CA

100092.07 Required Course Content

(a)

The content of a paramedic course shall meet the objectives contained in the January 2009 U.S. Department of Transportation (DOT) National Emergency Medical Services Education Standards, DOT HS 811 077E, and be consistent with the paramedic basic scope of practice specified in Section 100091.02(a) of this Chapter. The DOT HS 811 077 E can be accessed through the U.S. DOT National Highway Traffic Safety Administration at the National Highway Traffic Safety Administration http://www.nhtsa.gov/.

(b)

In addition to the above, the content of the training course shall include a minimum of four (4) hours of tactical casualty care (TCC) principles applied to violent circumstances with at least the following topics and skills and shall be competency based: (1) History and Background of Tactical Casualty Care (A) Demonstrate knowledge of tactical casualty care 1. History of active shooter and domestic terrorism incidents 2. Define roles and responsibilities of first responders including Law Enforcement, Fire and EMS 3. Review of local active shooter policies 4. Scope of Practice and Authorized Skills and procedures by level of training, certification, and licensure zone (2) Terminology and definitions (A) Demonstrate knowledge of terminology 1. Hot zone/warm zone/cold zone 2. Casualty collection point 3. Rescue task force 4. Cover/concealment (3)

Coordination, Command and Control (A) Demonstrate knowledge of Incident Command and how agencies are integrated into tactical operations. 1. Demonstrate knowledge of team command, control and communicationa. Incident Command System (ICS) /National Incident Management System (NIMS) b. Mutual Aid considerations c. Unified Command d. Communications, including radio interoperability e. Command post f. Staging areas g. Ingress/egress h. Managing priorities (4) Tactical and Rescue Operations(A) Demonstrate knowledge of tactical and rescue operations1. Tactical Operations -- Law Enforcementa. The priority is to mitigate the threat b. Contact Team c. Rescue Team 2. Rescue Operations -- Law Enforcement/EMS/Fire a. The priority is to provide life-saving interventions to injured parties b. Formation of Rescue Task Force (RTF) c. Casualty collection points (5) Basic Tactical Casualty Care and Evacuation (A) Demonstrate appropriate casualty care at your scope of practice and certification 1. Demonstrate knowledge of the components of the Individual First Aid Kit (IFAK) and/or medical kit. 2. Understand the priorities of Tactical Casualty Care as applied by zone. 3. Demonstrate competency through practical testing of the following medical treatment skills: a. Bleeding control b. Apply Tourniquet i. Self-Application ii. Application on others c. Apply Direct Pressure d. Apply Pressure Dressing e. Apply Hemostatic Dressing with Wound Packing, utilizing California EMSA-approved products 2. Airway and Respiratory management a. Perform Chin Lift/Jaw Thrust Maneuver b. Recovery position c. Position of comfort d. Airway adjuncts 3. Chest/torso wounds a. Apply Chest Seals, vented preferred 4. Demonstrate competency in patient movement and evacuation. a. Drags and lifts. b. Carries 5. Demonstrate knowledge of local multi-casualty/mass casualty incident protocols. a. Triage procedures (START or SALT). b. Casualty Collection Point. c. Triage, Treatment and Transport. (6) Threat Assessment. (A)

Demonstrate knowledge in threat assessment. 1. Understand and demonstrate knowledge of situational awareness. 2. Pre-assessment of community risks and threats. 3. Pre-incident planning and coordination. 4. Medical resources available.

(1)

History and Background of Tactical Casualty Care (A) Demonstrate knowledge of tactical casualty care 1. History of active shooter and domestic terrorism incidents 2. Define roles and responsibilities of first responders including Law Enforcement, Fire and EMS 3. Review of local active shooter policies 4. Scope of Practice and Authorized Skills and procedures by level of training, certification, and licensure zone

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1.

History of active shooter and domestic terrorism incidents

2.

Define roles and responsibilities of first responders including Law Enforcement, Fire and EMS

3.

Review of local active shooter policies

4.

Scope of Practice and Authorized Skills and procedures by level of training, certification, and licensure zone

(2)

Terminology and definitions (A) Demonstrate knowledge of terminology 1. Hot

zone/warm zone/cold zone 2. Casualty collection point 3. Rescue task force 4. Cover/concealment

(A)

Demonstrate knowledge of terminology 1. Hot zone/warm zone/cold zone 2. Casualty collection point 3. Rescue task force 4. Cover/concealment

1.

Hot zone/warm zone/cold zone

2.

Casualty collection point

3.

Rescue task force

4.

Cover/concealment

(3)

Coordination, Command and Control (A) Demonstrate knowledge of Incident Command and how agencies are integrated into tactical operations. 1. Demonstrate knowledge of team command, control and communicationa. Incident Command System (ICS) /National Incident Management System (NIMS) b. Mutual Aid considerations c. Unified Command d. Communications, including radio interoperability e. Command post f. Staging areas g. Ingress/egress h. Managing priorities

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a.

Incident Command System (ICS) /National Incident Management System (NIMS)

b.

Mutual Aid considerations

c.

Unified Command

d.

Communications, including radio interoperability

e.

Command post

f.

Staging areas

g.

Ingress/egress

h.

Managing priorities

(4)

Tactical and Rescue Operations(A) Demonstrate knowledge of tactical and rescue operations1. Tactical Operations -- Law Enforcementa. The priority is to mitigate the threat b. Contact Team c. Rescue Team 2. Rescue Operations -- Law Enforcement/EMS/Fire a. The priority is to provide life-saving interventions to injured

parties b. Formation of Rescue Task Force (RTF) c. Casualty collection points

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1.

Tactical Operations -- Law Enforcementa. The priority is to mitigate the threat b. Contact Team c. Rescue Team

a.

The priority is to mitigate the threat

b.

Contact Team

c.

Rescue Team

2.

Rescue Operations -- Law Enforcement/EMS/Fire a. The priority is to provide life-saving interventions to injured parties b. Formation of Rescue Task Force (RTF) c. Casualty collection points

a.

The priority is to provide life-saving interventions to injured parties

b.

Formation of Rescue Task Force (RTF)

c.

Casualty collection points

(5)

Basic Tactical Casualty Care and Evacuation (A) Demonstrate appropriate casualty care at your scope of practice and certification 1. Demonstrate knowledge of the components of the Individual First Aid Kit (IFAK) and/or medical kit. 2. Understand the priorities of Tactical Casualty Care as applied by zone. 3. Demonstrate competency through practical testing of the following medical treatment skills: a. Bleeding control b. Apply Tourniquet i. Self-Application ii. Application on others c. Apply Direct Pressure d. Apply Pressure Dressing e. Apply Hemostatic Dressing with Wound Packing, utilizing California EMSA-approved products 2. Airway and Respiratory management a. Perform Chin Lift/Jaw Thrust Maneuver b. Recovery position c. Position of comfort d. Airway adjuncts 3. Chest/torso wounds a. Apply Chest Seals, vented preferred 4. Demonstrate competency in patient movement and evacuation. a. Drags and lifts. b. Carries 5. Demonstrate knowledge of local multi-casualty/mass casualty incident protocols. a. Triage procedures (START or SALT). b. Casualty Collection Point. c. Triage, Treatment and Transport.

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Carries 5. Demonstrate knowledge of local multi-casualty/mass casualty incident protocols. a. Triage procedures (START or SALT). b. Casualty Collection Point. c. Triage, Treatment and Transport.

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2. Understand the priorities of Tactical Casualty Care as applied by zone.
3. Demonstrate competency through practical testing of the following medical treatment skills: a. Bleeding control b. Apply Tourniquet i. Self-Application ii. Application on others c. Apply Direct Pressure d. Apply Pressure Dressing e. Apply Hemostatic Dressing with Wound Packing, utilizing California EMSA-approved products
    a. Bleeding control
    b. Apply Tourniquet i. Self-Application ii. Application on others
        i. Self-Application
        ii. Application on others
    c. Apply Direct Pressure
    d. Apply Pressure Dressing
    e. Apply Hemostatic Dressing with Wound Packing, utilizing California EMSA-approved products

2.

Airway and Respiratory management a. Perform Chin Lift/Jaw Thrust Maneuver b. Recovery position c. Position of comfort d. Airway adjuncts

a.

Perform Chin Lift/Jaw Thrust Maneuver

b.

Recovery position

c.

Position of comfort

d.

Airway adjuncts

3.

Chest/torso wounds a. Apply Chest Seals, vented preferred

a.

Apply Chest Seals, vented preferred

4.

Demonstrate competency in patient movement and evacuation. a. Drags and lifts. b. Carries

a.

Drags and lifts.

b.

Carries

5.

Demonstrate knowledge of local multi-casualty/mass casualty incident protocols. a. Triage procedures (START or SALT). b. Casualty Collection Point. c. Triage, Treatment and Transport.

a.

Triage procedures (START or SALT).

b.

Casualty Collection Point.

c.

Triage, Treatment and Transport.

(6)

Threat Assessment. (A) Demonstrate knowledge in threat assessment. 1. Understand and demonstrate knowledge of situational awareness. 2. Pre-assessment of community risks and threats. 3. Pre-incident planning and coordination. 4. Medical resources available.

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1.

Understand and demonstrate knowledge of situational awareness.

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Pre-assessment of community risks and threats.

3.

Pre-incident planning and coordination.

4.

Medical resources available.

(c)

The content of the CCP course shall include: 1. Role of interfacility transport paramedic: (A) Healthcare system (B) Critical care vs. 9-1-1 system (C) Integration and cooperation with other health professionals (D) Hospital documentation and charts (E) Physician orders vs. ALS protocols 2. Medical -- legal issues: (A)

Emergency Medical Treatment and Active Labor Act (EMTALA) (B) Health Insurance Portability and Accountability Act (HIPAA) (C) Review of California paramedic scope of practice (D) Consent issues (E) Do Not Resuscitate (DNR) and Physicians Orders for Life-Sustaining Treatment (POLST) 3. Transport Fundamentals, Safety and Survival (A) Safety of the work environment (B) Transport vehicle integrity checks (C) Equipment functionality checks (D) Transport mode evaluation, indications for critical care transport and policies (E) Aircraft Fundamentals and Safety (F) Flight Physiology (G) Mission safety decisions (H) Scene Safety and Post-accident duties at a crash site (I) Patient Packaging for transport (J) Crew Resource Management (CRM) & Air Medical Resource Management (AMRM) (K) Use of safety equipment while in transport (L) Passenger safety procedures (e.g., specialty teams, family, law enforcement, observer) (M) Hazard observation and correction during transport vehicle operation (N) Stressors related to transport (e.g., thermal, humidity, noise, vibration, or fatigue related conditions) (O) Corrective actions for patient stressors related to transport (P) Operational procedures: (1) Dispatching and deployment (2) Recognition of patients who require a higher level of carea. What to do if you are not comfortable with a transport/ patient. b. When a patient's needs exceed the staffing available on the unit. (3) Review of specific county policies (4) Obtaining and receiving reports from sending/ receiving facilities (5) Re-calculating hanging dose prior to accepting patient (6) Notification to receiving hospital while in route (cell phone) a. Patient status b. Estimated time of arrival (ETA) (7) What to do if the patient deteriorates (8) Diversion issues (9) Wait and return calls -- continuity of care issues (10) Documentationa. Patient consent forms b. Physician order sheets c. Critical care flow sheets 4. Shock and multi-system organ failure (A) Pathophysiology of shock (B) Types of shock (C)

