CRITICAL CARE TRANSPORT GUIDELINES

Governor's EMS and Trauma Advisory Council (GETAC)

Air Medical & Specialty Care Transport Committee

1.0 Statement of Purpose

1.1 To develop a statewide resource for the minimum recommended expectations of a transport team when accepting and conducting an adult critical care transport by ground, with the goal of ensuring and enhancing the overall safety, quality of service, and level of care provided to patients being treated and transported by critical care ground providers.

1.2 A "lack of a unified CCT standard allows wide variation in practice, education, available medical therapies, vehicle requirements, and clinical documentation. Most importantly, the lack of standardization presents risks to patients that are often not transparent to referring and receiving clinicians, or to patients, their families, nor the public (e.g., failure to recognize or intervene on compromised critical patients due to inexperienced and/or ill-equipped clinicians). As the need for high acuity CCT increases, patients and clinicians alike will benefit from standards of practice".

(Ac~~creditation~~ Association of Critical Care Transport – Critical Care Transportation Standards – Version 3.0 ©2022)

2.0 Goal

2.1 The goal of the workgroup is to develop recommendations for the State of Texas that ensure patients requiring critical care are being transported by providers that:

2.1.1 Are properly educated and trained to furnish the higher-level medical services required to care for critically ill or injured patients.

2.1.2 Are competent in utilizing/troubleshooting the company-owned critical care transport equipment required to care for critically ill or injured patients.

2.1.3 Have collaborated with hospital systems to train to the level of competence in utilizing/troubleshooting any hospital-owned critical care equipment (IABP, Impella, etc.) that is needed for transport.

2.1.4 Assure ~~that all specialized medical equipment is secured throughout transport, with designated mounts (recommended) to prevent patient and provider injury assure~~ that all medical equipment, and all specialized medical equipment, is mounted or stowed in a manner that prevents movement during normal and emergency ~~flight~~ transport conditions;

2.2 Ultimately ensure that the RIGHT team, with the RIGHT knowledge and training, and the RIGHT transport equipment, get to the patient requiring transport the FIRST time, EVERY time.

2.3 A lack of knowledge and inaccurate expectations of scope of practice by requesting hospital clinicians can potentially lead to inappropriate team selection and subsequently poor patient outcomes, therefore, referral facilities have the responsibility of collaborating with EMS providers to:

2.3.1 Ensure full comprehension of the clinical capabilities of the various levels of transport available

2.3.2 Ensure that the level of patient care at the referring facility is maintained or elevated throughout transport

2.3.3 Monitor and report quality and performance improvement opportunities for both the referring facility & transport provider

3.0 Critical Care Transport Definition

3.1 The interfacility transport of critically ill or injured patients from one medical facility to another, and who require Critical Care Paramedic skills to deliver intensive care and monitoring beyond a field paramedic's scope of practice. Patients transported should be *critical but stable* patients. Under EMTALA, a patient is considered "stable for transfer" if, within reasonable medical confidence, no material deterioration of their condition is likely to occur during the transfer. This means the patient's condition has been stabilized and is not in immediate danger of worsening.

3.2 Elaboration:

3.2.1 **EMTALA** (Emergency Medical Treatment and Active Labor Act): This federal law requires, as well as stabilizing orders, Medicare-participating hospitals with emergency departments to provide a medical screening examination for any individual who presents requesting examination or treatment for an emergency medical condition, regardless of their ability to pay or insurance status. If a patient is found to have an emergency medical condition, the hospital is obligated to provide that individual with either necessary stabilizing

treatment or an appropriate transfer to another medical facility where stabilization can occur.

3.2.2. **Stabilization**: Stabilization means the patient's condition has been addressed, and the risk of immediate or likely worsening of their condition has been reduced.

3.2.3. **Transferring Patients (Unstable)**: When a patient's condition cannot be stabilized at the current facility, EMTALA mandates a transfer to a facility that can provide the necessary care. Consider air or ground transport by specialty care transport providers as defined in TAC 157, Chapter 5, 157.11

3.2.4. **"Stable for Transfer" Definition**: The key is that the transfer should not significantly increase the risk of the patient's condition worsening during the transfer process.

4.0 Scope of Care

4.1 Capability to deliver out-of-hospital critical care during the acute resuscitation phase before definitive care is provided (e.g. comparable to emergency department stabilizing care or an ICU transfer to more definitive care). These capabilities exceed those of the minimum standards of a MICU EMS unit and extend the critical care capabilities of the tertiary receiving facility to the patient both at the initiation of patient care and throughout transport.

4.2 The workgroup recognizes the broad spectrum of patient acuity in transport and that not every patient requires the highest level of critical care during transport. Likewise, it recognizes that not every agency needs to provide, within its mission, every potential therapy to every patient regardless of age and complexity. Transport agencies and clinical providers, however, must be transparent and clear on the scope of mission they are prepared to undertake.

5.0 Minimum Recommended Staffing for Transport

5.1 Meets minimum state staffing requirements for a MICU licensed vehicle. In addition, the paramedic providing primary care must hold an advanced certification in critical care transport (CCP-C, FP-C, CCEMT-P) or equivalent, which has been approved by the Medical Director and validated by an accredited third party.

6.0 Minimum Recommended Experience and Training

6.1 Primary Patient Care Paramedic

6.1.1 3 years of MICU experience in a high-volume transport system; however, the final decision lies with the medical director.

6.1.2 Critical Care Paramedic Certification (CCP-C, FP-C, CCEMT-P) or equivalent.

6.1.3. Pre-Hire experience and/or education in the medications and interventions as defined in the program's scope of care and services.

