

## VERIFICATION FOR PARAMEDIC CRITICAL CARE ENDORSEMENT

Student Name: \_\_\_\_\_ License Number: \_\_\_\_\_

I certify that \_\_\_\_\_ is competent in the following terminal objectives regarding the Paramedic Critical Care Endorsement. The course or education was conducted according to Board policies and procedures.

### Knowledge and Psychomotor Objectives

#### **CONCEPTS AND COMPONENTS OF CRITICAL CARE TRANSPORT**

Describe the history of ambulance transports.  
Name three examples of Critical Care Transport Team composition configuration.  
Identify and describe the preferred qualifications of a Critical Care Transport Paramedic.  
Name six advanced procedures performed by a Critical Care Transport Team.  
Differentiate between routine and specialty equipment found on a Critical Care Transport unit.  
Discuss the three modes of transport for the critically ill or injured.  
Identify indications for critical care transport.  
Describe the interfacility transfer process.

#### **MEDICOLEGAL ASPECTS OF CRITICAL CARE TRANSPORT**

Apply the essential legal principles necessary to the practice of emergency medicine to the job of the critical care paramedic.  
Recognize and discuss the legal risks and liabilities involved in critical care transportation.  
Apply basic risk management principles to critical care transport.  
Discuss the fundamental elements of litigation, hearings and peer-review proceedings.  
Understand EMTALA and the implications for EMS  
State the appropriate steps for accepting a patient transfer  
State the appropriate steps in assessing and preparing for transfer  
State CCEMT-P responsibilities during transfer  
State the role of other health care providers who accompany the patient  
State the appropriate steps to transfer care to the receiving facility  
Appropriately document the transfer  
Identify areas of potential liability  
State methods to minimize risk  
Be familiar with current case law regarding transport

#### **LABORATORY DATA INTERPRETATION**

Describe the relationship between laboratory medicine and the diagnosis and treatment of patients.  
Describe the common problems associated with specimen collection and ways to avoid these problems.  
Identify mean lab values and deviations for the complete blood count, the differential blood count, and platelet values.  
Interpret arterial blood gas data.  
Interpret chemistry studies.  
Interpret urinalysis.  
Describe the purpose of culture and sensitivity tests.  
Interpret miscellaneous lab studies.

#### **SHOCK**

Define shock.  
Discuss the major pathophysiologies of shock.  
Describe how assessment techniques can help identify shock.  
Describe the general management principles for the patient in shock.  
Describe pharmacological intervention in different types of shock.

#### **MULTI-SYSTEM ORGAN FAILURE**

Define multisystem organ failure.  
List the history, signs, and symptoms of the patient with sepsis.  
Describe the management of the patient with sepsis.  
List the history, signs, and symptoms of the patient with acute respiratory distress syndrome (ARDS).  
Describe the management of the patient with ARDS.  
List the history, signs, and symptoms of the patient with disseminated intravascular coagulation (DIC).

Describe the management of the patient with the management of the patient with DIC.

#### **INFECTION CONTROL & COMMUNICABLE DISEASES**

Describe proper infection control procedures that the Critical Care Transport Paramedic should take when treating patients.  
Identify the mode of transmission and precautions to follow when treating a patient with the following infectious diseases:  
HIV, Hepatitis, Multiple-Antibiotic Resistant Bacteria  
Tuberculosis, Meningitis

#### **BREATHING ASSESSMENT AND PULMONARY PHYSIOLOGY**

Assess oxygen saturation using a pulse oximeter.  
Identify the categories of information obtained through an ABG analysis.  
Describe the technique for drawing an ABG.  
Describe important landmarks and anatomical structures of the chest wall and respiratory system.  
Describe two factors important in the generation of breath sounds.  
Describe how to assess breath sounds for duration, pitch, and intensity.  
Identify auscultatory sites for breath sounds assessment.  
Define normal and adventitious breath sounds.  
Define consolidation.  
Perform vocal and tactile fremitus assessments of lung fields.  
Define and describe abnormal respiratory patterns.  
Define and describe respiration and ventilation abnormalities.  
Perform a complete respiratory assessment.

