitric oxide, and renal replacement therapy.
14. Identify challenges of and assist with safe inter-hospital and intra-hospital transport of critically ill patients with an emphasis on preparation/planning, management priorities, personnel assignment, and communication.
15. Define brain death and eligibility for organ recovery. Identify resources to assist patients, families, staff and self with coping with death and dying.
16. Describe the emotional and psychological impact of serious medical and surgical conditions, critical illness, death and organ recovery on pediatric patients and their families.

### **Medical Knowledge**

General: Fellows must be able to demonstrate knowledge about the established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences relevant to critical care medicine. Specific objectives include:

1. Identify pathophysiology and age-dependent variations in presentation and progression of single organ dysfunction and multi-organ dysfunction syndromes, including brain injury, renal failure, cardiogenic shock, ARDS, and liver failure.
2. Discuss indications as well as both common and uncommon complications associated with placement of invasive hemodynamic monitors. Demonstrate application of sterile technique, strategies for confirming placement, and interpretation of data provided by arterial and central venous catheters.
3. Describe unique aspects of critical illness in the immunocompromised child, including infection, graft rejection, and organ dysfunction.
4. Compare and contrast the agents, techniques, and other factors involved with sedation and anesthesia in the ICU with those in the operating room, including understanding the fundamental reasons for these differences such as staffing, goal of sedation, duration of need for sedation, and underlying medical status of the patient, (among others).

5. Be able to discuss strategies for mitigation of opioid and benzodiazepine withdrawal in infants and children.
6. Describe the complex medicolegal and ethical issues surrounding the care of the critically ill child, including assent, consent, informed permission, palliative care, and organ donation.
7. Discuss indications and risks of both parenteral and enteral nutrition.

### **Practice-Based Learning and Improvement**

General: Fellows should be able to recognize personal and practice-based deficits, and should use available resources to appropriately resolve these deficits. Specific objectives include:

1. Recognize personal knowledge gaps, and use ICU downtime or personal time to engage in self-directed learning to resolve these gaps.
2. Apply the concepts of value-based medicine to the practice of the critical care environment, including limitation of unnecessary laboratory/radiographic testing and care de-escalation as patient status will allow.
3. Physically and mentally be present for patient care conferences and structured educational time.
4. Invite and consider feedback, advice and assistance from both faculty members as well as other members of the interdisciplinary ICU team as a means to improve performance.
5. Participate actively in the education of members of the interdisciplinary health care team, both formally and informally, through both example and instruction

### **Interpersonal and Communication Skills**

General: The ICU is a very complex, interdisciplinary environment; as such, full engagement in the team structure and timely, thorough, and clear communication are of the utmost importance. Specific objectives include:

1. Communicate with patients and families in a clear, age-appropriate, and understandable manner, explaining disease process, treatment and alternatives, expected benefits and risks, and rare complications.
2. Collaborate in a cooperative manner with other healthcare professionals, including intensivists, critical care fellows, nurses, respiratory therapists, advanced

practice nurses, social workers, case managers, pharmacists and other health care providers and specialists.

3. Demonstrate empathy with patients and families as well as other staff members in the setting of pediatric critical illness, including understanding of the special psychological needs of the terminally ill child (and her/his family) and the local/institutional resources for assistance with compassionate redirection of care.
4. Demonstrate sensitivity to diversity of moral, ethical and religious beliefs, in addition to sensitivity culture, age, gender, sexual orientation and disabilities.
5. Describe relevant laws and institutional resources to deal with the disclosure of adverse events.
6. Demonstrate appropriate use of techniques for dealing with interpersonal conflict.
7. Communicate relevant information efficiently and appropriately to consulting services and to ICU faculty and staff.
8. Acquire comfort with supportive and compassionate communicating with patients, parents, and family members during crisis situations.

### **Systems-Based Practice**

General: Fellows should recognize that care does not occur in a vacuum; therefore, safe transitions of care, continuous improvement of quality, and an understanding of healthcare economics are key components of the care of the critically ill child.

Specific objectives include:

1. Identify steps to facilitate orderly and effective transitions from one care environment to another with particular emphasis on OR to ICU and ICU to OR transitions and the appropriate use of handoff tools to minimize loss of data in the transition.
2. Participate in collaborative care between pediatric medical and surgical subspecialties in the diagnosis and treatment of critically ill patients.
3. Recognize and report near-miss situations, and analyze system errors to recommend quality improvements, with emphasis on perioperative systems involving critically ill children.
4. Understand and be able to state the daily cost of ICU admission, mechanical ventilation, parenteral nutrition, ECMO, renal replacement therapy, and other complex therapies.

## **Professionalism**

General: The ICU is a physically, emotionally, and psychologically difficult rotation and there are numerous challenges to the fellow's professionalism that may occur. It is expected that fellows will represent the department and the field of anesthesiology with the utmost professionalism despite these challenges. Specific objectives include:

1. Describe and model appropriate behavior (and serve as a resource for other team members) after adverse clinical outcomes.
2. Recognize the need for reflection and self-care in dealing with issues of death, dying, and critical illness in the pediatric patient.
3. Practice and perform the delivery of constructive feedback in a tactful and supportive way to physician and non-physician members of the care team to enhance patient care.
4. Accept feedback from attending physicians and other team members, correlate feedback with self-reflection, and incorporate it into lifelong learning.
5. Demonstrate punctuality in daily arrival to the ICU, conference attendance (when ICU acuity allows), and electronic communication responsiveness.
6. Participate actively in daily patient care rounds and as a member of the patient care team.
7. Acquire comfort with supportive and compassionate communicating with patients, parents, and family members during crisis situations.
8. Demonstrate honesty, reliability, and respect in both verbal and nonverbal communication with patients, family members, ICU team members, and consulting services at all times.
9. Demonstrate respect for patient autonomy and the involvement of patients and families in clinical decision-making, including sensitivity to diverse cultural, moral, ethical, and religious beliefs.
10. Demonstrate compliance with all hospital and ICU protocols and standards, including patient/family confidentiality and HIPAA regulations.
11. Demonstrate behavior that is dependable and trustworthy in fulfilling clinical, administrative, and professional duties including honesty, punctuality, reliability and accountability.

12. Maintain comprehensive, timely and legible medical records. If applicable, utilize the electronic medical record for recordkeeping and computer order entry.

\*Approved by PAPD vote January 2018