6.2 Secondary Paramedic (as needed)

6.2.1. 1 year of MICU experience.

6.2.2. Pre-hire experience and/or education in the medications and interventions as defined in the program's scope of care and services.

6.3. ~~Medical Director approved training program and validated by an accredited third party that contains the following minimums~~ Medical Director approved training program that meets the criteria of the Critical Care Transport Agency's affiliated continuing education accrediting body and meets the following minimum requirements:

6.3.1. 100 hours of specialized/additional training with a comprehensive written/skills exam to document competency. Training should include the following content areas:

6.3.1.1. Management of patients on ventilators

6.3.1.2. 12 lead Electrocardiography

6.3.1.3. Critical care monitoring devices

6.3.1.4. IV Infusion Pumps, pump settings, and device troubleshooting

6.3.1.5. Additional common cardiac and critical care medications

- Vasoactive agents
- Antihypertensive agents
- Antidysrhythmic agents
- Paralytics (induction & maintenance)
- Anxiolytics/sedatives
- Opioids/analgesia agents

6.3.1.6. Training on any specialized procedures/devices determined at the discretion of the EMS provider's Medical Director

6.3.1.7. Comprehensive Field Training Program that prepares and evaluates the CCT Paramedic's ability to demonstrate competency in the elements listed above

7.0 Minimum Equipment

7.1 The Critical Care Transport Agency (CCTA) must be capable of emergent response and transport for all patient populations within its stated scope of practice. Essential medical equipment, devices, and pharmaceutical formularies listed in the agency's protocols must be immediately available, accessible, and stocked on all vehicles assigned to CCT based on the CCTA's stated mission and scope of practice.

7.2. This is in addition to the basic and advanced life-support equipment as required by Texas Administrative Code, Chapter 157, Rule §157.11. Electrically powered medical equipment and devices shall function continuously as intended during loading, transport, and transfer of care with batteries or a power supply sufficient to provide continuous life support without interruption during all phases of transport.

7.3. The minimum medical equipment and pharmaceutical formulary should be based on the CCTA's scope of practice and patient population. Equipment will include, but not be limited to, the following:

- Gastric decompression devices
- Bleeding control devices
- Blood warming device
- Pelvic stabilization devices
- Thoracic drainage management

7.4 Sending facility bedside IV pumps should not be utilized for transport unless there are extenuating circumstances and approved by the transport agency's Medical Director.

8.0 Minimum Formulary

8.1 Minimum requirements will be based upon the CCTA's scope of practice, but should include (in addition to standard BLS & ALS medications):

- Vasoactive agents
- Antihypertensive agents
- Antidysrhythmic agents
- Paralytics
- Anxiolytics/sedatives
- Opioids/analgesia agents

- Bleeding control interventions e.g., Tranexamic Acid (TXA)

8.2 Specific formulary CCTAs must maintain sufficient medication for the maximum duration of transport, plus a 30-minute reserve. Supplemental medication(s) may be required for longer transports.

9.0 General Vehicle Attributes to Support Critical Care Transport

9.1 The Critical Care Transport (CCT) vehicle shall meet all requirements as required by Texas Administrative Code, Chapter 157, Section 11.

9.2 The CCT vehicle shall have sufficient and secure storage to maintain all critical care equipment, devices, and supplies, as well as all MICU equipment as required by Texas Administrative Code, Chapter 157, Rule §157.11.

9.3 The CCT vehicle shall be configured with enough human safety restraints to accommodate the patient, as well as all attendants and passengers.

9.4 The patient compartment shall be designed such that CCT providers are able to properly secure, access, view, and manage all medical equipment, devices, and supplies necessary to resuscitate and/or maintain a critically ill/injured patient, ideally without the need to remove CCT provider restraints.

10.0 Critical Care Continuing Education

10.1 The Critical Care Transport provider will have a comprehensive written education plan which includes:

10.1.1 **Initial training and orientation** that includes both didactic and clinical components.

10.1.2. **Ongoing training** that includes both didactic and clinical components. Simulation teaching/learning modalities may be used as an adjunct to or substitution for clinical experiences.

10.1.3. **Skills maintenance and clinical competency programs** that demonstrate, at minimum, an annual evaluation of proficiency/competency.

11.0 Quality Assurance & Improvement

11.1 The Critical Care Transport provider will have an ongoing formal QA process in place that focuses on ensuring compliance with established CCT standards, through regular audits and inspections, with the goal of maintaining consistent quality throughout the program.

11.2. The Critical Care Transport provider will also have an ongoing formal QI process in place that includes retrospective review, concurrent review, and prospective forecasting of clinical care. Quality improvement also combines a circular response through measurement of identified goals and sentinel events identifying opportunities for improvement, reeducation, process design, and measurement of corrective efforts.

11.2.1 Both QA and QI are essential for effective quality management, as they create a cycle of assurance and enhancement.

11.2.2 An ongoing formal process is in place to collaboratively review transport outcomes with referring facilities.

12.0 References

- Emergency Medical Treatment and Active Labor Act
- Commission on Accreditation of Medical Transport Systems 12th Edition Accreditation Standards: 2022
- Association of Critical Care Transport – Critical Care Transportation Standards – Version 3.0 ©2022
- Commission on Accreditation of Medical Transport Systems 12th Edition
- Accreditation Standards: 2022 and Critical Care Medicine 32(1):p 256-262, January 2004. | DOI: 10.1097/01.CCM.0000104917.39204.0A
- Texas Administrative Code, Chapter 157, Rule §157.11