Shock management (D) Multi-system organ failure 1. Recognition and management of sepsis 2. Recognition and management of disseminated intravascular coagulation (DIC) 5. Basic Physiology for Critical Care Transport and Laboratory and Diagnostic Analysis Laboratory values: (A) Arterial blood gases 1. The potential hydrogen (pH) scale 2. Bodily regulation of acid-base balance 3. Practical evaluation of arterial blood gas results (B) Review of the following to include normal and abnormal values and implications 1. Urinalysisa. Normal output b. Specific gravity c. pH range 2. Complete blood count (CBC) a. Hematocrit and Hemoglobin (H&H) b. Red blood cell (RBC) c. White blood cell (WBC) with differential d. Platelets 3. Other a. Albumin b. Alkaline phosphate c. Alanine transaminase (ALT) d. Aspartate transaminase (AST) e. Bilirubin f. Calcium g. Chloride h. Creatine Kinase (CK) (total and fractions) i. Creatinine j. Glucose k. Lactate l. Lactic dehydrogenase (LDH) m. Lipase 4. Magnesium 5. Phosphate 6. Potassium 7. Procalcitonin 8. Protein, total 9. Prothrombin Time (PT) and Activated Partial Thromboplastin Time (PTT) 10. Sodium 11. Troponin 12. Urea nitrogen (C) Practical application of laboratory values to patient presentations (D) Use of laboratory devices for point of care testing (eg: ISTAT) (E) Radiographic Interpretation (F) Wherever appropriate, the above education should include information regarding radiographic findings, pertinent laboratory and bedside testing, and pharmacological interventions 6. Critical Care Pharmacology and Infusion Therapy Pharmacology and infusion therapies: (A) Review of common medications encountered in the critical care environment to include those in the following categories: 1. Analgesics 2. Antianginals 3. Antiarrhythmics 4. Antibiotics 5. Anticoagulants 6. Antiemetics 7. Anti-inflammatory agents 8. Antihypertensives 9. Antiplatelets 10. Antitoxins 11. Benzodiazepines 12. Bronchodilaters 13. Glucocorticoids 14. Glycoprotein IIb/IIIa inhibitors 15.

Histamine Blockers (1 and 2) 16. Induction agents 17. Neuroleptics 18. Osmotic diuretics 19. Paralytics 20. Proton Pump Inhibitors 21. Sedatives 22. Thrombolytics 23. Total Parenteral Nutrition 24. Vasopressors 25. Volume expanders (B) Review of drug calculation mathematics 1. IV bolus medication 2. IV infusion rates a. By volume b. By rate (C) Detailed instruction (drug action and indications, dosages, IV calculation, adverse reactions, contraindications and precautions) on following medications:1. IV nitroglycerin (NTG) 2. Heparin 3. Potassium chloride (KCl) infusion 4. Lidocaine (D) Blood and blood products 1. Blood components and their uses in therapy 2. Administrative procedures 3. Administration of blood products 4. Transfusion reactions -- recognition, management (E) Infusion pumps: 1. Set up and maintain IV fluid and medication delivery pumps and devices 2. Discussion of various pumps that may be encountered 3. Discussion of prevention of "run-away" IV lines while transitioning 4. Practical application of transfer of IV infusions, setting drip rates and troubleshooting (F) Procedures to be used when re-establishing IV lines1. Hemodynamic monitoring and invasive lines: a. Non-invasive monitoring 1) Non-invasive blood pressure (NIBP) 2) Pulse oximetry 3) Capnography 4) Heart and bowel sound auscultation b. Intraosseous (IO) access and infusion -- the student must demonstrate competency in the skill of IO infusion c. Central Venous Access 1) Subclavian -- the student must demonstrate competency in the skill of subclavian access. 2) Internal jugular -- the student must demonstrate competency in the skill of internal jugular access. 3) Femoral approach -- the student must demonstrate competency in the skill of femoral access. 6. Respiratory Patient Management (A) Pulmonary anatomy and physiology1. Upper and lower airway anatomy 2. Mechanics of ventilation and oxygenation 3. Gas Exchange 4. Oxyhemoglobin dissociation (B) Detailed assessment of the respiratory patient 1. Obtaining a relevant history 2. Physical

exam 3. Breath sounds 4. Percussion (C) Causes, pathophysiology, and stages of respiratory failure (D) Assessment and management of patients with respiratory compromise 1. Respiratory failure 2. Atelectasis 3. Pneumonia 4. Pulmonary embolism 5. Pneumothorax 6. Spontaneous pneumothorax 7. Hemothorax 6. Pleural effusion 7. Pulmonary edema 8. Chronic obstructive pulmonary disease 9. Adult respiratory distress syndrome (ARDS) (E) Differential diagnosis of acute and chronic conditions (F) Management of patient status using 1. Laboratory values, to include but not limited to,a. Blood gas values, b. Use of ISTAT 2. Diagnostic equipment a. Pulse oximetry, b. Capnography c. Chest radiography d. CO-Oximetry (carbon monoxide measurement) (G) Application of pharmacologic agents for the respiratory patient (H) Management of complications during transport of the respiratory patient 7. Advanced Airway and Breathing Management Techniques (A) Indications for basic and advanced airway management 1. Crash airway assessment and management 2. Deteriorating airway assessment and management (B) Indications, contraindications, complications, and management for specific airway and breathing interventions 1. Needle Cricothyroidotomy 2. Surgical Cricothyroidotomy -- the student must demonstrate competency in the skill of surgical cricothyroidotomy. 3. Tracheostomiesa. Types of tracheostomies b. Tracheostomy care 4. Endotracheal intubation -- adult, pediatric, and neonatal a. Nasotracheal intubation b. Rapid Sequence Intubation (RSI) -- the student must demonstrate competency in the skill of RSI. c. Perilaryngeal airway devices 1) Combitube 2) King Airway 3) Supraglottic airway devices 4) Laryngeal mask airway devices 5. Pleural decompression 6. Chest tubes a. Set up and maintain thoracic drainage systems b. Operation of and troubleshooting c. Indications for and positioning of dependent tubing d. Varieties available e. Gravity drainage f. Suction drainage g.

On-going assessments of drainage amount and color 7. Portable ventilators a. Principles of ventilator operation b. Set-up and maintain mechanical ventilation devices c. Procedures for transferring ventilator patients d. Complications of ventilator management e. Troubleshooting and practical application (C) Perform advanced airway and breathing management techniques1. Endotracheal intubation -- adult, pediatric, and neonatal 2. Nasotracheal intubation 3. Rapid Sequence Intubation (RSI) 4. Pleural decompression (D) Failed airway management and algorithms (E) Perform alternative airway management techniques1. Needle Cricothyroidotomy 2. Surgical Cricothyroidotomy 3. Retrograde intubation 4. Perilaryngeal airway devices 5. Supraglottic airway devices 6. Laryngeal mask airway devices (F) Airway management and ventilation monitoring techniques during transport (G) Use of mechanical ventilation (H) Administer pharmacology agent for continued airway management 8. Cardiac Patient Management (A) Cardiac Anatomy and Physiology and Pathophysiology (B) Detailed Assessment of the Cardiac Patient (C) Assessment and Management of patients with cardiac events1. Acute coronary syndromes, 2. Heart failure, 3. Cardiogenic shock, 4. Primary arrhythmias, 5. Hemodynamic instability 6. Vascular Emergencies (D) Invasive monitoring (use, care, and complication management)1. Arterial 2. Central venous pressure (CVP)(E) Vascular access devices usage and maintenance (F) Dressing and site care (G) Management of complications (H) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 3. 12-lead EKG interpretation: a. Essential 12-lead interpretation b. Acquisition and transmission c. Acute coronary syndromes d. The high acuity patient e. Bundle branch block and the imitators of acute coronary syndrome (ACS) f. Theory and Use of cardiopulmonary support devices as part of patient management 1)

Ventricular assist devices, 2) Transvenous pacer, 3) Intra-aortic balloon pump g. Application of Pharmacologic agents in Cardiac Emergencies h. Management of complications of cardiac patients i. Implanted cardioverter defibrillators: 1) Eligible populations 2) Mechanism 3) Complications and patient management j. Cardiac pacemakers1) Normal operations, troubleshooting and loss of capturea). Implanted devices b). Unipolar and bipolar (2) Temporary pacemakers (3) Transcutaneous pacing 9. Trauma Patient Management (A) Differentiate injury patterns associated with specific mechanisms of injury (B) Rate a trauma victim using the Trauma Score, to include but not be limited to glasgow coma score, injury severity score, and revised trauma score (C) Identify patients who meet trauma center criteria (D) Perform a comprehensive assessment of the trauma patient (E) Initiate the critical interventions for the management of the trauma patient 1. Manage the patient with life-threatening thoracic injuriesa. Tension pneumothorax, b. Pneumothorax, c. Hemothorax, d. Flail chest, e. Cardiac tamponade, f. Myocardial rupture 2. Manage the patient with abdominal injuries a. diaphragm, b. liver, c. spleen 3. Manage the patient with orthopedic injuries (e.g. pelvic, femur, spinal) 4. Manage the patient with neurologic injuriesa. Subdural, b. Epidural, c. Increased ICP (F) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (G) Application of pharmacologic agents for trauma management (H) Manage trauma patient emergencies and complications1. the student must demonstrate competency in the skill of chest tube thoracostomy. 2. The student must demonstrate competency in the skill of pericardiocentesis, (I) Administer blood and blood products (J) Trauma considerations: 1. Trauma assessment, 2. Adult thoracic & abdominal trauma, 3. Vascular trauma, 4. Musculoskeletal trauma, 5. Burns, 6. Ocular

trauma, 7. Maxillofacial trauma, 8. Penetrating & blunt trauma, 9. Distributive & hypovolemic shock states, 10. Trauma Systems & Trauma Scoring, and 11. Kinematics of trauma & injury patterns. 10. Neurologic Patient Management (A) Perform an assessment of the patient (B) Conduct differential diagnosis of patients with coma (C) Manage patients with seizures (D) Manage patients with cerebral ischemia (E) Initiate the critical interventions for the management of a patient with a neurologic emergency (F) Provide care for a patient with a neurologic emergency1. Trauma neurological emergencies 2. Medical neurological emergencies 3. Cerebrovascular Accidents, 4. Neurological shock states (G) Assess a patient using the Glasgow coma scale (H) Manage patients with head injuries (I) Manage patients with spinal cord injuries (J) Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (K) Intracranial Pressure monitoring. (L) Application of pharmacologic agents for neurologic patients (M) Manage neurologic patient complications 11. Toxic Exposure and Environmental Patient Management(A) Toxic Exposure Patient 1. Perform a detailed assessment of the patient 2. Decontaminate toxicological patients (e.g., chemical/biological/radiological exposure) 3. Administer poison antidotes 4. Provide care for victims of envenomation a. Snake bite, b. Scorpion sting, c. Spider bite 5. Manage patient's status using a. Laboratory values (e.g., blood gas values, ISTAT) b. Diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 6. Administer pharmacologic agents 7. Manage toxicological patients a. Medication overdose, b. Chemical/biological/radiological exposure 8. Manage toxicological patient complications (B) Environmental Patient 1. Perform an assessment of the patient 2. Manage the patient experiencing a cold-related illnessa. Frostbite, b. Hypothermia, c. Cold water submersion 3. Manage the

patient experiencing a heat-related illnessa. Heat stroke, b. Heat exhaustion, c. Heat cramps 4. Manage the patient experiencing a diving-related illness a. Decompression sickness, b. Arterial gas emboli, c. Near drowning 5. Manage the patient experiencing altitude-related illness 6. Manage patient's status usinga. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 7. Application for pharmacologic agents for toxic exposure and environmental patients 8. Treat patient with environmental complications (C) Toxicology: 1. Toxic exposures, 2. Poisonings, 3. Overdoses, 4. Envenomations, 5. Anaphylactic shock, and 6. Infections diseases. 12. Obstetrical Patient Management (A) Perform a detailed assessment of the patient (B) Assess and Manage fetal distress (C) Manage obstetrical patients (D) Assess uterine contraction pattern (E) Conduct interventions for obstetrical emergencies and complications 1. Pregnancy induced hypertension, 2. Hypertonic or titanic contractions, 3. Cord prolapse, 4. Placental abruption 5. Severe preeclampsia involving hemolysis, elevated liver function, and low platelets (HELLP) syndrome. (F) Determine if transport can safely be attempted or if delivery should be accomplished at the referring facility (G) Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (H) Application of pharmacologic agents for obstetrical patient management (I) Manage emergent delivery and post-partum complications (J) Special Considerations in Obstetrics (OB)/ Gynecology (GYN) Patients1. Trauma in pregnancy, 2. Renal disorders, 3. Reproductive system disorders 13. Neonatal and Pediatric Patient Management(A) Neonatal Patient1. Perform a detailed assessment of the neonatal patienta. Management & delivery of the full-term or pre-term newborn, b. Management of the complications of delivery 2. Manage the

resuscitation of the neonate, includinga. Umbilical artery catheterization -- the student must demonstrate the skill of umbilical catheterization. b. Neonatal Resuscitation Program & Pediatric Advanced Life Support. 3. Manage patient's status using diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 4. Application of pharmacologic agents for neonatal patient management 5. Manage neonatal patient complications (B) Pediatric Patient 1. Perform a detailed assessment of the pediatric patient 2. Manage the pediatric patient experiencing a medical eventa. Respiratory b. Toxicity c. Cardiac d. Environmental e. Gastrointestinal (GI) f. Endocrine/Metabolic f. Neurological g. Infectious processes 3. Manage the pediatric patient experiencing a traumatic eventa. Single vs. multiple system b. Burns c. Non-accidental trauma 4. Manage patient's status using a. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) c. Application of pharmacologic agents for pediatric patient management d. Treat patient with pediatric complications 5. Considerations for Special needs children. 14. Burn Patient Management(A) Perform a detailed assessment of the patient (B) Calculate the percentage of total body surface area burned (C) Manage fluid replacement therapy (D) Manage inhalation injuries in burn injury patients (E) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (F) Application of pharmacologic agents for burn patient management (G) Provide treatment of burn complications -- the student must demonstrate competency in the skill of escharotomy. 15. General Medical Patient Management (A) Perform an assessment of the patient (B) Manage patients experiencing a medical condition1. Abdominal aortic aneurysm (AAA), 2. GI bleed, 3. Bowel obstruction, 4. Hyperosmolar Hyperglycemic Non-Ketotic Coma

(HHNC) 5. Septic shock, 6. Neurologic emergencies 7. Hypertensive emergencies, 8. Environmental emergencies, 9. Coagulopathies, 10. Endocrine emergencies, (C) Use of invasive monitoring for the purpose of clinical management (D) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (E) Application of pharmacologic agents for general medical patient management (F) Treat patient with general medical complications (G) Transport considerations of patients with renal or peritoneal dialysis (H) Transport of Patients with Infection Diseases:1. Pathogens a. Human immunodeficiency virus (HIV) b. Hepatitis c. Vancomycin resistant enterococcus (VRE) d. Multiple-antibiotic resistant bacteria (MRSA) e. Tuberculosis (TB) f. Immunocompromised g. Others as appropriate (I) Transport and Management of Patients with Indwelling tubes 1. Urinary a. Foleys b. Suprapubic 2. Nasogastric (NG) 3. Percutaneous endoscopic gastric (PEG) 4. Dobhoff tube

1.

Role of interfacility transport paramedic: (A) Healthcare system (B) Critical care vs. 9-1-1 system (C) Integration and cooperation with other health professionals (D) Hospital documentation and charts (E) Physician orders vs. ALS protocols

(A)

Healthcare system

(B)

Critical care vs. 9-1-1 system

(C)

Integration and cooperation with other health professionals

(D)

Hospital documentation and charts

(E)

Physician orders vs. ALS protocols

2.

Medical -- legal issues: (A) Emergency Medical Treatment and Active Labor Act (EMTALA) (B) Health Insurance Portability and Accountability Act (HIPAA) (C) Review of California paramedic scope of practice (D) Consent issues (E) Do Not Resuscitate (DNR) and Physicians Orders for Life-Sustaining Treatment (POLST)

(A)

Emergency Medical Treatment and Active Labor Act (EMTALA)

(B)

Health Insurance Portability and Accountability Act (HIPAA)

(C)

Review of California paramedic scope of practice

(D)

Consent issues

(E)

Do Not Resuscitate (DNR) and Physicians Orders for Life-Sustaining Treatment (POLST)

3.

Transport Fundamentals, Safety and Survival (A) Safety of the work environment (B) Transport vehicle integrity checks (C) Equipment functionality checks (D) Transport mode evaluation, indications for critical care transport and policies (E) Aircraft Fundamentals and Safety (F) Flight Physiology (G) Mission safety decisions (H) Scene Safety and Post-accident duties at a crash site (I) Patient Packaging for transport (J) Crew Resource Management (CRM) & Air Medical Resource Management (AMRM) (K) Use of safety equipment while in transport (L) Passenger safety procedures (e.g., specialty teams, family, law enforcement, observer) (M) Hazard observation and

correction during transport vehicle operation (N) Stressors related to transport (e.g., thermal, humidity, noise, vibration, or fatigue related conditions) (O) Corrective actions for patient stressors related to transport (P) Operational procedures: (1) Dispatching and deployment (2) Recognition of patients who require a higher level of carea. What to do if you are not comfortable with a transport/ patient. b. When a patient's needs exceed the staffing available on the unit. (3) Review of specific county policies (4) Obtaining and receiving reports from sending/ receiving facilities (5) Re-calculating hanging dose prior to accepting patient (6) Notification to receiving hospital while in route (cell phone) a. Patient status b. Estimated time of arrival (ETA) (7) What to do if the patient deteriorates (8) Diversion issues (9) Wait and return calls -- continuity of care issues (10) Documentationa. Patient consent forms b. Physician order sheets c. Critical care flow sheets

(A)

Safety of the work environment

(B)

Transport vehicle integrity checks

(C)

Equipment functionality checks

(D)

Transport mode evaluation, indications for critical care transport and policies

(E)

Aircraft Fundamentals and Safety

(F)

Flight Physiology

(G)

Mission safety decisions

(H)

Scene Safety and Post-accident duties at a crash site

(I)

Patient Packaging for transport

(J)

Crew Resource Management (CRM) & Air Medical Resource Management (AMRM)

(K)

Use of safety equipment while in transport

(L)

Passenger safety procedures (e.g., specialty teams, family, law enforcement, observer)

(M)

Hazard observation and correction during transport vehicle operation

(N)

Stressors related to transport (e.g., thermal, humidity, noise, vibration, or fatigue related conditions)

(O)

Corrective actions for patient stressors related to transport

(P)

Operational procedures: (1) Dispatching and deployment (2) Recognition of patients who require a higher level of carea. What to do if you are not comfortable with a transport/ patient. b. When a patient's needs exceed the staffing available on the unit. (3) Review of specific county policies (4) Obtaining and receiving reports from sending/ receiving facilities (5) Re-calculating hanging dose prior to accepting patient (6) Notification to receiving hospital while in route (cell phone) a. Patient status b. Estimated time of arrival (ETA) (7) What to do if the patient deteriorates (8) Diversion issues (9) Wait and return calls -- continuity of care issues (10) Documentationa. Patient consent forms b. Physician order

sheets c. Critical care flow sheets

(1)

Dispatching and deployment

(2)

Recognition of patients who require a higher level of carea. What to do if you are not comfortable with a transport/ patient. b. When a patient's needs exceed the staffing available on the unit.

a.

What to do if you are not comfortable with a transport/ patient.

b.

When a patient's needs exceed the staffing available on the unit.

(3)

Review of specific county policies

(4)

Obtaining and receiving reports from sending/ receiving facilities

(5)

Re-calculating hanging dose prior to accepting patient

(6)

Notification to receiving hospital while in route (cell phone) a. Patient status b. Estimated time of arrival (ETA)

a.

Patient status

b.

Estimated time of arrival (ETA)

(7)

What to do if the patient deteriorates

(8)

Diversion issues

(9)

Wait and return calls -- continuity of care issues

(10)

Documentationa. Patient consent forms b. Physician order sheets c. Critical care flow sheets

a.

Patient consent forms

b.

Physician order sheets

c.

Critical care flow sheets

4.

Shock and multi-system organ failure (A) Pathophysiology of shock (B) Types of shock (C) Shock management (D) Multi-system organ failure 1. Recognition and management of sepsis 2. Recognition and management of disseminated intravascular coagulation (DIC)

(A)

Pathophysiology of shock

(B)

Types of shock

(C)

Shock management

(D)

Multi-system organ failure 1. Recognition and management of sepsis 2. Recognition and management of disseminated intravascular coagulation (DIC)

1.

Recognition and management of sepsis

2.

Recognition and management of disseminated intravascular coagulation (DIC)

5.

Basic Physiology for Critical Care Transport and Laboratory and Diagnostic Analysis Laboratory values: (A) Arterial blood gases 1. The potential hydrogen (pH) scale 2. Bodily regulation of acid-base balance 3. Practical evaluation of arterial blood gas results (B) Review of the following to include normal and abnormal values and implications 1. Urinalysisa. Normal output b. Specific gravity c. pH range 2. Complete blood count (CBC) a. Hematocrit and Hemoglobin (H&H) b. Red blood cell (RBC) c. White blood cell (WBC) with differential d. Platelets 3. Other a. Albumin b. Alkaline phosphate c. Alanine transaminase (ALT) d. Aspartate transaminase (AST) e. Bilirubin f. Calcium g. Chloride h. Creatine Kinase (CK) (total and fractions) i. Creatinine j. Glucose k. Lactate l. Lactic dehydrogenase (LDH) m. Lipase 4. Magnesium 5. Phosphate 6. Potassium 7. Procalcitonin 8. Protein, total 9. Prothrombin Time (PT) and Activated Partial Thromboplastin Time (PTT) 10. Sodium 11. Troponin 12. Urea nitrogen (C) Practical application of laboratory values to patient presentations (D) Use of laboratory devices for point of care testing (eg: ISTAT) (E) Radiographic Interpretation (F) Wherever appropriate, the above education should include information regarding radiographic findings, pertinent laboratory and bedside testing, and pharmacological interventions

(A)

Arterial blood gases 1. The potential hydrogen (pH) scale 2. Bodily regulation of acid-base balance 3. Practical evaluation of arterial blood gas results

1.

The potential hydrogen (pH) scale

2.

Bodily regulation of acid-base balance

3.

Practical evaluation of arterial blood gas results

(B)

Review of the following to include normal and abnormal values and implications 1. Urinalysisa. Normal output b. Specific gravity c. pH range 2. Complete blood count (CBC) a. Hematocrit and Hemoglobin (H&H) b. Red blood cell (RBC) c. White blood cell (WBC) with differential d. Platelets 3. Other a. Albumin b. Alkaline phosphate c. Alanine transaminase (ALT) d. Aspartate transaminase (AST) e. Bilirubin f. Calcium g. Chloride h. Creatine Kinase (CK) (total and fractions) i. Creatinine j. Glucose k. Lactate l. Lactic dehydrogenase (LDH) m. Lipase 4. Magnesium 5. Phosphate 6. Potassium 7. Procalcitonin 8. Protein, total 9. Prothrombin Time (PT) and Activated Partial Thromboplastin Time (PTT) 10. Sodium 11. Troponin 12. Urea nitrogen

1.

Urinalysisa. Normal output b. Specific gravity c. pH range

a.

Normal output

b.

Specific gravity

c.

pH range

2.

Complete blood count (CBC) a. Hematocrit and Hemoglobin (H&H) b. Red blood cell (RBC) c. White blood cell (WBC) with differential d. Platelets

a.

Hematocrit and Hemoglobin (H&H)

b.

Red blood cell (RBC)

c.

White blood cell (WBC) with differential

d.

Platelets

3.

Other a. Albumin b. Alkaline phosphate c. Alanine transaminase (ALT) d. Aspartate transaminase (AST) e. Bilirubin f. Calcium g. Chloride h. Creatine Kinase (CK) (total and fractions) i. Creatinine j. Glucose k. Lactate l. Lactic dehydrogenase (LDH) m. Lipase

a.

Albumin

b.

Alkaline phosphate

c.

Alanine transaminase (ALT)

d.

Aspartate transaminase (AST)

e.

Bilirubin

f.

Calcium

g.

Chloride

h.

Creatine Kinase (CK) (total and fractions)

i.

Creatinine

j.

Glucose

k.

Lactate

l.

Lactic dehydrogenase (LDH)

m.

Lipase

4.

Magnesium

5.

Phosphate

6.

Potassium

7.

Procalcitonin

8.

Protein, total

9.

Prothrombin Time (PT) and Activated Partial Thromboplastin Time (PTT)

10.

Sodium

11.

Troponin

12.

Urea nitrogen

(C)

Practical application of laboratory values to patient presentations

(D)

Use of laboratory devices for point of care testing (eg: ISTAT)

(E)

Radiographic Interpretation

(F)

Wherever appropriate, the above education should include information regarding radiographic findings, pertinent laboratory and bedside testing, and pharmacological interventions

6.

Critical Care Pharmacology and Infusion Therapy Pharmacology and infusion therapies: (A) Review of common medications encountered in the critical care environment to include those in the following categories: 1. Analgesics 2. Antianginals 3. Antiarrhythmics 4. Antibiotics 5. Anticoagulants 6. Antiemetics 7. Anti-inflammatory agents 8. Antihypertensives 9. Antiplatelets 10. Antitoxins 11. Benzodiazepines 12. Bronchodilaters 13. Glucocorticoids 14. Glycoprotein IIb/IIIa inhibitors 15. Histamine Blockers (1 and 2) 16. Induction agents 17. Neuroleptics 18. Osmotic diuretics 19. Paralytics 20. Proton Pump Inhibitors 21. Sedatives 22. Thrombolytics 23. Total Parenteral Nutrition 24. Vasopressors 25. Volume expanders (B) Review of drug calculation mathematics 1. IV bolus medication 2. IV infusion rates a. By volume b. By rate (C) Detailed instruction (drug action and indications, dosages, IV calculation, adverse reactions, contraindications and precautions) on following medications:1. IV

nitroglycerin (NTG) 2. Heparin 3. Potassium chloride (KCI) infusion 4. Lidocaine (D) Blood and blood products 1. Blood components and their uses in therapy 2. Administrative procedures 3. Administration of blood products 4. Transfusion reactions -- recognition, management (E) Infusion pumps: 1. Set up and maintain IV fluid and medication delivery pumps and devices 2. Discussion of various pumps that may be encountered 3. Discussion of prevention of "run-away" IV lines while transitioning 4. Practical application of transfer of IV infusions, setting drip rates and troubleshooting (F) Procedures to be used when re-establishing IV lines1. Hemodynamic monitoring and invasive lines: a. Non-invasive monitoring 1) Non-invasive blood pressure (NIBP) 2) Pulse oximetry 3) Capnography 4) Heart and bowel sound auscultation b. Intraosseous (IO) access and infusion -- the student must demonstrate competency in the skill of IO infusion c. Central Venous Access 1) Subclavian -- the student must demonstrate competency in the skill of subclavian access. 2) Internal jugular -- the student must demonstrate competency in the skill of internal jugular access. 3) Femoral approach -- the student must demonstrate competency in the skill of femoral access.

(A)

Review of common medications encountered in the critical care environment to include those in the following categories: 1. Analgesics 2. Antianginals 3. Antiarrhythmics 4. Antibiotics 5. Anticoagulants 6. Antiemetics 7. Anti-inflammatory agents 8. Antihypertensives 9. Antiplatelets 10. Antitoxins 11. Benzodiazepines 12. Bronchodilaters 13. Glucocorticoids 14. Glycoprotein IIb/IIIa inhibitors 15. Histamine Blockers (1 and 2) 16. Induction agents 17. Neuroleptics 18. Osmotic diuretics 19. Paralytics 20. Proton Pump Inhibitors 21. Sedatives 22. Thrombolytics 23. Total Parenteral Nutrition 24. Vasopressors 25. Volume expanders

1.

Analgesics

2.

Antianginals

3.

Antiarrhythmics

4.

Antibiotics

5.

Anticoagulants

6.

Antiemetics

7.

Anti-inflammatory agents

8.

Antihypertensives

9.

Antiplatelets

10.

Antitoxins

11.

Benzodiazepines

12.

Bronchodilaters

13.

Glucocorticoids

14.

Glycoprotein IIb/IIIa inhibitors

15.

Histamine Blockers (1 and 2)

16.

Induction agents

17.

Neuroleptics

18.

Osmotic diuretics

19.

Paralytics

20.

Proton Pump Inhibitors

21.

Sedatives

22.

Thrombolytics

23.

Total Parenteral Nutrition

24.

Vasopressors

25.

Volume expanders

(B)

Review of drug calculation mathematics 1. IV bolus medication 2. IV infusion rates a. By volume b. By rate

1.

IV bolus medication

2.

IV infusion rates a. By volume b. By rate

a.

By volume

b.

By rate

(C)

Detailed instruction (drug action and indications, dosages, IV calculation, adverse reactions, contraindications and precautions) on following medications:1. IV nitroglycerin (NTG) 2. Heparin 3. Potassium chloride (KCl) infusion 4. Lidocaine

1.

IV nitroglycerin (NTG)

2.

Heparin

3.

Potassium chloride (KCl) infusion

4.

Lidocaine

(D)

Blood and blood products 1. Blood components and their uses in therapy 2. Administrative procedures 3. Administration of blood products 4. Transfusion reactions -- recognition, management

1.

Blood components and their uses in therapy

2.

Administrative procedures

3.

Administration of blood products

4.

Transfusion reactions -- recognition, management

(E)

Infusion pumps: 1. Set up and maintain IV fluid and medication delivery pumps and devices 2. Discussion of various pumps that may be encountered 3. Discussion of prevention of "run-away" IV lines while transitioning 4. Practical application of transfer of IV infusions, setting drip rates and troubleshooting

1.

Set up and maintain IV fluid and medication delivery pumps and devices

2.

Discussion of various pumps that may be encountered

3.

Discussion of prevention of "run-away" IV lines while transitioning

4.

Practical application of transfer of IV infusions, setting drip rates and troubleshooting

(F)

Procedures to be used when re-establishing IV lines1. Hemodynamic monitoring and invasive lines: a. Non-invasive monitoring 1) Non-invasive blood pressure (NIBP) 2) Pulse oximetry 3) Capnography 4) Heart and bowel sound auscultation b. Intraosseous (IO) access and infusion -- the student must demonstrate competency in the skill of IO infusion c. Central Venous Access 1) Subclavian -- the student must demonstrate competency in the skill of subclavian access. 2) Internal jugular -- the student must demonstrate competency in the skill of internal jugular access. 3) Femoral approach -- the student must demonstrate

competency in the skill of femoral access.

1.

Hemodynamic monitoring and invasive lines: a. Non-invasive monitoring 1) Non-invasive blood pressure (NIBP) 2) Pulse oximetry 3) Capnography 4) Heart and bowel sound auscultation b. Intraosseous (IO) access and infusion -- the student must demonstrate competency in the skill of IO infusion c. Central Venous Access 1) Subclavian -- the student must demonstrate competency in the skill of subclavian access. 2) Internal jugular -- the student must demonstrate competency in the skill of internal jugular access. 3) Femoral approach -- the student must demonstrate competency in the skill of femoral access.

a.

Non-invasive monitoring 1) Non-invasive blood pressure (NIBP) 2) Pulse oximetry 3) Capnography 4) Heart and bowel sound auscultation

1)

Non-invasive blood pressure (NIBP)

2)

Pulse oximetry

3)

Capnography

4)

Heart and bowel sound auscultation

b.

Intraosseous (IO) access and infusion -- the student must demonstrate competency in the skill of IO infusion

c.

Central Venous Access 1) Subclavian -- the student must demonstrate competency in the skill of subclavian access. 2) Internal jugular -- the student must demonstrate competency in the skill of internal jugular access. 3) Femoral approach -- the student must demonstrate competency in the skill of femoral access.

