

MONTANA BOARD OF MEDICAL EXAMINERS
PO Box 200513, 301 South Park Avenue 4th Floor
Helena, Montana 59620-0513
Phone (406) 444-6880

E-MAIL dlibsdhhelp@mt.gov **Website:** <https://boards.bsd.dli.mt.gov/medical-examiners/>

**VERIFICATION OF COURSE REQUIREMENTS AND DEMONSTRATED SKILLS FOR PARAMEDIC
CRITICAL CARE ENDORSEMENT**

Applicant Name		
First Name	Last Name	License Number

The Medical Director should be aware of their staff's educational and training history and whether there is a need for additional training to meet the current [National Emergency Medical Services \(EMS\) Education Standards](#) to comply with the Montana ECP Scope of Practice and to meet the training requirements, as listed in the most recent version of the endorsements (2025). The medical director is responsible for the quality of all endorsement training through direct participation and/or oversight.

COURSE REQUIREMENTS AND ENDORSEMENT SKILLS DEMONSTRATED DURING COURSE

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 Emergency Medical Treatment and Labor Act (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 Critical Care Emergency Medical Transport Program (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 pathophysiology 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.

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 an 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.

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.

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.

ENDOTRACHEAL (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.

ANTIHYPERTENSIVES

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 metoprolol 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.

GASTROINTESTINAL (GI), GENITOURINARY (GU) AND RENAL ASSESSMENT

Identify GI/GU assessment criteria.

Differentiate between normal and abnormal assessment findings.

NASOGASTRIC (NG) and OROGASTRIC (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.
Identify transport complications associated with nasogastric and orogastric tubes.

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 an 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.

I certify that the above-named individual is competent in the skills for Paramedic Critical Care Endorsement outlined above. The Montana Department of Labor and Industry licensing staff must review and approve this document to issue an endorsement and authorize practice.

Medical Director Name: _____

Medical Director Signature: _____

Montana Physician License Number: _____