

Intensive Care Unit: PGY-1 and -2

PART A: SHOCK AND RESUSCITATION

OBJECTIVES:

Demonstrate an understanding of the pathophysiology of shock and its categories.

Demonstrate an understanding of the mechanisms and pathophysiology of cardiopulmonary arrest.

Demonstrate the ability to manage the treatment of shock and cardiopulmonary arrest.

PATIENT CARE:

1. Complete and pass Advanced Cardiac Life Support (ACLS) training.
2. Apply closed chest cardiac massage.
3. Perform venous access procedures, including subclavian and jugular vein catheterizations and saphenous vein cutdown.
4. Diagnose cardiac arrest and rhythm disturbances.
5. Determine the indication, dosage, contraindications, and method of administration of the following medications:
 - a. Morphine
 - b. Lidocaine and Procainamide
 - c. Bretylium
 - d. Propranolol
 - e. Atropine
 - f. Isoproterenol
 - g. Verapamil
 - h. Epinephrine and norepinephrine
 - i. Dopamine and dobutamine
 - j. Amrinone
 - k. Calcium
 - l. Cardiac glycosides
 - m. Nitroglycerin and nitroprusside
 - n. Furosemide
 - o. Sodium bicarbonate
 - p. Adenosine (Adenocard ®)
6. Estimate volume requirements in acute trauma, burns, and hemorrhage; and institute replacement therapy.
7. Control external blood loss.
8. Use pneumatic antishock garments.
9. Recognize and manage airway obstruction.
10. Perform closed chest defibrillation.
11. Use disposable airway equipment, (e.g., bags, gloves) as transmissible infection precautions.
12. Complete and pass Advanced Trauma Life Support (ATLS) training.
13. Perform endotracheal and nasotracheal intubation.
14. Perform cricothyrotomy and tracheostomy.
15. Manage mechanical ventilatory equipment.

16. Perform pulmonary artery catheterization, including determining catheter position by pressure wave recording and electrocardiogram (EKG).
17. Treat neurogenic shock.
18. Manage cardiogenic and septic shock.
19. Manage flail chest.
20. Manage the unconscious patient.
21. Manage carbon monoxide poisoning.
22. Serve on the code team and the trauma team.

PART B: SURGICAL CRITICAL CARE

OBJECTIVES:

Demonstrate knowledge of the principles associated with the diagnosis and management of critically-ill patients, including knowledge of simple and complex multiple organ system normalities and abnormalities.

Demonstrate the ability to appropriately diagnose and treat patients with interrelated system disorders in the intensive care unit.

PATIENT CARE:

1. Provide initial evaluation and management of the critically-ill postoperative patient.
2. Institute the following therapeutic interventions:
 - a. Manage fluid orders
 - b. Determine ventilator settings
 - c. Order pharmacologic support drugs
 - d. Determine the need for and duration of antibiotic therapy
3. Obtain ACLS and ATLS certification.
4. Perform the following procedures:
 - a. Orotracheal and nasotracheal intubation, nasogastric and bladder intubation
 - b. Arterial catheter insertion
 - c. Central venous and pulmonary artery catheter insertion
 - d. Placement of tube thoracotomy
 - e. Cricothyrotomy
 - f. Pericardiocentesis
5. Serve on code and trauma team.
6. Manage severe burn patients:
 - a. Compute initial fluid requirements
 - b. Determine need for hospitalization or transfer to specialized burn center
 - c. Determine need for ventilation and select initial ventilator settings
 - d. Identify special criterion for injury from the following selected agents:

(1) Inhalation injury	(3) Hydrofluoric acid
(2) Electrical burns	(4) Phosphorus burns
7. Manage severe trauma patients:
 - a. Determine need for ventilation and select initial ventilator settings
 - b. Compute initial and ongoing fluid requirements
 - c. Establish intravenous access
 - d. Analyze need for operative intervention

- e. Determine need for hospitalization postoperatively; for supportive care; or transfer to specialized centers of excellence (e.g., spinal cord center, reimplantation of traumatic amputations)
 - f. Initiate rehabilitation process after stabilization of injuries, including:
 - (1) Attention to possible altered body habitus
 - (2) Requirements for special devices (physical, occupational, or speech therapy)
 - (3) Maintain nutritional status
 - (4) Provide support, interaction, and information for the family
8. Manage septic patients:
- a. Determine need for ventilation and select initial ventilator settings
 - b. Compute initial and ongoing fluid requirements
 - c. Establish intravenous access and maintain with appropriate sterile techniques for evaluation of fever
 - d. Analyze need for operative intervention
 - e. Determine need for ongoing ICU management
 - f. Identify appropriate antibiotic therapy distinguishing between prophylactic, empiric, and therapeutic uses
 - g. Monitor hemodynamic data
 - h. Initiate rehabilitation process after stabilization of injuries