1)

Subclavian -- the student must demonstrate competency in the skill of subclavian access.

2)

Internal jugular -- the student must demonstrate competency in the skill of internal jugular access.

3)

Femoral approach -- the student must demonstrate competency in the skill of femoral access.

6.

Respiratory Patient Management (A) Pulmonary anatomy and physiology1. Upper and lower airway anatomy 2. Mechanics of ventilation and oxygenation 3. Gas Exchange 4. Oxyhemoglobin dissociation (B) Detailed assessment of the respiratory patient 1. Obtaining a relevant history 2. Physical exam 3. Breath sounds 4. Percussion (C) Causes, pathophysiology, and stages of respiratory failure (D) Assessment and management of patients with respiratory compromise 1. Respiratory failure 2. Atelectasis 3. Pneumonia 4. Pulmonary embolism 5. Pneumothorax 6. Spontaneous pneumothorax 7. Hemothorax 6. Pleural effusion 7. Pulmonary edema 8. Chronic obstructive pulmonary disease 9. Adult respiratory distress syndrome (ARDS) (E) Differential diagnosis of acute and chronic conditions (F) Management of patient status using 1. Laboratory values, to include but not limited to,a. Blood gas values, b. Use of ISTAT 2. Diagnostic equipment a. Pulse oximetry, b. Capnography c. Chest radiography d. CO-Oximetry (carbon monoxide measurement) (G) Application of pharmacologic agents for the respiratory patient (H) Management of complications during transport of the respiratory patient

(A)

Pulmonary anatomy and physiology1. Upper and lower airway anatomy 2. Mechanics of ventilation and oxygenation 3. Gas Exchange 4. Oxyhemoglobin dissociation

1.

Upper and lower airway anatomy

2.

Mechanics of ventilation and oxygenation

3.

Gas Exchange

4.

Oxyhemoglobin dissociation

(B)

Detailed assessment of the respiratory patient 1. Obtaining a relevant history 2. Physical exam 3. Breath sounds 4. Percussion

1.

Obtaining a relevant history

2.

Physical exam

3.

Breath sounds

4.

Percussion

(C)

Causes, pathophysiology, and stages of respiratory failure

(D)

Assessment and management of patients with respiratory compromise 1. Respiratory failure 2. Atelectasis 3. Pneumonia 4. Pulmonary embolism 5. Pneumothorax 6. Spontaneous pneumothorax 7. Hemothorax 6. Pleural effusion 7. Pulmonary edema 8. Chronic obstructive pulmonary disease 9. Adult respiratory distress syndrome (ARDS)

1.

Respiratory failure

2.

Atelectasis

3.

Pneumonia

4.

Pulmonary embolism

5.

Pneumothorax

6.

Spontaneous pneumothorax

7.

Hemothorax

6.

Pleural effusion

7.

Pulmonary edema

8.

Chronic obstructive pulmonary disease

9.

Adult respiratory distress syndrome (ARDS)

(E)

Differential diagnosis of acute and chronic conditions

(F)

Management of patient status using 1. Laboratory values, to include but not limited to,a. Blood gas values, b. Use of ISTAT 2. Diagnostic equipment a. Pulse oximetry, b.

Capnography c. Chest radiography d. CO-Oximetry (carbon monoxide measurement)

1.

Laboratory values, to include but not limited to,a. Blood gas values, b. Use of ISTAT

a.

Blood gas values,

b.

Use of ISTAT

2.

Diagnostic equipment a. Pulse oximetry, b. Capnography c. Chest radiography d. CO-Oximetry (carbon monoxide measurement)

a.

Pulse oximetry,

b.

Capnography

c.

Chest radiography

d.

CO-Oximetry (carbon monoxide measurement)

(G)

Application of pharmacologic agents for the respiratory patient

(H)

Management of complications during transport of the respiratory patient

7.

Advanced Airway and Breathing Management Techniques (A) Indications for basic and advanced airway management 1. Crash airway assessment and management 2. Deteriorating airway assessment and management (B) Indications, contraindications,

complications, and management for specific airway and breathing interventions 1. Needle Cricothyroidotomy 2. Surgical Cricothyroidotomy -- the student must demonstrate competency in the skill of surgical cricothyroidotomy. 3. Tracheostomiesa. Types of tracheostomies b. Tracheostomy care 4. Endotracheal intubation -- adult, pediatric, and neonatal a. Nasotracheal intubation b. Rapid Sequence Intubation (RSI) -- the student must demonstrate competency in the skill of RSI. c. Perilaryngeal airway devices 1) Combitube 2) King Airway 3) Supraglottic airway devices 4) Laryngeal mask airway devices 5. Pleural decompression 6. Chest tubes a. Set up and maintain thoracic drainage systems b. Operation of and troubleshooting c. Indications for and positioning of dependent tubing d. Varieties available e. Gravity drainage f. Suction drainage g. On-going assessments of drainage amount and color 7. Portable ventilators a. Principles of ventilator operation b. Set-up and maintain mechanical ventilation devices c. Procedures for transferring ventilator patients d. Complications of ventilator management e. Troubleshooting and practical application (C) Perform advanced airway and breathing management techniques1. Endotracheal intubation -- adult, pediatric, and neonatal 2. Nasotracheal intubation 3. Rapid Sequence Intubation (RSI) 4. Pleural decompression (D) Failed airway management and algorithms (E) Perform alternative airway management techniques1. Needle Cricothyroidotomy 2. Surgical Cricothyroidotomy 3. Retrograde intubation 4. Perilaryngeal airway devices 5. Supraglottic airway devices 6. Laryngeal mask airway devices (F) Airway management and ventilation monitoring techniques during transport (G) Use of mechanical ventilation (H) Administer pharmacology agent for continued airway management

(A)

Indications for basic and advanced airway management 1. Crash airway assessment and management 2. Deteriorating airway assessment and management

1. Crash airway assessment and management

2. Deteriorating airway assessment and management

(B)

Indications, contraindications, complications, and management for specific airway and breathing interventions 1. Needle Cricothyroidotomy 2. Surgical Cricothyroidotomy -- the student must demonstrate competency in the skill of surgical cricothyroidotomy. 3. Tracheostomiesa. Types of tracheostomies b. Tracheostomy care 4. Endotracheal intubation -- adult, pediatric, and neonatal a. Nasotracheal intubation b. Rapid Sequence Intubation (RSI) -- the student must demonstrate competency in the skill of RSI. c. Perilaryngeal airway devices 1) Combitube 2) King Airway 3) Supraglottic airway devices 4) Laryngeal mask airway devices 5. Pleural decompression 6. Chest tubes a. Set up and maintain thoracic drainage systems b. Operation of and troubleshooting c. Indications for and positioning of dependent tubing d. Varieties available e. Gravity drainage f. Suction drainage g. On-going assessments of drainage amount and color 7. Portable ventilators a. Principles of ventilator operation b. Set-up and maintain mechanical ventilation devices c. Procedures for transferring ventilator patients d. Complications of ventilator management e. Troubleshooting and practical application

1. Needle Cricothyroidotomy

2. Surgical Cricothyroidotomy -- the student must demonstrate competency in the skill of surgical cricothyroidotomy.

3. Tracheostomiesa. Types of tracheostomies b. Tracheostomy care

a.

Types of tracheostomies

b.

Tracheostomy care

4.

Endotracheal intubation -- adult, pediatric, and neonatal a. Nasotracheal intubation b. Rapid Sequence Intubation (RSI) -- the student must demonstrate competency in the skill of RSI. c. Perilaryngeal airway devices 1) Combitube 2) King Airway 3) Supraglottic airway devices 4) Laryngeal mask airway devices

a.

Nasotracheal intubation

b.

Rapid Sequence Intubation (RSI) -- the student must demonstrate competency in the skill of RSI.

c.

Perilaryngeal airway devices 1) Combitube 2) King Airway 3) Supraglottic airway devices 4) Laryngeal mask airway devices

1)

Combitube

2)

King Airway

3)

Supraglottic airway devices

4)

Laryngeal mask airway devices

5.

Pleural decompression

6.

Chest tubes a. Set up and maintain thoracic drainage systems b. Operation of and troubleshooting c. Indications for and positioning of dependent tubing d. Varieties available e. Gravity drainage f. Suction drainage g. On-going assessments of drainage amount and color

a.

Set up and maintain thoracic drainage systems

b.

Operation of and troubleshooting

c.

Indications for and positioning of dependent tubing

d.

Varieties available

e.

Gravity drainage

f.

Suction drainage

g.

On-going assessments of drainage amount and color

7.

Portable ventilators a. Principles of ventilator operation b. Set-up and maintain mechanical ventilation devices c. Procedures for transferring ventilator patients d. Complications of ventilator management e. Troubleshooting and practical application

a.

Principles of ventilator operation

b.

Set-up and maintain mechanical ventilation devices

c.

Procedures for transferring ventilator patients

d.

Complications of ventilator management

e.

Troubleshooting and practical application

(C)

Perform advanced airway and breathing management techniques1. Endotracheal intubation -- adult, pediatric, and neonatal 2. Nasotracheal intubation 3. Rapid Sequence Intubation (RSI) 4. Pleural decompression

1.

Endotracheal intubation -- adult, pediatric, and neonatal

2.

Nasotracheal intubation

3.

Rapid Sequence Intubation (RSI)

4.

Pleural decompression

(D)

Failed airway management and algorithms

(E)

Perform alternative airway management techniques1. Needle Cricothyroidotomy 2. Surgical Cricothyroidotomy 3. Retrograde intubation 4. Perilaryngeal airway devices 5. Supraglottic airway devices 6. Laryngeal mask airway devices

1.

Needle Cricothyroidotomy

2.

Surgical Cricothyroidotomy

3.

Retrograde intubation

4.

Perilaryngeal airway devices

5.

Supraglottic airway devices

6.

Laryngeal mask airway devices

(F)

Airway management and ventilation monitoring techniques during transport

(G)

Use of mechanical ventilation

(H)

Administer pharmacology agent for continued airway management

8.

Cardiac Patient Management (A) Cardiac Anatomy and Physiology and Pathophysiology (B) Detailed Assessment of the Cardiac Patient (C) Assessment and Management of patients with cardiac events1. Acute coronary syndromes, 2. Heart failure, 3. Cardiogenic shock, 4. Primary arrhythmias, 5. Hemodynamic instability 6. Vascular Emergencies (D) Invasive monitoring (use, care, and complication management)1. Arterial 2. Central venous pressure (CVP)(E) Vascular access devices usage and maintenance (F) Dressing and site care (G) Management of complications (H) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 3.

