Pennsylvania GROUND Critical Care Transport Educational Program: PHRN Bridge Course Sponsor Checklist

Course name_____

Sponsor_____

Sponsor address_____ Sponsor phone#_____

Contact person_____ Contact email_____ Contact phone#_____

Instructions: Please complete this checklist, including references to supporting documentation, e.g. textbook, handout, PowerPoint presentation, etc. Return the completed checklist and associated course materials to the Pennsylvania Department of Health, Bureau of Emergency Medical Services, 625 Forster St. • Room 606 • Harrisburg, PA 17120.

Note: The ground CCT transport bridge course is intended for PHRNs who also hold current specialty certification as a certified emergency nurse (CEN) or certified critical care nurse (CCRN). PHRNs who hold current certification as a certified flight registered nurse (CFRN) or certified transport registered nurse (CTRN) are not required to take a bridge course in order to comply with PADOH regulations.

Educational Objective Description	Course Material Reference
I. PREPARATORY Expands upon PHRN's previous knowledge of EMS systems by integrating a comprehensive understanding of critical care transportation, which includes air and ground operations in both the prehospital and interfacility setting.	**Course sponsors please note:** When citing references, please provide the associated textbook name and page number(s); for PowerPoint presentations, provide specific slide number(s). Sections not properly referenced may result in the checklist being returned to the sponsor for correction and resubmission.
EMS systems: ❑ History of critical care transport ❑ Modes of critical care transport ❑ Crew configurations ❑ Prehospital v. interfacility transports ❑ Ethical considerations	
Patient safety during transport: ❑ Provider knowledge/experience ❑ Available resources	
Medical director support: ❑ Declination of transport for safety reasons ❑ Education of facilities and physicians on safe transport practices	

Educational Objective Description	Course Material Reference
Documentation: ❑ Documenting the critical care assessment ❑ Supplemental documentation for reimbursement and operations	
EMS system communications: ❑ Online medical direction	
Medical legal issues and ethics: ❑ End of life issues during interfacility transport	
II. PHARMACOLOGY Review of medications commonly used encountered during a critical care transport, including, but not limited to, indications, contraindications, dosage and route of administration. Depth and breadth of this review may vary based on the experience level of the PHRNs attending the course.	
III. AIRWAY MANAGEMENT, RESPIRATION AND ARTIFICIAL VENTILATION Review and expand upon the comprehensive knowledge of airway management, respiration and artificial ventilation to include advanced airway management and ventilation modalities that are associated with the critical care patient management.	
❑ Drug facilitated airway control (RSI)	
Airway control in special patient populations, including but not limited to: ❑ Neonates/infants ❑ Pediatrics ❑ Bariatric patients	
Assessment and management of the difficult airway: ❑ Angioedema ❑ Epiglottitis ❑ Trauma related	
Mechanical ventilation: ❑ Principles of ventilation ❑ Patient assessment for mechanical ventilation ❑ Ventilator modes and parameters ❑ Troubleshooting	

Educational Objective Description	Course Material Reference
IV. ASSESSMENT Expands upon the traditional nursing assessment to include those techniques and parameters associated with a critical care setting, including an expanded physical assessment, use of diagnostic instruments, and interpretation of laboratory values and medical imaging.	
History taking: ❑ Differentiate between essential information in the prehospital and interfacility transport setting	
Laboratory data: ❑ Review of critical laboratory values ❑ Using portable blood analysis devices	
Medical imaging: ❑ Radiographs ❑ CT scans ❑ MRI ❑ Ultrasound	
Invasive pressure monitoring: ❑ Invasive vs. non-invasive pressure monitoring in prehospital environment ❑ Arterial pressure monitoring ❑ Venous pressure monitoring: ❑ Triple lumen catheters ❑ SCVO2 catheters ❑ Pulmonary artery catheters ❑ Invasive monitoring catheter/line management ❑ Calibration and use of pressure transducers ❑ Interpreting pressure measurements	
V. MEDICAL Builds upon the principles of pathophysiology and assessment findings used to formulate a field impression to understand the often-complex medical problems encountered during the critical care interfacility transport.	