#### **PLEURAL DECOMPRESSION**

Identify indications for pleural decompression.  
Discuss methods for pleural decompression assessment.  
Describe the procedure for pleural decompression.  
Differentiate between normal and abnormal assessment findings.  
Identify transport complications associated with pleural decompression.

#### **PORTABLE VENTILATORS**

Identify indications and purpose for portable ventilators.  
Discuss methods for ventilator assessment.  
Differentiate between normal and abnormal assessment findings.  
Describe the procedure for placing a patient on a portable ventilator.  
Identify transport complications of portable ventilators.

#### **ET TUBE AND TRACHEAL SUCTIONING**

Identify indications for ET tube and tracheal suctioning.  
Describe the procedure for ET tube and tracheal suctioning.  
Identify complications of ET tube and tracheal suctioning.

#### **MAINTENANCE OF PARALYSIS AND SEDATION DURING VENTILATOR TRANSPORT**

Provide Overview of RSI  
Identify pharmacologic agents utilized during ventilator transports.  
Describe why sedative medications should usually accompany the use of paralytic agents.  
Identify transport considerations for patients intubated with the RSI technique.

#### **TRACHEOSTOMIES**

Identify indications and purposes for a tracheostomy.  
Identify criteria for tracheostomy assessment.  
Differentiate between normal and abnormal assessment findings  
Describe the procedure for tracheostomy placement.  
Identify transport complications of tracheostomies.

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**NEEDLE CRICOTHYROTOMY**

Identify indications and purpose for needle cricothyrotomy.  
Identify criteria for needle cricothyrotomy assessment  
Describe the procedure for needle cricothyrotomy.  
Differentiate between normal and abnormal assessment findings.  
Identify transport complications for needle cricothyrotomy.

**SURGICAL CRICOTHYROTOMY**

Identify indications and purpose for surgical cricothyrotomy.  
Identify criteria for surgical cricothyrotomy assessment  
Describe the procedure for surgical cricothyrotomy.  
Differentiate between normal and abnormal assessment findings.  
Identify transport complications for surgical cricothyrotomy.

**RETROGRADE INTUBATION**

Discuss the indications and purpose for retrograde intubation.  
Identify criteria for retrograde intubation.  
Describe the procedure for retrograde intubation.  
Differentiate between normal and abnormal assessment findings.  
Identify transport complications for retrograde intubation.

**BLOOD ADMINISTRATION**

Differentiate between antigens, natural antibodies and acquired antibodies  
Identify antibodies and antigens associated with specific blood types  
Define Rh factor  
Identify seven types of blood component therapy  
Identify indications for blood administration  
Describe the procedure for blood administration  
Identify the signs and symptoms of transfusion reactions  
Describe the management procedures for transfusion reactions  
Describe the indications for administration of whole blood and packed red blood cells  
Describe the indications for typing, screening and cross matching blood  
Describe the ABO system for matching blood  
Describe the characteristics of blood products  
Describe the procedure for administration of whole blood or packed red blood cells.

**IMPLANTABLE CARDIOVERTER DEFIBRILLATORS**

Discuss the incidence of sudden cardiac death and the population at risk  
Describe how and Implantable Cardioverter Defibrillator (ICD) works, its components and its functions  
Identify the potential complications associated with the ICD and location of placement in the chest wall  
Describe the procedure for deactivating an ICD with a magnet

**CARDIAC PACEMAKERS**

Understand the basic concepts underlying cardiac pacemaker technology  
Understand the current code system used for cardiac pacing  
Understand and troubleshoot the potential rhythms that indicate forms of pacemaker malfunctions