12-lead EKG interpretation: a. Essential 12-lead interpretation b. Acquisition and transmission c. Acute coronary syndromes d. The high acuity patient e. Bundle branch block and the imitators of acute coronary syndrome (ACS) f. Theory and Use of cardiopulmonary support devices as part of patient management 1) Ventricular assist devices, 2) Transvenous pacer, 3) Intra-aortic balloon pump g. Application of Pharmacologic agents in Cardiac Emergencies h. Management of complications of cardiac patients i. Implanted cardioverter defibrillators: 1) Eligible populations 2) Mechanism 3) Complications and patient management j. Cardiac pacemakers1) Normal operations, troubleshooting and loss of capturea). Implanted devices b). Unipolar and bipolar (2) Temporary pacemakers (3) Transcutaneous pacing

(A)

Cardiac Anatomy and Physiology and Pathophysiology

(B)

Detailed Assessment of the Cardiac Patient

(C)

Assessment and Management of patients with cardiac events1. Acute coronary syndromes, 2. Heart failure, 3. Cardiogenic shock, 4. Primary arrhythmias, 5. Hemodynamic instability 6. Vascular Emergencies

1.

Acute coronary syndromes,

2.

Heart failure,

3.

Cardiogenic shock,

4.

Primary arrhythmias,

5.

Hemodynamic instability

6.

Vascular Emergencies

(D)

Invasive monitoring (use, care, and complication management)1. Arterial 2. Central venous pressure (CVP)

1.

Arterial

2.

Central venous pressure (CVP)

(E)

Vascular access devices usage and maintenance

(F)

Dressing and site care

(G)

Management of complications

(H)

Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 3. 12-lead EKG interpretation: a. Essential 12-lead interpretation b. Acquisition and transmission c. Acute coronary syndromes d. The high acuity patient e. Bundle branch block and the imitators of acute coronary syndrome (ACS) f. Theory and Use of cardiopulmonary support devices as part of patient management 1) Ventricular assist devices, 2) Transvenous pacer, 3) Intra-aortic balloon pump g. Application of Pharmacologic agents in Cardiac Emergencies h. Management of complications of cardiac patients i. Implanted cardioverter defibrillators: 1)

Eligible populations 2) Mechanism 3) Complications and patient management j. Cardiac pacemakers1) Normal operations, troubleshooting and loss of capturea). Implanted devices b). Unipolar and bipolar (2) Temporary pacemakers (3) Transcutaneous pacing

1.

laboratory values (e.g., blood gas values, ISTAT)

2.

diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

3.

12-lead EKG interpretation: a. Essential 12-lead interpretation b. Acquisition and transmission c. Acute coronary syndromes d. The high acuity patient e. Bundle branch block and the imitators of acute coronary syndrome (ACS) f. Theory and Use of cardiopulmonary support devices as part of patient management 1) Ventricular assist devices, 2) Transvenous pacer, 3) Intra-aortic balloon pump g. Application of Pharmacologic agents in Cardiac Emergencies h. Management of complications of cardiac patients i. Implanted cardioverter defibrillators: 1) Eligible populations 2) Mechanism 3) Complications and patient management j. Cardiac pacemakers1) Normal operations, troubleshooting and loss of capturea). Implanted devices b). Unipolar and bipolar (2) Temporary pacemakers (3) Transcutaneous pacing

a.

Essential 12-lead interpretation

b.

Acquisition and transmission

c.

Acute coronary syndromes

d.

The high acuity patient

e.

Bundle branch block and the imitators of acute coronary syndrome (ACS)

f.

Theory and Use of cardiopulmonary support devices as part of patient management 1) Ventricular assist devices, 2) Transvenous pacer, 3) Intra-aortic balloon pump

1)

Ventricular assist devices,

2)

Transvenous pacer,

3)

Intra-aortic balloon pump

g.

Application of Pharmacologic agents in Cardiac Emergencies

h.

Management of complications of cardiac patients

i.

Implanted cardioverter defibrillators: 1) Eligible populations 2) Mechanism 3) Complications and patient management

1)

Eligible populations

2)

Mechanism

3)

Complications and patient management

j.

Cardiac pacemakers1) Normal operations, troubleshooting and loss of capturea). Implanted devices b). Unipolar and bipolar (2) Temporary pacemakers (3) Transcutaneous pacing

1)

Normal operations, troubleshooting and loss of capturea). Implanted devices b). Unipolar and bipolar

a).

Implanted devices

b).

Unipolar and bipolar

(2)

Temporary pacemakers

(3)

Transcutaneous pacing

9.

Trauma Patient Management (A) Differentiate injury patterns associated with specific mechanisms of injury (B) Rate a trauma victim using the Trauma Score, to include but not be limited to glasgow coma score, injury severity score, and revised trauma score (C) Identify patients who meet trauma center criteria (D) Perform a comprehensive assessment of the trauma patient (E) Initiate the critical interventions for the management of the trauma patient 1. Manage the patient with life-threatening thoracic injuriesa. Tension pneumothorax, b. Pneumothorax, c. Hemothorax, d. Flail chest, e. Cardiac tamponade, f. Myocardial rupture 2. Manage the patient with abdominal injuries a. diaphragm, b. liver, c. spleen 3. Manage the patient with orthopedic injuries (e.g. pelvic, femur, spinal) 4. Manage the patient with neurologic injuriesa. Subdural, b. Epidural, c. Increased ICP (F) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (G) Application of pharmacologic agents for trauma management (H) Manage trauma patient emergencies and complications1. the student must demonstrate competency in the skill of chest tube thoracostomy. 2.

The student must demonstrate competency in the skill of pericardiocentesis, (I) Administer blood and blood products (J) Trauma considerations: 1. Trauma assessment, 2. Adult thoracic & abdominal trauma, 3. Vascular trauma, 4. Musculoskeletal trauma, 5. Burns, 6. Ocular trauma, 7. Maxillofacial trauma, 8. Penetrating & blunt trauma, 9. Distributive & hypovolemic shock states, 10. Trauma Systems & Trauma Scoring, and 11. Kinematics of trauma & injury patterns. 10. Neurologic Patient Management (A) Perform an assessment of the patient (B) Conduct differential diagnosis of patients with coma (C) Manage patients with seizures (D) Manage patients with cerebral ischemia (E) Initiate the critical interventions for the management of a patient with a neurologic emergency (F) Provide care for a patient with a neurologic emergency1. Trauma neurological emergencies 2. Medical neurological emergencies 3. Cerebrovascular Accidents, 4. Neurological shock states (G) Assess a patient using the Glasgow coma scale (H) Manage patients with head injuries (I) Manage patients with spinal cord injuries (J) Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (K) Intracranial Pressure monitoring. (L) Application of pharmacologic agents for neurologic patients (M) Manage neurologic patient complications 11. Toxic Exposure and Environmental Patient Management(A) Toxic Exposure Patient 1. Perform a detailed assessment of the patient 2. Decontaminate toxicological patients (e.g., chemical/biological/radiological exposure) 3. Administer poison antidotes 4. Provide care for victims of envenomation a. Snake bite, b. Scorpion sting, c. Spider bite 5. Manage patient's status using a. Laboratory values (e.g., blood gas values, ISTAT) b. Diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 6. Administer pharmacologic agents 7. Manage toxicological patients a. Medication overdose, b. Chemical/biological/radiological exposure 8. Manage toxicological patient

complications (B) Environmental Patient 1. Perform an assessment of the patient 2. Manage the patient experiencing a cold-related illnessa. Frostbite, b. Hypothermia, c. Cold water submersion 3. Manage the patient experiencing a heat-related illnessa. Heat stroke, b. Heat exhaustion, c. Heat cramps 4. Manage the patient experiencing a diving-related illness a. Decompression sickness, b. Arterial gas emboli, c. Near drowning 5. Manage the patient experiencing altitude-related illness 6. Manage patient's status usinga. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 7. Application for pharmacologic agents for toxic exposure and environmental patients 8. Treat patient with environmental complications (C) Toxicology: 1. Toxic exposures, 2. Poisonings, 3. Overdoses, 4. Envenomations, 5. Anaphylactic shock, and 6. Infections diseases. 12. Obstetrical Patient Management (A) Perform a detailed assessment of the patient (B) Assess and Manage fetal distress (C) Manage obstetrical patients (D) Assess uterine contraction pattern (E) Conduct interventions for obstetrical emergencies and complications 1. Pregnancy induced hypertension, 2. Hypertonic or titanic contractions, 3. Cord prolapse, 4. Placental abruption 5. Severe preeclampsia involving hemolysis, elevated liver function, and low platelets (HELLP) syndrome. (F) Determine if transport can safely be attempted or if delivery should be accomplished at the referring facility (G) Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (H) Application of pharmacologic agents for obstetrical patient management (I) Manage emergent delivery and post-partum complications (J) Special Considerations in Obstetrics (OB)/ Gynecology (GYN) Patients1. Trauma in pregnancy, 2. Renal disorders, 3. Reproductive system disorders 13. Neonatal and Pediatric Patient Management(A) Neonatal Patient1. Perform a detailed assessment of the neonatal patienta. Management & delivery of the full-term or pre-term newborn, b.

Management of the complications of delivery 2. Manage the resuscitation of the neonate, includinga. Umbilical artery catheterization -- the student must demonstrate the skill of umbilical catheterization. b. Neonatal Resuscitation Program & Pediatric Advanced Life Support. 3. Manage patient's status using diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 4. Application of pharmacologic agents for neonatal patient management 5. Manage neonatal patient complications (B) Pediatric Patient 1. Perform a detailed assessment of the pediatric patient 2. Manage the pediatric patient experiencing a medical eventa. Respiratory b. Toxicity c. Cardiac d. Environmental e. Gastrointestinal (GI) f. Endocrine/Metabolic f. Neurological g. Infectious processes 3. Manage the pediatric patient experiencing a traumatic eventa. Single vs. multiple system b. Burns c. Non-accidental trauma 4. Manage patient's status using a. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) c. Application of pharmacologic agents for pediatric patient management d. Treat patient with pediatric complications 5. Considerations for Special needs children. 14. Burn Patient Management(A) Perform a detailed assessment of the patient (B) Calculate the percentage of total body surface area burned (C) Manage fluid replacement therapy (D) Manage inhalation injuries in burn injury patients (E) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (F) Application of pharmacologic agents for burn patient management (G) Provide treatment of burn complications -- the student must demonstrate competency in the skill of escharotomy. 15. General Medical Patient Management (A) Perform an assessment of the patient (B) Manage patients experiencing a medical condition1. Abdominal aortic aneurysm (AAA), 2. GI bleed, 3. Bowel obstruction, 4. Hyperosmolar Hyperglycemic Non-Ketotic Coma (HHNC) 5. Septic shock, 6. Neurologic emergencies 7. Hypertensive emergencies, 8. Environmental

emergencies, 9. Coagulopathies, 10. Endocrine emergencies, (C) Use of invasive monitoring for the purpose of clinical management (D) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (E) Application of pharmacologic agents for general medical patient management (F) Treat patient with general medical complications (G) Transport considerations of patients with renal or peritoneal dialysis (H) Transport of Patients with Infection Diseases:1. Pathogens a. Human immunodeficiency virus (HIV) b. Hepatitis c. Vancomycin resistant enterococcus (VRE) d. Multiple-antibiotic resistant bacteria (MRSA) e. Tuberculosis (TB) f. Immunocompromised g. Others as appropriate (I) Transport and Management of Patients with Indwelling tubes 1. Urinary a. Foleys b. Suprapubic 2. Nasogastric (NG) 3. Percutaneous endoscopic gastric (PEG) 4. Dobhoff tube

(A)

Differentiate injury patterns associated with specific mechanisms of injury

(B)

Rate a trauma victim using the Trauma Score, to include but not be limited to glasgow coma score, injury severity score, and revised trauma score

(C)

Identify patients who meet trauma center criteria

(D)

Perform a comprehensive assessment of the trauma patient

(E)

Initiate the critical interventions for the management of the trauma patient 1. Manage the patient with life-threatening thoracic injuriesa. Tension pneumothorax, b. Pneumothorax, c. Hemothorax, d. Flail chest, e. Cardiac tamponade, f. Myocardial rupture 2. Manage the patient with abdominal injuries a. diaphragm, b. liver, c. spleen 3. Manage the patient with

orthopedic injuries (e.g. pelvic, femur, spinal) 4. Manage the patient with neurologic injuriesa. Subdural, b. Epidural, c. Increased ICP

1.