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Neurology: ❑ Review focused assessment and management ❑ Use of NIH stroke assessment tool ❑ Therapeutic hypothermia ❑ Intra-cranial pressure monitoring	
Abdominal/GI disorders: ❑ Review focused assessment and management	
Infectious diseases: ❑ Review focused assessment, PPE/universal precautions and management ❑ Review of infection control procedures in the transport environment	
Endocrinology: ❑ Review focused assessment and management ❑ Adrenal insufficiency	
Psychiatric: ❑ Ground transport safety considerations ❑ Use of physical and/or pharmacological restraint	
Cardiology: Review focused assessment and management. Reinforce the importance of prehospital STEMI recognition and the use of therapeutic hypothermia in post-resuscitation management. ❑ Electrophysiology devices: ❑ Pacemakers, including epicardial and transvenous ❑ Cardiac assist devices: ❑ LVAD and BiVAD ❑ Intra-aortic balloon pump (IABP) ❑ Extracorporeal membrane oxygenation (ECMO) ❑ Management of mediastinal chest tubes	

Educational Objective Description	Course Material Reference
Toxicology: ❑ Review of focused assessment and management. Reinforce the importance of safety assessment, PPE and decontamination procedures prior to transport ❑ Intentional vs. unintentional poisoning ❑ General management principles: ❑ Initial management ❑ History taking and assessment ❑ Symptoms of poisoning or toxic exposure (toxidromes) ❑ Physical exam ❑ Laboratory studies ❑ Removal, elimination or disruption of toxins ❑ Supportive and emotional care ❑ Safety issues during transport ❑ Pharmacologic properties of drugs ❑ Toxicity and treatment of poisoning by specific drugs: ❑ Acetylsalicylic acid ❑ Acetaminophen ❑ Antidepressants, e.g. tricyclics ❑ Benzodiazepines ❑ Cardiac drugs, i.e., beta blockers, calcium channel blockers, digitalis, etc. ❑ Cocaine and other illicit drugs ❑ Cyanide ❑ Hallucinogens ❑ Alcohol ❑ Ethylene glycol ❑ Carbon monoxide ❑ Snakebite: ❑ Recognition of venomous snakes ❑ Initial management ❑ Advanced treatment during transport, including anti-venom	
Respiratory: ❑ Review focused assessment and management ❑ Management of nitric oxide therapy in pulmonary hypertension ❑ CPAP and BiPAP	

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Genitourinary/renal: ❑ Review focused assessment and management	
Gynecology: ❑ Review focused assessment and management	
Non-traumatic musculoskeletal pain: ❑ Review focused assessment and management	
Eyes, ears, nose and throat: ❑ Review focused assessment and management ❑ Epistaxis management	
Shock and resuscitation: ❑ Review types of shock, assessment parameters and management principles	
VI. TRAUMA Review pathophysiology, assessment and management of the trauma patient. Review and discuss trauma patient destination decisions relative to ground vs. air transport both in the prehospital and interfacility transport setting.	
Bleeding: ❑ Review management of bleeding, including hemostatic agents and commercial tourniquets	
Chest Trauma: ❑ Review focused assessment and management ❑ Needle thorocostomy	
Abdominal and genitourinary trauma: ❑ Review focused assessment and management ❑ Understanding ultrasound images as part of the F.A.S.T exam	
Orthopedic trauma: ❑ Review focused assessment and management use of commercial pelvic stabilization devices ❑ Manual reduction of extremity fracture or dislocation with vascular compromise ❑ Administration of antimicrobials in open fractures	
Soft tissue trauma: ❑ Review focused assessment and management ❑ Recognition and management of crush syndrome	

