



Emergency Medical Services Agency Prehospital Care Manual **Policy 308**

CRITICAL CARE TRANSPORT BY PARAMEDIC (CCT-P) OPTIONAL SCOPE PROGRAM APPROVAL

Effective Date January 22, 2007
Replaces June 22, 2005

Resources
None

I. Purpose

To establish the criteria and process for gaining approval to provide a Critical Care Transport by Paramedic Optional Scope Program in Santa Clara County.

II. Program Request and Approval

A. Application Process

1. ALS provider organizations shall submit a letter of intent including the following materials to the Agency for approval:
 - a. A copy of the organizations interfacility transport program to include:
 1. Name(s) and qualification(s) of the program director
 - A. Must be a registered nurse physician or physician knowledgeable in the subject matter.
 2. CCT-P Quality Assurance and Improvement Plan
 3. Procedure for submission of data to the Agency for all CCTs by paramedic.
 4. Program curriculum
 5. CE/on-going training program curriculum and schedule

6. Draft PCR for approval
 7. Draft Physician's Order form for approval
- B. Upon receipt, application materials will be reviewed for completeness. If any required documentation is missing, the applicant will be notified, in writing, within fourteen (14) business days. The missing information shall be submitted within thirty (30) days. Failure to submit the missing information within thirty (30) days will require the applicant to reapply.
- C. The applicant will receive written notification within thirty (30) days of receipt of all required materials regarding the decision to approve. If an application is not approved the reason(s) will be clearly stated in writing. An applicant may reapply if the reason(s) for disapproval are corrected.
- D. Approval is valid for four (4) years from authorization not including periodic monitoring by the Agency. It is the responsibility of the approved provider to notify the Agency, in writing, of any intent to discontinue the program or any substantial changes to the original application.

III. Staffing

A CCT-P Unit is a fully equipped advanced life support ambulance, staffed with a minimum of two (2) authorized staff that includes at least one (1) paramedic and one (1) EMT.

- A. Paramedics assigned to CCT-P units shall meet the requirements identified in Policy 215.
- B. EMTs assigned to CCT-P units shall meet the requirements identified in Policy 201 in addition to the following:
1. Successful completion of an Agency approved and provider-delivered training program specific to skills used to assist paramedics with patient care during CCT-P transfers.
 2. Complete at least four (4) continuing education hour's per-year, approved by the Agency and delivered by the provider agency, specific to knowledge and skills used on CCT-P transfers.

- C. The provider agency shall maintain a list of all staff working on a CCT-P unit and shall see that this list is updated whenever there is a change in personnel.
- D. The organization shall retain on file, at all times, copies of current and valid credentials for all personnel performing services under this program.
- E. The organization must be a Santa Clara County approved CE Provider.

IV. Medical Direction

Personnel assigned to a CCT-P unit work under the existing medical control system and follow Santa Clara County Prehospital Care Policies, as approved by the EMS Medical Director.

- A. In addition to those optional skills approved for all paramedics in Santa Clara County, CCT-P's have an expanded scope that includes the administration of intravenous nitroglycerin, potassium chloride, lidocaine, amiodarone chloride, and heparin by pump, the use of automatic transport ventilators for ventilator dependent patients, and midazolam for sedation of ventilator and/or agitated patients.
- B. The transferring physician specifies standing orders for a patient based on skills and medications included in the County CCT-P scope of practice using a County-approved form. These orders shall be limited to skills and medications included in the County paramedic basic, optional, and CCT-P expanded scope of practice.
- C. The EMS Medical Director has overall responsibility for medical control for all paramedics and EMTs within Santa Clara County.
- D. Medical control is exercised through policies, protocols, and training established and approved by the EMS Medical Director.
- E. Retrospective medical review includes monitoring, quality improvement, incident review, and disciplinary processes conducted by Provider's Medical Advisory and/or by the Agency.
- F. When a patient's treatment/care is beyond the CCT-P paramedic scope of practice, that patient may be transported only accordance with existing Interfacility Transfer Policy.

V. Documentation

A. Patient Care Report

A written or electronic Patient Care Report (PCR), approved by the Agency, shall be completed for each patient.

1. The PCR shall contain information regarding call demographics, patient assessment, care rendered, and patient response to care.
2. A copy of the PCR shall be given to the receiving facility prior to the transfer unit departing the facility.
3. If the patient is turned over to a 911-system unit, a copy of the PCR shall be sent with the patient if time permits. If the PCR cannot be completed prior to patient transport, the CCT-P paramedic shall complete the PCR and fax it to the Emergency Department of the receiving facility as soon as possible.
4. A copy of each PCR, transferring physician orders, and related documentation shall be submitted to the Agency upon request.