**SEDATIVES**

Identify the indications, mechanism of action, pharmacokinetics, dosing and side effects of haloperidol  
Identify the mechanism of action of benzodiazepine drugs  
Compare the dosing and side effects of diazepam, lorazepam and midazolam  
Identify the indications, mechanism of action, pharmacokinetics, dosing and side effects of flumazenil  
Identify the indications, mechanism of action, pharmacokinetics, dosing, side effects, drug interactions and administration considerations of propofol

**ANALGESICS**

Identify the mechanism of action, pharmacokinetics, and side effects of morphine  
Identify the mechanism of action, pharmacokinetics, and side effects of naloxone

**PARALYTICS**

Identify the mechanism of action, pharmacokinetics, and toxicity of Succinylcholine  
Identify the indications, mechanism of action, pharmacokinetics, side effects and drug interactions of pancuronium, vecuronium and atracurium  
Identify the order of paralysis  
Discuss the adverse effects of prolonged paralysis  
Identify the role of "train of four" monitoring when using paralytics

**ANTI HYPERTENSIVES**

Compare the mechanism of action, dosing, pharmacokinetics, and adverse effects of captopril, nifedipine and clonidine  
Identify the mechanism of action, pharmacokinetics, dosing, toxicity and administration considerations of nitroprusside  
Identify the mechanism of action, pharmacokinetics, dosing and adverse effects of labetalol  
Identify the pharmacology, pharmacokinetics, dosing and toxicity of Diazoxide

**VOLUME EXPANDERS**

Compare the advantages and disadvantages of crystalloids and colloids  
Compare the use, dose and adverse effects of albumin, plasma protein fraction, Hetastarch and Dextran

**VASOPRESSORS**

Identify the indications for vasopressors  
Compare the effects, dosing and adverse effects of dopamine, epinephrine, norepinephrine (Levophed), phenylephrine and dobutamine

**BRONCHODILATORS**

Identify the pharmacology and effects of beta receptor stimulation for beta agonists  
Compare the pharmacokinetics, dosing, delivery, and adverse effects of albuterol, epinephrine and terbutaline  
Identify the pharmacology, metabolism, adverse effects, drug interaction and dosing of metoprolenol and theophylline  
Identify the pharmacology and dosing of anticholinergics  
Compare and contrast anticholinergics and beta agonists  
Identify the pharmacology and uses of magnesium

**ANTIARRHYTHMICS**

Identify the mechanism of action, ECG effects, uses, pharmacokinetics, dosing and toxicity of Class IA antiarrhythmic drugs  
Identify the mechanism of action, ECG effects, uses, pharmacokinetics, dosing and toxicity of Class IB antiarrhythmic drugs  
Identify the mechanism of action, ECG effects, and uses of Class IC antiarrhythmic drugs  
Identify the mechanism of action, ECG effects, and uses of Class II antiarrhythmic drugs  
Identify the mechanism of action, ECG effects, uses, pharmacokinetics, adverse effects and drug interactions of Class III antiarrhythmic drugs  
Identify the mechanism of action, ECG effects, and uses of Class IV antiarrhythmic drugs  
Compare the pharmacokinetics, dosing and adverse effects of verapamil and diltiazem  
Identify the mechanism of action, ECG effects, uses, pharmacokinetics, administration considerations, drug interactions and toxicity of adenosine

**ANTIANGINALS**

Identify the pharmacology, dosage forms, pharmacokinetics, administration considerations, adverse effects, and tolerance considerations of nitrates  
Identify the uses, side effects and patient selection criteria for beta blockers  
Identify the uses, contraindications, and side effects of calcium channel blockers

**ANTICOAGULANTS**

Identify the mechanism of action, dosing, and clinical trial findings of aspirin as an anticoagulant  
Identify the mechanism of action, dosing, monitoring parameters, adverse effects and clinical trial results of heparin  
Identify the pharmacology, indications, monitoring parameters, drug interactions and adverse effects of warfarin

**ANTIBIOTICS**

Identify the pharmacology and uses of antibiotics  
**ETOMIDATE**  
Identify the indications, mechanism of action, pharmacokinetics, and side effects of etomidate  
**GI, GU and RENAL ASSESSMENT**  
Identify GI/GU assessment criteria  
Differentiate between normal and abnormal assessment findings  
**NG and OG FEEDING TUBES**  
Identify the indications for a nasogastric and orogastric tube  
Discuss methods for nasogastric and orogastric assessment  
Differentiate between normal and abnormal assessment findings  
Describe procedure for placement of nasogastric and orogastric tubes

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Identify transport complications associated with nasogastric and rogastric tubes.