Educational Objective Description	Course Material Reference
❑ Recognition and management of compartment syndrome ❑ Burn management review: ❑ Thermal ❑ Chemical ❑ Electrical	
Head, facial, neck and spine trauma: ❑ Review focused assessment and management ❑ Advanced management of spinal cord injuries	
Nervous system trauma: ❑ Review focused assessment and management	
Special considerations in trauma: ❑ Review focused assessment and management of: ❑ Pregnant patient ❑ Pediatric patient ❑ Geriatric patient ❑ Cognitively impaired patient	
Environmental emergencies: ❑ Review focused assessment and management ❑ Management of suspension trauma	
Multi-system trauma: ❑ Review focused assessment and management ❑ Management of blast injuries	
VII. SPECIAL PATIENT POPULATIONS Builds on PHRN assessment findings, pathophysiology, and psychosocial needs in order to effectively manage special patient populations in the prehospital setting. Note: The depth and breadth of this section may be modified by the course sponsor as needed based on the level of experience and/or specialty certification held by the PHRN in this area, e.g., RNs with practice experience in OB, neonatal, etc.	
Obstetrics: ❑ Fetal assessment ❑ Fetal monitoring data ❑ Ultrasound images related to ectopic pregnancy ❑ Fetal heart rate abnormalities:	

Educational Objective Description	Course Material Reference
❑ Variability ❑ Periodic changes ❑ Acceleration (variable, early, late, sinusodal) ❑ Bradycardia/tachycardia ❑ Contributing factors to fetal distress ❑ Pre-eclampsia/eclampsia ❑ Administration of tocolytics ❑ Transport considerations with respect to patients in active labor (safety and EMTALA) ❑ Complications of pregnancy: ❑ Amniotic fluid embolism ❑ Breech presentation ❑ Post-partum hemorrhage ❑ Uterine inversion ❑ Precipitous delivery ❑ Retained placenta ❑ Shoulder dystocia ❑ Umbilical prolapse ❑ Nuchal cord ❑ Gestational diabetes ❑ Placenta abruption ❑ Placenta privia ❑ Disseminated intravascular coagulation (DIC) ❑ Multiple gestation ❑ HELLP syndrome ❑ Pre-term labor	
Neonatal care: ❑ Respiratory disorders, e.g., surfactant deficiency ❑ Cardiac structural and flow abnormalities: ❑ Patent ductus arteriosm (PDA) ❑ Patent foramen ovale (PFO) ❑ Ventricular septal defect (VSD) ❑ Tetralogy of Fallot ❑ Transposition of the great vessels ❑ Sepsis	

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❑ Thermoregulation using an isolette ❑ Critical neonate laboratory values	
Pediatrics: ❑ Review age-related assessment findings, anatomic and physiologic variations, developmental stage-related assessment and treatment modifications of the pediatric-specific major or common diseases and/or emergencies	
Geriatrics: ❑ Review normal and abnormal changes associated with aging, pharmacokinetic changes, psychosocial and economic aspects of aging, polypharmacy, and age-related assessment and treatment modifications for the major or common geriatric diseases and/or emergencies	
Patients with special challenges: ❑ Patients requiring specialty equipment and staffing support during interfacility transport ❑ Pre-transport briefing of non-EMS caregivers	
VIII. PSYCHOMOTOR SKILLS REVIEW In addition to those skills authorized by the Pennsylvania Department of Health, the flight or ground critical care PHRN should be competent in the following psychomotor skills based on the depth/breadth previously described:	
Airway and breathing: ❑ Drug facilitated airway control, i.e., RSI ❑ Operation of mechanical transport ventilators ❑ Needle thoracostomy	
Assessment and monitoring: ❑ Maintenance and access to invasive pressure monitoring devices and interpretation of monitoring parameter information ❑ Interpretation of medical imaging information ❑ Fetal assessment and interpretation of monitoring data ❑ Operation of portable blood analysis equipment	

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Medical and cardiac care: ❑ IABP monitoring ❑ ECMO monitoring ❑ VAD monitoring ❑ Pacemakers	
Trauma care: ❑ ICP monitoring	
Special patient populations: ❑ Isolette operations	

Notes: