

What's **NEW** in **Critical Care Transport** THIRD EDITION

Critical Care Transport, Third Edition contains up-to-date information on ground and flight transport that aligns with the latest evidence-based medicine and practices. From coverage of the latest controversies to new science and devices, this resource offers essential guidance to any health care provider training in critical care transport. The **Third Edition** meets the curricula of numerous critical care training programs, as well as the objectives of critical care transport certification exams such as Flight Paramedic Certification (FP-C) and Critical Care Paramedic (CPC-C) exams administered by the International Board of Specialty Certification.

Authored by leading critical care professionals from across the country, **Critical Care Transport, Third Edition** provides updated information specific to prehospital critical care transport, such as flight physiology, lab analysis, hemodynamic monitoring, and specialized devices. Standard EMS topics such as airway management, trauma, and pharmacology are covered in the context of critical care.

Chapter-by-Chapter Changes

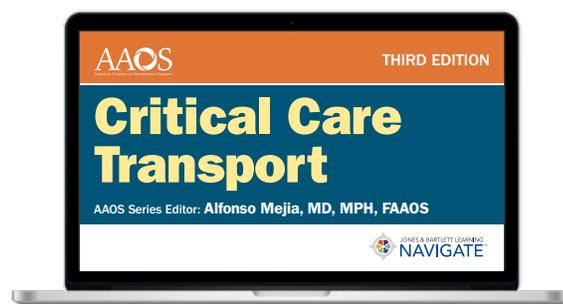
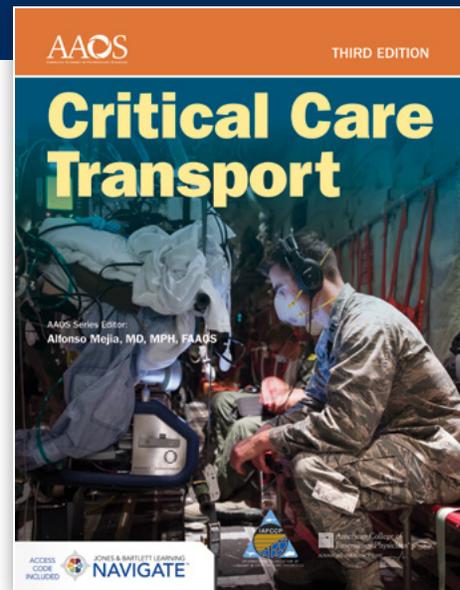
Changes by chapter include, but are not limited to, the following:

CHAPTER 1 Introduction and Overview of Critical Care Transport

- Expanded discussion of transport choreography
- Added description of the National EMS-ID number system developed in 2020 by the National Registry of Emergency Medical Technicians
- Expanded discussion of quality assurance and improvement efforts in CCT

CHAPTER 2 Medical-Legal Issues

- Extensively reorganized and streamlined content to meet the learning needs of CCTP students without undue repetition of concepts learned in previous EMS training
- Updated discussion of the Emergency Medical Treatment and Active Labor Act (EMTALA) and the Health Insurance Portability and Accountability Act (HIPAA)
- Reinforcement of documentation and communication skills required to ensure a safe, effective patient transport that protects providers and services from claims of unlawful conduct



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American College of Emergency Physicians (ACEP), UMBC

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CHAPTER 3 Patient Safety

- Updated discussion of medical errors and reduction efforts in EMS, including error reporting requirements and databases, trigger tools that prompt investigation into systemic problems, and quality measures that review performance across the EMS industry

CHAPTER 4 Aircraft Fundamentals and Flight Physiology

- Updated discussion of incidence and causes of air medical crashes and of air medical safety initiatives

CHAPTER 5 Patient Assessment

- Reorganized and streamlined discussion of the assessment process used to establish the initial care plan, make appropriate treatment decisions, and assess the effects of treatments
- Problem-focused review of the systems included in the primary assessment
- **NEW** discussion of assessing the hemorrhaging patient
- Updated discussion of key assessment tools, including the Richmond Agitation–Sedation Scale (RASS), cranial nerve assessment, exposure assessment, and Sequential [Sepsis-related] Organ Failure Assessment (SOFA)
- Expanded discussion of ongoing assessment tools available to the CCT team, including imaging (eg, ultrasonography) and electrocardiography