VI. Program Content

- A. The provider shall develop or identify training and orientation programs for CCT-P personnel, which include didactic and clinical, and training requirements. The EMS Medical Director shall approve training and orientation programs prior to providing such training.
- B. The training program shall include a minimum of eighty (80) hours of didactic education and additional an additional forty (40) hours of clinical education.
- C. The course shall include the following:
 1. Didactic – Paramedic
 - a. Breathing and Airway Management
 - i. Pulmonary anatomy and physiology
 1. Upper and lower airway anatomy
 2. Mechanics of ventilation
 3. Gas Exchange

- ii. Respiratory pathophysiologies (including signs and symptoms)
 - 1. Respiratory failure
 - 2. Atelectasis
 - 3. Pneumonia
 - 4. Pulmonary embolism
 - 5. Pneumothorax/hemothorax
 - 6. Pleural effusionChronic obstructive pulmonary disease
 - 7. Adult respiratory distress syndrome (ARDS)

- iii. Breathing assessment
 - 1. Obtaining a relevant history
 - 2. Physical exam
 - 3. Breath sounds
 - 4. Percussion
 - 5. Pulse oximetry
 - 6. Capnography (end tidal CO2 monitoring)

- iv. Tracheostomies
 - 1. Types of tracheostomies
 - 2. Tracheostomy care

- v. Endotracheal intubation – review of procedure

- vi. Esophageal tracheal airway device (combitube)

- vii. Laryngeal mask airway device

- viii. Needle cricothyrotomy – review of procedure

- ix. Pharmacological agents
 - 1. Bronchodilators
 - 2. Anti-inflammatory agents
 - 3. Antibiotics
 - 4. Sedation
 - 5. RSI

- x. Chest tubes
 - 1. Operation and troubleshooting
 - 2. Indications for and positioning of dependent tubing
 - 3. Varieties available
 - 4. Gravity drainage
 - 5. Suction drainage
 - 6. Ongoing assessments of drainage amount and color

- xi. Pleural decompression – review of procedure

- xii. Portable ventilators
 - 1. Principles of ventilator operation
 - 2. Procedures for transferring ventilator patients
 - 3. Complications of ventilator management
 - 4. Troubleshooting and practical application

- b. Laboratory values
 - i. Arterial blood gases
 - 1. The pH scale
 - 2. Bodily regulation of acid-base balance
 - 3. Acid-base derangements
 - 4. Practical evaluation of arterial blood gas results

 - ii. Review of the following laboratory tests to include normal values, possible implications of abnormal values, and interrelationships

 - iii. Urinalysis
 - 1. Normal output
 - 2. Specific gravity
 - 3. pH range

 - iv. Complete blood count (CBC)
 - 1. H&H
 - 2. RBC
 - 3. WBC with differential
 - 4. Platelets

- v. Other
 - 1. Acid phosphate
 - 2. Albumin
 - 3. Alkaline phosphate
 - 4. Amylase
 - 5. AST
 - 6. Bilirubin
 - 7. Calcium
 - 8. Chloride
 - 9. Cholesterol
 - 10. CK
 - 11. Creatinine
 - 12. Globulin
 - 13. Glucose
 - 14. Lactate
 - 15. LDH
 - 16. Lipase
 - 17. Magnesium
 - 18. Phosphate
 - 19. Potassium
 - 20. Protein, total
 - 21. PT & PTT
 - 22. SGOT
 - 23. Sodium
 - 24. Triglycerides
 - 25. Troponin
 - 26. Urea nitrogen
 - 27. Uric acid

 - vi. Practical application of laboratory values to patient presentations.
- c. Pharmacology and infusion therapies
- i. Review of common medications encountered in the critical care environment to include those in the following categories:
 - 1. Analgesics
 - 2. Antianginals
 - 3. Antiarrhythmics
 - 4. Anticoagulants
 - 5. Antihypertensives
 - 6. Bronchodilators
 - 7. Paralytics
 - 8. Sedatives

9. Thrombolytics
 10. Vasopressors
 11. Volume expanders
- ii. Review of drug calculation math
 1. IV bolus medication
 2. IV infusion rates
 - (a) By volume
 - (b) By rate
 - iii. Detailed instruction (drug action and indications, dosages, IV calculation, adverse reactions, contraindications and precautions) on the following medications:
 1. IV NTG
 2. Heparin
 3. KCl infusion
 4. Lidocaine
 - iv. Blood and blood products
 1. Blood components and their uses in therapy
 2. Administrative procedures
 3. Administration of blood products
 4. Transfusion reactions – recognition and management
- d. Infusion pumps
 - i. Operation, indications, troubleshooting
 - ii. Discussion of various pumps that may be encountered
 - iii. Discussion of prevention of “run-away” IV lines while transitioning
 - iv. Practical application of transfer of IV infusions, setting drip rates and troubleshooting
 - v. Procedures to be used when reestablishing IV lines
 - e. Hemodynamic monitoring and invasive lines:
 - i. Non-invasive monitoring
 1. NIBP
 2. Pulse oximetry
 3. Capnography
 4. Heart and bowel sound auscultation

