

**MEMORANDUM**

**DATE:** June 12, 2003

**TO:** Joint Powers Governing Board Members  
County Health Officers  
Lake County Administrative Officer  
Prehospital Care Medical Directors  
Prehospital Care Nurse Coordinators  
Fire Chiefs' Associations/EMS Liaisons  
EMCC Chairpersons

**FROM:** Charlotte Aros, Secretary

**RE:** INFORMATIONAL MAILING

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Enclosed for your information and review are the following items:

1. **POLICY CHANGE NOTICE #65** – please incorporate these into your Policy, Procedures and Protocols Manual as directed in this notice.
2. **NORTH COAST EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES (DRAFTS):**

**Refer any questions/comments to Larry Karsteadt or Pam Haynes for the following:**

- A. Policy #6541 – ALS Trauma Treatment Guidelines.
- B. Policy #2305 – Administration – Patient Care – LALS/ALS - Determination of Death.
- C. Policy #6014 – BLS Trauma Treatment Guidelines.

Please review these draft policies and send your comments to North Coast EMS by **Friday, July 25, 2003.**

**3. FOR YOUR INFORMATION:**

- A. State General Fund 2003/04 Application.
- B. FY 2002-03 General Fund Contract # EMS-2036 – Budget Revision.
- C. Paramedic Interfacility Transport Program Guidelines.

CHANGE NOTICE

CHANGE #65

June 12, 2003

TO: ALL PREHOSPITAL CARE POLICY MANUAL HOLDERS

Note: Record change notice on Record of Change Form. Insert this change notice behind the record of change sheet.

INSTRUCTIONS	POLICY #	POLICY DESCRIPTION	# OF PAGES
Replace	#2205	Administration - Provider <b>EMT-P Standard Drug/Intravenous Solution List</b>	2
Replace	#4002	Certification <b>Fee Schedule</b>	4
Replace	#2309	Patient Care <b>Bypass and Destination Determination</b>	2

Subject: Administration - Provider  
**EMT-P Standard Drug/Intravenous Solution List**

Associated Policies: 2202, 2203, 2204

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- I. Authority and Reference (incorporated herein by references)
  - A. Division 2.5 of Health and Safety Code
  - B. California Code of Regulations, Title 22, Section 100126
  - C. North Coast EMS Policies and Procedures
  - D. California Emergency Medical Services Authority "Recommended Ambulance Equipment", contained in California Highway Patrol Ambulance Driver's Handbook (#CHP-894)
  
- II. Purpose

To list minimum supplies and materials required for each Advanced Life Support Unit (Paramedic). Supplies and materials listed are in addition to those specified in the LALS Supply and Equipment List.

  - A. Minimum Equipment and Supplies:
    1. Two (2) each, activated charcoal 50 gm suspended in 8 oz Sorbitol.
    2. One (1) each, activated charcoal 25 gm without Sorbitol or equivalent.
    3. Five (5) each, Adenosine 6 mg vials.
    4. Five (5) each, Bretylium Tosylate 500 mg in 10 ml ampules.
    5. Two (2) each, Diphenhydramine HCl 50 mg in 1 ml or 5 ml preloads.
    6. Two (2) each, Dopamine HCl 200 mg in 5 ml ampule or one (1) 1600 µ/ml pre-mix.
    7. One (1) Glucagon 1 mg in 1 unit vial.
    8. Two (2) each, Isoproterenol 2 mg in 10 ml ampules.
    9. Two (2) each, Magnesium Sulfate 10% solution in 50 ml or 50% solution (5G/10ml).
    10. Two (2) each, Metaproterenol Sulfate 0.4% or 0.6% solution for inhalation in 2.5 ml unit dose vials or equivalent.
    11. Two (2) each, Oxytocin 10 USP units in 10 ml vials or equivalent.
    12. One (1) Neosynephrine 0.5% solution.
    13. One (1) Procainamide 100 mg/ml (1 gm/10 ml) in 10 ml vial or equivalent.
  - B. Minimum Number of IV Solutions:
    1. One (1) NS 50 ml in plastic container.
  - C. Other Equipment:
    1. One (1) each, 40, 32, and 26 Fr. Ewald tubes or equivalent.
    2. One (1) each, nasogastric tube, 12, 14, 16, and 18 French or equivalent.
    3. One (1) infant feeding tube, 8 French or equivalent.

Subject: Administration - Provider  
**EMT-P Standard Drug/Intravenous Solution List**

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4. One (1) 60 ml irrigation (catheter tip) syringe.
5. One (1) closed system gastric lavage tray or equivalent.
6. One (1) Heimlich valve.
7. One (1) infusion pump, drip or volumetric (optional).
8. Six (6) Betadine preps or equivalent.
9. One (1) 3-way IV stopcock.
10. One (1) transtracheal over the needle catheter (13 gauge) or equivalent.
11. Two (2) 12 - 14 gauge angiocatheters.
12. One (1) female luer-lock adapter.
13. One (1) jet insufflation device.
14. Two (2) intraosseous needles 13 - 18 gauge, 1 1/2 - 2 inches long.