**URINARY CATHETERS**

Identify indications and purpose for Foley catheters  
Discuss assessment methods for Foley catheters  
Differentiate between normal and abnormal assessment findings  
Describe procedure for Foley catheter placement  
Identify transport complications for Foley catheters

**OSTOMIES**

Identify indications for an ostomy  
Discuss methods for ostomy assessment  
Differentiate between normal and abnormal assessment findings  
Discuss methods for ostomy placement  
Identify transport complications for ostomies

**HEMODIALYSIS and PERITONEAL DIALYSIS**

Identify indications and purpose for dialysis  
Differentiate between hemodialysis and peritoneal dialysis  
Describe the procedure for accessing arteriovenous shunts  
Identify transport complications of dialysis patients

**RECTAL CONSIDERATIONS**

Describe the rectal anatomy and structures  
Classify rectal bleeding: red, bright red, melena  
Discuss incontinence, diarrhea and constipation management techniques  
Demonstrate rectal temperature assessment technique  
Describe decubitus ulcers

**NEUROLOGICAL ASSESSMENT**

Describe the major components of a neurological examination  
Describe the differences in the neurological assessment between a brain injured or spinal injured patient  
Perform a neurological examination  
Describe the findings of a normal and abnormal neurological examination  
Describe vital signs changes noted with neurological injuries  
Identify transportation considerations for patients with neurological injuries

**NEUROLOGICAL ASSESSMENT LAB**

Correctly perform a neurological assessment  
Document the findings of a neurological examination

**INTRACRANIAL PRESSURE**

Describe intracranial pressure (ICP)  
Describe the pathophysiology of ICP  
Define compliance

Explain herniation of the brain

Describe how to calculate cerebral perfusion pressure (CPP)  
Identify signs and symptoms of increasing ICP  
Identify factors that will increase ICP  
Identify consequences of increased ICP on patient outcome  
Identify strategies and methods for decreasing ICP during critical care transport

**TRANSPORTS: START TO FINISH**

Differentiate operational aspects of critical care transport and conventional prehospital care  
Identify four major opportunities for positive interaction that exist during a critical care transport  
Incorporate prospective medical control into the care of critical patients  
Identify critical decision points in a transport event  
Develop an event flowsheet  
Identify essential patient perceptions of quality service  
Understand the role of family members in critical care transport  
Recognize situations warranting diversion or interception  
Incorporate unique management tactics with moribund patients and families

**PEDIATRIC CONSIDERATIONS**

Identify various histories and general principles for pediatric assessment  
Define the primary cause of cardiac arrest and list several risk factors  
Describe principles of general treatment before and during the transport of a pediatric patient

**OBSTETRICAL/GYNECOLOGICAL CONSIDERATIONS**

Identify various histories and general principles for OB/GYN assessment  
Define the primary cause of cardiac arrest and list several risk factors  
Describe principles of general treatment before and during the transport of a OB/GYN patient

**BURN CONSIDERATIONS**

Identify various histories and general principles for burn assessment  
Define the primary cause of cardiac arrest and list several risk factors  
Describe principles of general treatment before and during the transport of a burn patient

**X-RAY CONSIDERATIONS**

Understand the basic concepts underlying X-ray interpretation  
Describe a systematic "assessment" of an X-ray  
**CASE STUDIES**

Integrate topics learned with case scenarios

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**Signature** of Medical Director,  
responsible for the Training Program

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**PRINTED** Name

Dated

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