- ii. Invasive monitoring (use, care, and complication management)
 - 1. Arterial
 - 2. Swan-Ganz
 - iii. Vascular access devices
 - iv. Dressing and site care
 - v. Management of complications
- f. 12-lead EKG interpretation:
- i. Essential 12 lead interpretation
 - ii. Acquisition and transmission
 - iii. Acute coronary syndromes
 - iv. The high acuity patient
 - v. Bundle branch block and the imitators of ACS
- g. Implanted cardioverter defibrillators:
- i. Eligible populations
 - ii. Mechanism
 - iii. Complications and patient management
- h. Cardiac pacemakers
- i. Normal operations, troubleshooting and loss of capture
 - 1. Implanted devices
 - 2. Unipolar and bipolar
 - ii. Temporary pacemakers
 - iii. Transcutaneous pacing
- i. Indwelling tubes: (the following should be discussed, described, and preferably demonstrated and/or viewed)
- i. Urinary
 - 1. Foleys
 - 2. Suprapubic
 - ii. Nasogastric (NG)
 - iii. PEG
 - iv. Dobhoff
- j. Isolation issues
- i. Pathogens
 - 1. HIV
 - 2. Hepatitis
 - 3. Vancomycin resistant enterococcus (VRE)
 - 4. Multiple-antibiotic resistant bacteria (MRSA)
 - 5. Tuberculosis (TB)
 - 6. Others as appropriate

- ii. Procedures for self-protection and decontamination
 - iii. Exposure procedures
- k. Shock and multi-system organ failure
- i. Pathophysiology of shock
 - ii. Types of shock
 - iii. Multi-system organ failure
 - 1. Recognition and management of sepsis
 - 2. Recognition and management of disseminated intravascular coagulation (DIC)
- l. Special population considerations
- i. Renal and peritoneal dialysis
 - ii. OB
 - iii. Neurological
 - iv. Trauma
- m. Role of the CCT-P
- i. Healthcare system explained
 - ii. Critical care vs. 911 system
 - iii. Hierarchy of hospital/facility nursing staff
 - iv. Hospital charts – where to look for what
 - v. Physician orders vs. ALS protocols
- n. Medical-legal issues
- i. EMTALA
 - ii. Review of CA paramedic scope of practice
 - iii. Consent issues
 - iv. DNR and physician orders for modified resuscitation
- o. Operational procedures
- i. Dispatching and deployment
 - ii. Recognition of patients who require a higher level of care
 - 1. What to do if you are not comfortable with a transport/patient. Example: When a patient's needs exceed the staffing available on the unit
 - iii. Review of specific county policies
 - iv. Obtaining and receiving reports from sending/receiving facilities
 - v. Re-calculate hanging dose prior to accepting patient
 - vi. Notification to receiving hospital while en route (cell phone)
 - vii. What to do if the patient deteriorates
 - viii. Diversion issues
 - ix. Wait and return calls – continuity of care issues

- p. Documentation
 - i. Patient consent forms
 - ii. Physician order sheets
 - iii. Critical care flow sheets

- q. Pass a written examination with a passing rate of 80% (Exam must be approved by the Agency)

- r. Skills exam (Exam must be approved by the Agency)

- s. Clinical – Paramedic
 - i. Minimum forty (40) hours
 - ii. Clinical rotation to include the following minimums
 - 1. Eight (8) hours with respiratory therapist
 - 2. Ride-along observation of four (4) interfacility critical care transports

VII. Quality Improvement Plan

- A. Provider's program shall have a written CQI plan approved by the Agency.

- B. A Registered Nurse or physician shall have clinical oversight of Provider's CQI plan.

- C. Provider's CQI staff shall evaluate all transfers for medical appropriateness.

- D. Reports summarizing CQI activity, identified trends, and resolutions shall be submitted the Agency upon request.

- E. All interfacility transfers shall be reviewed by the provider agency, and standard data elements shall be reported to the Agency. The provider agencies all must have QI plans approved by the EMS Agency, and the provider QI programs are required to have R.N. or physician oversight.

- F. For the first six months following the approval of a new program, the Agency will review 100% of all documentation. After the initial six-month period, the results of reviews shall be communicated in monthly report format from the provider agency to the EMS Medical Director.

- G. Significant events shall be communicated to the Agency in accordance with Policy 108 (Notification/Incident Report) and/or to the EMS Duty Chief based on the nature of the event.

- H. The program shall be integrated into the Agency's overall QI program.
- I. Provider's QI shall evaluate all Expanded Optional Scope of Practice for Critical Care Transport – Paramedic, for medical appropriateness. This review shall include:
 - 1. Review of transferring physician's orders and evidence of compliance with orders.
 - 2. Documentation of vital signs, including frequency.
 - 3. Documentation of any side effects/complications (including hypotension, bradycardia, increasing chest pain, arrhythmia, altered mental status) and interventions with these events.
 - 4. Documentation of any unanticipated discontinuation or rate adjustments of infusions along with rationale and outcome.
 - 5. Review of any base contact or contact of transferring physician for orders during transport.
 - 6. Education needs shall be assessed.

VIII. Staff and Unit Identification

- A. The Agency will issue an appropriate Identification authorizing the use of CCT-Paramedic Optional Scope upon the completion of all requirements and payment of any applicable fees.
- B. CCT-Paramedic ambulances shall be marked in accordance with Santa Clara County Ordinance and Ambulance Permit Regulations.