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Subject: Certification  
**Fee Schedule**

- I. Authority and Reference (incorporated herein by references)
  - A. Division 2.5 of Health and Safety Code
  - B. North Coast EMS Policies and Procedures
  
- II. Purpose  
 To establish a fee schedule and policy for all certification levels.
  
- III. The following schedule of fees are established to offset costs; all fees are payable in advance:

EMT-I (Re)certification	\$40.00
EMT-I Skills Test & Retest	100.00
EMT-I written test for recertification or retest	20.00
EMT-II (Re)certification	50.00
EMT-II Test & Retest	50.00
EMT-P Accreditation (including cases when there has been a lapse of accreditation)	100.00
EMT-P Reccreditation, when there has been a lapse of accreditation, but EMT-P is still within the same two (2) year licensure cycle.	50.00
Extension of Accreditation Time Limit Without Cause	50.00
Special Care Transfer Paramedic Accreditation (Hep/Nitro)	20.00
MICN Initial Authorization/ Reauthorization if lapsed	80.00
MICN Re-Authorization	50.00
MICN Skills Test & Retest	50.00
Written Retest	20.00
Reactivation from LOA	20.00
Card Replacement	10.00
Suspension Reinstatement	25.00
Special Test	50.00
“Rush” of Certification, Accreditation or Authorization Card	15.00
Returned Check	25.00
First Responder Program Approval (Fee charged for private organizations with a recognized role in first aid or prehospital care training only.)	25.00

Subject: Certification  
**Fee Schedule**

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North Coast EMS will deduct a 20% administrative fee from all certification fees that are returned because applicant decides not to certify/authorize after the background investigation has been initiated.

- IV. Policy (for initial, recertification/authorization, and all retests)
- A. Test registration must be received by North Coast EMS at least fourteen (14) days prior to the scheduled test date. If registration is not received fourteen (14) days prior to the requested test session, registrant will be given the choice of attending the next regularly scheduled EMS testing session.
  - B. Test registration must be submitted with the necessary certification/testing fee, plus a separate check of \$25.00 (or cash), made out to North Coast EMS. The \$25.00 will be returned to registrant when (s)he arrives at the scheduled test session. If unable to attend test session, the \$25.00 will be returned only if registrant cancels by calling North Coast EMS at least twenty-four (24) hours prior to the test session (s)he has scheduled. If registrant does not arrive for the scheduled test session without a twenty-four (24) hour prior notification, the \$25.00 will be forfeited. An additional \$25.00 must be submitted with every test session registration.
  - C. If there is a group of four (4) or more individuals who are in need of a recertification test and would like to be tested as a group on a day other than a regularly scheduled testing session applicants shall write a letter to North Coast EMS at least fourteen (14) days in advance of desired testing date.
    - 1. The letter of request must contain:
      - a. The names of all interested individuals.
      - b. The level of test needed for each applicant listed.
      - c. The test registration fee and appropriate certification/authorization fee from each applicant listed.
      - d. The date that the group would like to be tested.
      - e. The location at which the group would like to be tested.
    - 2. This test session shall be for recertification and involve the written test only.
    - 3. The test date will be set subject to North Coast EMS staff availability.
  - E. Certification fees are waived for active North Coast EMS regional firefighters applying for EMT-I. Documentation will be met by including the Fire Chief's signature on the application. (CDF seasonal and Forest Service firefighters are not eligible for this waiver.)
  - F. "Volunteers" may request a waiver of certification fees by sending a letter of waiver request to North Coast EMS with the certification application.

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Subject: Certification  
**Fee Schedule**

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The letter must state the applicant's name, address, phone number, provider agency affiliation, and that at no time do they receive money for performing patient care in the field. The waiver request will be evaluated by the North Coast EMS Executive and/or Medical Director(s). The decision will be final unless an appeal is presented to the Joint Powers Governing Board.

- G. If EMT-I certification fees are paid by a personal check, certification will be held for thirty (30) days from the date of receipt of the check.
- H. Allow at least thirty (30) days upon receipt of a completed application by North Coast EMS for a certificate to be issued. An individual may request that his/her certification/accreditation/authorization card be processed sooner, or that we rush the process and call the employer immediately to confirm certification/accreditation/ authorization, by requesting "Rush" in writing, and enclosing an additional \$15.00 Rush Fee, payable by cash or money order only. In this case, we will call the employer immediately after confirming certification, accreditation or authorization, and the certification card will be processed within ten (10) working days of North Coast EMS receipt of the completed application, written "Rush" request, and fee.
- I. No EMT-I, EMT-II, EMT-P, or MICN will exercise his/her skills unless they are currently certified/authorized/accredited. The certification/accreditation/authorization requirements include the submittal of the appropriate paperwork and fee. If a check covering the fee is returned by the bank for any reason, the individual will be immediately suspended for a thirty (30) day period and will be required to pay the Returned Check Fee of \$25 and any other associated costs. (The thirty (30) day suspension begins upon written notification from North Coast EMS and, as long as returned check fee and any other associated costs are paid, ends thirty calendar days later. North Coast will also notify employer and base hospital by phone.)
- J. There is no provision for extension of expiration dates on certifications. When an individual's certification/authorization/accreditation card expires, the individual is no longer certified/authorized/accredited and is no longer allowed to function at their former level of certification/authorization/accreditation.
- K. The fee for a returned check is \$25.00. If an individual's check is returned by the bank, North Coast EMS will not accept a check from, or extend credit to, that individual in the future.