CHAPTER 6 Respiratory Emergencies and Airway Management

- Improved discussion of the fundamentals of gas exchange and the patient breathing assessment, including use of tools such as point-of-care lung ultrasonography
- Extensive reorganization to clearly focus on assessment and management of both routine and difficult airway, including pearls to facilitate better monitoring and support of airways and breathing
- **NEW** skill drill to review i-gel airway insertion

CHAPTER 7 Ventilation

- **NEW** chapter devoted entirely to the skill of ventilatory support
- Advanced review of the fundamentals and mechanics of ventilation
- Broad-to-specific approach to the various modes of mechanical ventilation
- Review of noninvasive methods of ventilatory support, such as high-flow nasal cannula and continuous positive airway pressure (CPAP)
- Detailed discussion, complete with photographs, of mechanical ventilatory equipment, modes, parameters, and alarms
- Updated overview of calculations used to assess and maintain adequate oxygenation and ventilation

CHAPTER 8 Critical Care Pharmacology

- Revised discussion of pharmacodynamics and dosing considerations
- Closely reviewed and updated information on a wide variety of critical care medications the CCTP may encounter

CHAPTER 9 Laboratory Analysis and Diagnostic Studies

- Expanded discussions of lab analysis processes, such as specimen culture, phosphate monitoring, white blood cell count differential, and inflammatory markers
- Expanded discussion of coagulation system assessment, including new information on factor Xa levels and use of thromboelastography
- Up-to-date overview of diagnostic imaging modalities, including new sections on positron emission tomography (PET), CT polytrauma (pan scan), cardiac imaging (eg, echocardiography, myocardial perfusion imaging, coronary angiography), and expanded coverage of ultrasonography

CHAPTER 10 Resuscitation, Shock, and Blood Products

- Expanded discussion of management of cardiogenic shock
- Updated discussion of sepsis recognition (eg, National Early Warning Score [NEWS]) and management (eg, current recommendations from the Surviving Sepsis Campaign, use of glucocorticoid steroids)
- Updated guidelines for large-volume resuscitation, blood transfusion, and administration of blood products
- Updated guidelines for emergency reversal of oral anticoagulants

CHAPTER 11 Trauma

- Revised overview of trauma center levels and criteria for determining the appropriate patient destination
- Updated discussion of the lethal triad of hypothermia, acidosis, and coagulopathy, including revised recommendations for volume resuscitation
- Updated discussion of the use of resuscitative endovascular balloon occlusion of the aorta (REBOA) for patients in hemorrhagic shock with massive blood loss

CHAPTER 12 Neurologic Emergencies

- Added description of the role of the thrombolytic agent tissue plasminogen activator (tPA) for patients who have experienced a stroke
- Updated discussion of the ever-expanding criteria for stroke activations
- Discussion of technologic advances that have made endovascular interventions for reperfusion therapy the gold standard for large vessel occlusion (LVO) strokes
- Discussion of the need for organized and coordinated stroke systems to provide the time-sensitive interventions needed to improve patient outcomes
- **NEW** section on ICP waveform interpretation

CHAPTER 13 Burns

- Discussion of ketamine as a pain control option for the burn patient
- Expanded discussion of fluid management in the burn patient

CHAPTER 14 Electrophysiology, Pacemakers, and Defibrillators

- Updated discussion of the management of conditions relating to electrolyte imbalances and drug effects, including wide complex tachycardias and hyperkalemia
- **NEW** section on left atrial appendage (LAA) ligation
- **NEW** section on leadless pacemakers
- Updated information on troubleshooting pacemaker and ICD malfunction

CHAPTER 15 Hemodynamic Monitoring

- Extensively reorganized and streamlined content to focus on hemodynamic monitoring and use of hemodynamic monitoring devices during transport