Manage the patient with life-threatening thoracic injuriesa. Tension pneumothorax, b. Pneumothorax, c. Hemothorax, d. Flail chest, e. Cardiac tamponade, f. Myocardial rupture

a.

Tension pneumothorax,

b.

Pneumothorax,

c.

Hemothorax,

d.

Flail chest,

e.

Cardiac tamponade,

f.

Myocardial rupture

2.

Manage the patient with abdominal injuries a. diaphragm, b. liver, c. spleen

a.

diaphragm,

b.

liver,

c.

spleen

3.

Manage the patient with orthopedic injuries (e.g. pelvic, femur, spinal)

4.

Manage the patient with neurologic injuriesa. Subdural, b. Epidural, c. Increased ICP

a.

Subdural,

b.

Epidural,

c.

Increased ICP

(F)

Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

1.

laboratory values (e.g., blood gas values, ISTAT)

2.

diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

(G)

Application of pharmacologic agents for trauma management

(H)

Manage trauma patient emergencies and complications1. the student must demonstrate competency in the skill of chest tube thoracostomy. 2. The student must demonstrate competency in the skill of pericardiocentesis,

1.

the student must demonstrate competency in the skill of chest tube thoracostomy.

2.

The student must demonstrate competency in the skill of pericardiocentesis,

(I)

Administer blood and blood products

(J)

Trauma considerations: 1. Trauma assessment, 2. Adult thoracic & abdominal trauma, 3. Vascular trauma, 4. Musculoskeletal trauma, 5. Burns, 6. Ocular trauma, 7. Maxillofacial trauma, 8. Penetrating & blunt trauma, 9. Distributive & hypovolemic shock states, 10. Trauma Systems & Trauma Scoring, and 11. Kinematics of trauma & injury patterns. 10. Neurologic Patient Management (A) Perform an assessment of the patient (B) Conduct differential diagnosis of patients with coma (C) Manage patients with seizures (D) Manage patients with cerebral ischemia (E) Initiate the critical interventions for the management of a patient with a neurologic emergency (F) Provide care for a patient with a neurologic emergency1. Trauma neurological emergencies 2. Medical neurological emergencies 3. Cerebrovascular Accidents, 4. Neurological shock states (G) Assess a patient using the Glasgow coma scale (H) Manage patients with head injuries (I) Manage patients with spinal cord injuries (J) Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (K) Intracranial Pressure monitoring. (L) Application of pharmacologic agents for neurologic patients (M) Manage neurologic patient complications 11. Toxic Exposure and Environmental Patient Management(A) Toxic Exposure Patient 1. Perform a detailed assessment of the patient 2. Decontaminate toxicological patients (e.g., chemical/biological/radiological exposure) 3. Administer poison antidotes 4. Provide care for victims of envenomation a. Snake bite, b. Scorpion sting, c. Spider bite 5. Manage patient's status using a. Laboratory values (e.g., blood gas values, ISTAT) b. Diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 6. Administer pharmacologic agents 7. Manage toxicological patients a. Medication overdose, b. Chemical/biological/radiological exposure 8. Manage toxicological patient complications (B) Environmental Patient 1. Perform an assessment of

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1.

Trauma assessment,

2.

Adult thoracic & abdominal trauma,

3.

Vascular trauma,

4.

Musculoskeletal trauma,

5.

Burns,

6.

Ocular trauma,

7.

Maxillofacial trauma,

8.

Penetrating & blunt trauma,

9.

Distributive & hypovolemic shock states,

10.

Trauma Systems & Trauma Scoring, and

11.

Kinematics of trauma & injury patterns.

10.

Neurologic Patient Management (A) Perform an assessment of the patient (B) Conduct differential diagnosis of patients with coma (C) Manage patients with seizures (D) Manage patients with cerebral ischemia (E) Initiate the critical interventions for the management of a patient with a neurologic emergency (F) Provide care for a patient with a neurologic emergency1. Trauma neurological emergencies 2. Medical neurological emergencies 3. Cerebrovascular Accidents, 4. Neurological shock states (G) Assess a patient using the Glasgow coma scale (H) Manage patients with head injuries (I) Manage patients with spinal cord injuries (J) Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (K) Intracranial Pressure monitoring. (L) Application of pharmacologic agents for neurologic patients (M) Manage neurologic patient complications

(A)

Perform an assessment of the patient

(B)

Conduct differential diagnosis of patients with coma

(C)

Manage patients with seizures

(D)

Manage patients with cerebral ischemia

(E)

Initiate the critical interventions for the management of a patient with a neurologic emergency

(F)

Provide care for a patient with a neurologic emergency1. Trauma neurological emergencies 2. Medical

neurological emergencies 3. Cerebrovascular Accidents, 4. Neurological shock states

1.

Trauma neurological emergencies

2.

Medical neurological emergencies

3.

Cerebrovascular Accidents,

4.

Neurological shock states

(G)

Assess a patient using the Glasgow coma scale

(H)

Manage patients with head injuries

(I)

Manage patients with spinal cord injuries

(J)

Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

1.

laboratory values (e.g., blood gas values, ISTAT)

2.

diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

(K)

Intracranial Pressure monitoring.

(L)

Application of pharmacologic agents for neurologic patients

(M)

Manage neurologic patient complications

11.

Toxic Exposure and Environmental Patient Management(A) Toxic Exposure Patient 1. Perform a detailed assessment of the patient 2. Decontaminate toxicological patients (e.g., chemical/biological/radiological exposure) 3. Administer poison antidotes 4. Provide care for victims of envenomation a. Snake bite, b. Scorpion sting, c. Spider bite 5. Manage patient's status using a. Laboratory values (e.g., blood gas values, ISTAT) b. Diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 6. Administer pharmacologic agents 7. Manage toxicological patients a. Medication overdose, b. Chemical/biological/radiological exposure 8. Manage toxicological patient complications (B) Environmental Patient 1. Perform an assessment of the patient 2. Manage the patient experiencing a cold-related illnessa. Frostbite, b. Hypothermia, c. Cold water submersion 3. Manage the patient experiencing a heat-related illnessa. Heat stroke, b. Heat exhaustion, c. Heat cramps 4. Manage the patient experiencing a diving-related illness a. Decompression sickness, b. Arterial gas emboli, c. Near drowning 5. Manage the patient experiencing altitude-related illness 6. Manage patient's status usinga. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 7. Application for pharmacologic agents for toxic exposure and environmental patients 8. Treat patient with environmental complications (C) Toxicology: 1. Toxic exposures, 2. Poisonings, 3. Overdoses, 4. Envenomations, 5. Anaphylactic shock, and 6. Infections diseases.

(A)

Toxic Exposure Patient 1. Perform a detailed assessment of the patient 2. Decontaminate toxicological patients (e.g., chemical/biological/radiological exposure) 3. Administer poison antidotes 4. Provide care for victims of envenomation a. Snake bite, b. Scorpion sting, c. Spider bite 5. Manage patient's status using a. Laboratory values (e.g., blood gas values, ISTAT) b. Diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 6. Administer pharmacologic agents 7. Manage toxicological patients a.

Medication overdose, b. Chemical/biological/radiological exposure 8. Manage toxicological patient complications

1. Perform a detailed assessment of the patient
2. Decontaminate toxicological patients (e.g., chemical/biological/radiological exposure)
3. Administer poison antidotes
4. Provide care for victims of envenomation a. Snake bite, b. Scorpion sting, c. Spider bite
    a. Snake bite,
    b. Scorpion sting,
    c. Spider bite
5. Manage patient's status using a. Laboratory values (e.g., blood gas values, ISTAT) b. Diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)
    a. Laboratory values (e.g., blood gas values, ISTAT)
    b. Diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)
6. Administer pharmacologic agents
7.

Manage toxicological patients a. Medication overdose, b. Chemical/biological/radiological exposure

a.

Medication overdose,

b.

Chemical/biological/radiological exposure

8.

Manage toxicological patient complications

(B)

Environmental Patient 1. Perform an assessment of the patient 2. Manage the patient experiencing a cold-related illnessa. Frostbite, b. Hypothermia, c. Cold water submersion 3. Manage the patient experiencing a heat-related illnessa. Heat stroke, b. Heat exhaustion, c. Heat cramps 4. Manage the patient experiencing a diving-related illness a. Decompression sickness, b. Arterial gas emboli, c. Near drowning 5. Manage the patient experiencing altitude-related illness 6. Manage patient's status usinga. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 7. Application for pharmacologic agents for toxic exposure and environmental patients 8. Treat patient with environmental complications

1.

Perform an assessment of the patient

2.

Manage the patient experiencing a cold-related illnessa. Frostbite, b. Hypothermia, c. Cold water submersion

a.

Frostbite,

b.

Hypothermia,

c.

Cold water submersion

3.

Manage the patient experiencing a heat-related illnessa. Heat stroke, b. Heat exhaustion, c. Heat cramps

a.

Heat stroke,

b.

Heat exhaustion,

c.

Heat cramps

4.

Manage the patient experiencing a diving-related illness a. Decompression sickness, b. Arterial gas emboli, c. Near drowning

a.

Decompression sickness,

b.

Arterial gas emboli,

c.

Near drowning

5.

Manage the patient experiencing altitude-related illness

6.

Manage patient's status usinga. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

a.

laboratory values (e.g., blood gas values, ISTAT)

b.

diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

7.

Application for pharmacologic agents for toxic exposure and environmental patients

8.

Treat patient with environmental complications

(C)

Toxicology: 1. Toxic exposures, 2. Poisonings, 3. Overdoses, 4. Envenomations, 5. Anaphylactic shock, and 6. Infections diseases.

1.

Toxic exposures,

2.

Poisonings,

3.

Overdoses,

4.

Envenomations,

5.

Anaphylactic shock, and

6.

Infections diseases.

12.