CHAPTER 16 Mechanical Circulatory Support

- **NEW** chapter focused exclusively on the complex and evolving role of mechanical circulatory support in the CCT environment
- Updated discussions of the principles of and indications for intra-aortic balloon pump (IABP) therapy, extracorporeal membrane oxygenation (ECMO), microaxial catheter pump systems, and implantable left ventricular assist devices (LVADs)

CHAPTER 17 Gastrointestinal and Genitourinary Emergencies

- Improved review of the physiology and pathophysiology of the genitourinary (GI) system
- Updated discussion of laboratory workup (eg, coagulation profile) and imaging techniques (eg, esophagogastroduodenoscopy [EGD], CT angiography, scintigraphy), used in assessing the GI system
- Expanded discussion of management of GI disorders, including bleeding, liver disease (eg, hepatitis), biliary tract obstructions, acute kidney injury (with detailed discussion of interventions such as continuous renal replacement therapy), and nephrolithiasis

CHAPTER 18 Endocrine Emergencies

- Thoroughly updated discussion of management of the patient with diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic state (HHS)

CHAPTER 19 Environmental Emergencies

- Updated and expanded discussions of dilutional hyponatremia, heatstroke, frostbite, and hypothermia

CHAPTER 20 Infectious and Communicable Diseases

- **NEW** discussion of monoclonal antibodies
- **NEW** discussion of care for immunocompromised patients, including organ transplantation patients, cancer patients, and COVID-19 patients
- Updated discussion of care for patients with skin and soft-tissue infections
- Updated discussion of treatment options for patients with HIV
- **NEW** discussion of carbapenem antibiotics to act against gram-negative pathogens that are resistant to beta-lactam antibiotics
- Updated protocols for use of PPE and vaccinations to protect providers against infectious agents

CHAPTER 21 Infectious and Communicable Diseases

- Updated discussion of treatment for poisoning and drug overdose

CHAPTER 22 Obstetric and Gynecologic Emergencies

- Substantially revised overview of the physiologic changes that occur during pregnancy, such as changes to the cardiovascular and respiratory systems
- Updated review of managing cardiac arrest in the pregnant patient
- Detailed overview of fetal monitoring, and assessment and management of problems relating to fetal circulation and oxygenation
- Updated discussion of treatment for medical conditions relating to pregnancy (eg, hypertension) and delivery (eg, preterm labor)
- Expanded guidance for assisting delivery in the out-of-hospital setting

CHAPTER 23 Neonatal Emergencies

- Enhanced and updated discussion of assessment and critical interventions relating to the neonatal patient
- Updated coverage of the pharmacologic agents used for neonatal care
- Discussion of transport for neonatal patients receiving specialized ventilatory therapies (eg, ECMO, nitric oxide, high-frequency ventilation)
- New discussion of neonatal jaundice and hyperbilirubinemia

CHAPTER 24 Pediatric Emergencies

- **NEW** discussion of the common invasive and noninvasive methods of assisting ventilation in the pediatric patient during transport
- Improved overview of the anatomy and physiology of the pediatric patient and implications for the assessment process
- Enhanced discussion of respiratory conditions and management
- New section on mechanical ventilation support for pediatric patients, including detailed discussion of ventilator settings
- Updated discussion of managing cardiac arrest in the pediatric patient
- Updated discussion of shock management in this patient population

CHAPTER 25 Bariatric and Special Situations

- Updated guidelines for treating bariatric patients, including airway management, pharmacologic interventions, and use of specialized diagnostic and transport equipment
- **NEW** discussion of the controversial topic of excited delirium and management of a patient with agitated behavior
- Thoroughly updated review of the care required for children with special health care needs (CSHCN), with key revisions for children with medical complexity (CMC); children with respiratory conditions; and children who have gastric, gastrostomy, or jejunostomy tubes in place

For more information on **Critical Care Transport, Third Edition**, please visit go.psglearning.com/criticalcaretransport3e.