Obstetrical Patient Management (A) Perform a detailed assessment of the patient (B) Assess and Manage fetal distress (C) Manage obstetrical patients (D) Assess uterine contraction pattern (E) Conduct interventions for obstetrical emergencies and complications 1. Pregnancy induced hypertension, 2. Hypertonic or titanic contractions, 3. Cord prolapse, 4. Placental abruption 5. Severe preeclampsia involving hemolysis, elevated liver function, and low platelets (HELLP) syndrome. (F) Determine if transport can safely be attempted or if delivery should be accomplished

at the referring facility (G) Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (H) Application of pharmacologic agents for obstetrical patient management (I) Manage emergent delivery and post-partum complications (J) Special Considerations in Obstetrics (OB)/ Gynecology (GYN) Patients1. Trauma in pregnancy, 2. Renal disorders, 3. Reproductive system disorders

(A)

Perform a detailed assessment of the patient

(B)

Assess and Manage fetal distress

(C)

Manage obstetrical patients

(D)

Assess uterine contraction pattern

(E)

Conduct interventions for obstetrical emergencies and complications 1. Pregnancy induced hypertension, 2. Hypertonic or titanic contractions, 3. Cord prolapse, 4. Placental abruption 5. Severe preeclampsia involving hemolysis, elevated liver function, and low platelets (HELLP) syndrome.

1.

Pregnancy induced hypertension,

2.

Hypertonic or titanic contractions,

3.

Cord prolapse,

4.

Placental abruption

5.

Severe preeclampsia involving hemolysis, elevated liver function, and low platelets (HELLP) syndrome.

(F)

Determine if transport can safely be attempted or if delivery should be accomplished at the referring facility

(G)

Manage patient's status using1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

1.

laboratory values (e.g., blood gas values, ISTAT)

2.

diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

(H)

Application of pharmacologic agents for obstetrical patient management

(I)

Manage emergent delivery and post-partum complications

(J)

Special Considerations in Obstetrics (OB)/ Gynecology (GYN) Patients1. Trauma in pregnancy, 2. Renal disorders, 3. Reproductive system disorders

1.

Trauma in pregnancy,

2.

Renal disorders,

3.

Reproductive system disorders

13.

Neonatal and Pediatric Patient Management(A) Neonatal Patient1. Perform a detailed assessment of the neonatal patienta. Management & delivery of the full-term or pre-term newborn, b. Management

of the complications of delivery 2. Manage the resuscitation of the neonate, includinga. Umbilical artery catheterization -- the student must demonstrate the skill of umbilical catheterization. b. Neonatal Resuscitation Program & Pediatric Advanced Life Support. 3. Manage patient's status using diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 4. Application of pharmacologic agents for neonatal patient management 5. Manage neonatal patient complications (B) Pediatric Patient 1. Perform a detailed assessment of the pediatric patient 2. Manage the pediatric patient experiencing a medical eventa. Respiratory b. Toxicity c. Cardiac d. Environmental e. Gastrointestinal (GI) f. Endocrine/Metabolic f. Neurological g. Infectious processes 3. Manage the pediatric patient experiencing a traumatic eventa. Single vs. multiple system b. Burns c. Non-accidental trauma 4. Manage patient's status using a. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) c. Application of pharmacologic agents for pediatric patient management d. Treat patient with pediatric complications 5. Considerations for Special needs children.

(A)

Neonatal Patient1. Perform a detailed assessment of the neonatal patienta. Management & delivery of the full-term or pre-term newborn, b. Management of the complications of delivery 2. Manage the resuscitation of the neonate, includinga. Umbilical artery catheterization -- the student must demonstrate the skill of umbilical catheterization. b. Neonatal Resuscitation Program & Pediatric Advanced Life Support. 3. Manage patient's status using diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) 4. Application of pharmacologic agents for neonatal patient management 5. Manage neonatal patient complications

1.

Perform a detailed assessment of the neonatal patienta. Management & delivery of the full-term or pre-term newborn, b. Management of the complications of delivery

a.

Management & delivery of the full-term or pre-term newborn,

b.

Management of the complications of delivery

2.

Manage the resuscitation of the neonate, includinga. Umbilical artery catheterization -- the student must demonstrate the skill of umbilical catheterization. b. Neonatal Resuscitation Program & Pediatric Advanced Life Support.

a.

Umbilical artery catheterization -- the student must demonstrate the skill of umbilical catheterization.

b.

Neonatal Resuscitation Program & Pediatric Advanced Life Support.

3.

Manage patient's status using diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

4.

Application of pharmacologic agents for neonatal patient management

5.

Manage neonatal patient complications

(B)

Pediatric Patient 1. Perform a detailed assessment of the pediatric patient 2. Manage the pediatric patient experiencing a medical eventa. Respiratory b. Toxicity c. Cardiac d. Environmental e. Gastrointestinal (GI) f. Endocrine/Metabolic f. Neurological g. Infectious processes 3. Manage the pediatric patient experiencing a traumatic eventa. Single vs. multiple system b. Burns c. Non-accidental trauma 4. Manage patient's status using a. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) c. Application of pharmacologic agents for pediatric patient management d. Treat patient with pediatric complications 5. Considerations for Special needs children.

1.

Perform a detailed assessment of the pediatric patient

2.

Manage the pediatric patient experiencing a medical eventa. Respiratory b. Toxicity c. Cardiac d. Environmental e. Gastrointestinal (GI) f. Endocrine/Metabolic f. Neurological g. Infectious processes

a.

Respiratory

b.

Toxicity

c.

Cardiac

d.

Environmental

e.

Gastrointestinal (GI)

f.

Endocrine/Metabolic

f.

Neurological

g.

Infectious processes

3.

Manage the pediatric patient experiencing a traumatic eventa. Single vs. multiple system b. Burns c. Non-accidental trauma

a.

Single vs. multiple system

b.

Burns

c.

Non-accidental trauma

4.

Manage patient's status using a. laboratory values (e.g., blood gas values, ISTAT) b. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) c. Application of pharmacologic agents for pediatric patient management d. Treat patient with pediatric complications

a.

laboratory values (e.g., blood gas values, ISTAT)

b.

diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

c.

Application of pharmacologic agents for pediatric patient management

d.

Treat patient with pediatric complications

5.

Considerations for Special needs children.

14.

Burn Patient Management(A) Perform a detailed assessment of the patient (B) Calculate the percentage of total body surface area burned (C) Manage fluid replacement therapy (D) Manage inhalation injuries in burn injury patients (E) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (F) Application of pharmacologic agents for burn patient management (G) Provide treatment of burn complications -- the student must demonstrate competency in the skill of escharotomy.

(A)

Perform a detailed assessment of the patient

(B)

Calculate the percentage of total body surface area burned

(C)

Manage fluid replacement therapy

(D)

Manage inhalation injuries in burn injury patients

(E)

Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

1.

laboratory values (e.g., blood gas values, ISTAT)

2.

diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

(F)

Application of pharmacologic agents for burn patient management

(G)

Provide treatment of burn complications -- the student must demonstrate competency in the skill of escharotomy.

15.

General Medical Patient Management (A) Perform an assessment of the patient (B) Manage patients experiencing a medical condition1. Abdominal aortic aneurysm (AAA), 2. GI bleed, 3. Bowel obstruction, 4. Hyperosmolar Hyperglycemic Non-Ketotic Coma (HHNC) 5. Septic shock, 6. Neurologic emergencies 7. Hypertensive emergencies, 8. Environmental emergencies, 9. Coagulopathies, 10. Endocrine emergencies, (C) Use of invasive monitoring for the purpose of clinical management (D) Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography) (E) Application of pharmacologic agents for general medical patient management (F) Treat patient with

general medical complications (G) Transport considerations of patients with renal or peritoneal dialysis (H) Transport of Patients with Infection Diseases:1. Pathogens a. Human immunodeficiency virus (HIV) b. Hepatitis c. Vancomycin resistant enterococcus (VRE) d. Multiple-antibiotic resistant bacteria (MRSA) e. Tuberculosis (TB) f. Immunocompromised g. Others as appropriate (I) Transport and Management of Patients with Indwelling tubes 1. Urinary a. Foleys b. Suprapubic 2. Nasogastric (NG) 3. Percutaneous endoscopic gastric (PEG) 4. Dobhoff tube

(A)

Perform an assessment of the patient

(B)

Manage patients experiencing a medical condition1. Abdominal aortic aneurysm (AAA), 2. GI bleed, 3. Bowel obstruction, 4. Hyperosmolar Hyperglycemic Non-Ketotic Coma (HHNC) 5. Septic shock, 6. Neurologic emergencies 7. Hypertensive emergencies, 8. Environmental emergencies, 9. Coagulopathies, 10. Endocrine emergencies,

1.

Abdominal aortic aneurysm (AAA),

2.

GI bleed,

3.

Bowel obstruction,

4.

Hyperosmolar Hyperglycemic Non-Ketotic Coma (HHNC)

5.

Septic shock,

6.

Neurologic emergencies

7.

Hypertensive emergencies,

8.

Environmental emergencies,

9.

Coagulopathies,

10.

Endocrine emergencies,

(C)

Use of invasive monitoring for the purpose of clinical management

(D)

Manage patient's status using 1. laboratory values (e.g., blood gas values, ISTAT) 2. diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

1.

laboratory values (e.g., blood gas values, ISTAT)

2.

diagnostic equipment (e.g., pulse oximetry, chest radiography, capnography)

(E)

Application of pharmacologic agents for general medical patient management

(F)

Treat patient with general medical complications

(G)

Transport considerations of patients with renal or peritoneal dialysis

(H)

Transport of Patients with Infection Diseases:1. Pathogens a. Human immunodeficiency virus (HIV) b. Hepatitis c. Vancomycin resistant enterococcus (VRE) d. Multiple-antibiotic resistant bacteria (MRSA) e. Tuberculosis (TB) f. Immunocompromised g. Others as appropriate

1.

Pathogens a. Human immunodeficiency virus (HIV) b. Hepatitis c. Vancomycin resistant enterococcus (VRE) d. Multiple-antibiotic resistant bacteria (MRSA) e. Tuberculosis (TB) f. Immunocompromised g. Others as appropriate

a.

Human immunodeficiency virus (HIV)

b.

Hepatitis

c.

Vancomycin resistant enterococcus (VRE)

d.

Multiple-antibiotic resistant bacteria (MRSA)

e.

Tuberculosis (TB)

f.

Immunocompromised

g.

Others as appropriate

(l)

Transport and Management of Patients with Indwelling tubes 1. Urinary a. Foleys b. Suprapubic 2. Nasogastric (NG) 3. Percutaneous endoscopic gastric (PEG) 4. Dobhoff tube

1.

Urinary a. Foleys b. Suprapubic

a.

Foleys

b.

Suprapubic

2.

Nasogastric (NG)

3.

Percutaneous endoscopic gastric (PEG)

4.

Dobhoff tube

(d)

Training programs in operation prior to the April 1, 2020 shall submit evidence of compliance with this Chapter to the appropriate approving authority as specified in Section 100060.11 of this Chapter no later than April 1, 2021.