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Subject:        Certification  
                  **Fee Schedule**

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- L.        Special Care Transfer Paramedic Accreditation fee is in addition to the initial accreditation fee. This accreditation will allow individuals to transfer patients who require an established Nitro/Heparin drip. This fee must be accompanied by the appropriate application and paramedic's are not allowed to function in this capacity without North Coast EMS authorization.

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Subject: Patient Care  
**Bypass and Destination Determination**

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**Philosophy:**

It is understood that the care of emergency patients has the highest priority. Therefore, in the event a patient's care can be enhanced, a patient may bypass a facility with the intention to improve their outcome. This may be due to trauma triage, a medical condition, a multiple-casualty incident, a private physician's location, a patient's preference, or in the event of a catastrophic internal hospital disaster. An overwhelmed Emergency Department or lack of inpatient beds will not be a sufficient reason to bypass a medical facility.

**Authority and Reference (incorporated herein by reference)**

- A. Division 2.5 of the Health and Safety Code
- B. California Code of Regulations, Title 22
- C. North Coast Emergency Medical Services Policies and Procedures
- D. American College of Emergency Physicians established guidelines

**II. Purpose:**

To provide guidelines for temporary bypass of emergency departments and define guidelines for determining patient destination.

**III. Policy:**

- A. Unstable medical patients will be transported to the closest appropriate facility. The prehospital emergency medical care personnel under the direction of the base hospital or alternate base hospital physician will determine this. In the event of an MCI, exceptions may be made in an effort to appropriately distribute patients and optimize care.
- B. Injured patients who meet the conditions established in the Prehospital Trauma Triage Criteria, will be transported according to the guidelines established in policy #7000, Trauma Transport Destination Guidelines Policy.
- C. Medically stable patients will most often be transported to the closest facility due to the geographic location of hospitals in the North Coast EMS region. However, a base hospital MD may determine that a patient will be better served at another facility and authorize bypass for the following reasons:
  - 1. Availability of specialty care. (i.e. neurosurgical services, orthopedics, dialysis)
  - 2. A patient's private physician is waiting at another facility.
  - 3. A patient's preference.
- D. Patients may bypass a facility in an effort to provide wide patient distribution during an MCI or disaster.

Subject: Patient Care  
**Bypass and Destination Determination**

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E. The declaration of activating a complete Emergency Department bypass will be limited to catastrophic internal disaster.

IV. Considerations:

A. Temporarily overwhelmed Emergency Departments, and lack of inpatient or ICU beds at a receiving facility are not sufficient reasons to implement Emergency Department bypass.

B. Patients who are in extremis will be accepted by the closest facility regardless of their bypass status.

C. Only the base hospital physician is authorized to initiate a bypass.

1. The base hospital shall retain ultimate authority in determining ambulance destination if they feel the patient could deteriorate as a result of bypassing another facility.

D. Ambulances should not be unduly removed from their service areas.

E. Bypassed Hospital Responsibilities:

1. Establish prior contact with receiving hospital to ensure notification and acceptance of patient, preferably base hospital physician to base hospital physician.

2. If a catastrophic internal disaster has occurred:

a. At all times be accountable for all facility functions, such as inpatient bed capabilities/capacity, discharges, transfers, staffing, equipment, physical plant operations, vital services, etc. through activation of internal disaster policy.

b. Notify the Office of Emergency Services

3. A record of bypassed patient's should be maintained by the hospital after each episode. This must include a record of appropriate approval, reason for bypass, and date/time. The bypass log should undergo periodic physician review.

F. Issues of non-compliance with this policy should be reported to North Coast EMS where they will be handled on an individual basis.

V. Documentation:

A. Any patient requesting transport to a facility other than that recommended by the base hospital physician should be asked to sign an Against Medical Advice (AMA) release. Efforts to persuade the patient to follow the base hospital physician's recommendation should be documented in the PCR narrative by the responding prehospital personnel.

Subject: ALS Trauma Treatment Guidelines

**I. Priorities**

- A. Perform scene survey for rescuer safety and mechanism of injury.
- B. Maintain A, B, C's and spinal precautions throughout assessment and care.
- C. Limit procedures at the scene to triage, assessment, control of external hemorrhage. Perform additional assessment and treatment enroute.
- D. Notify base hospital according to MedNet communications guidelines.
- E. Transport.

**II. Initial Trauma Treatment**

Pediatric note: Drug dosages listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosage, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) paramedic level only.

A. Basic Therapy:

- 1. Complete primary survey:
  - a. Evaluate respiratory rate and effort. Apply high flow oxygen. If necessary, assist ventilations with bag-valve mask and 100% oxygen.
  - b. Evaluate circulation, noting pulse rate, location, and quality. Stop severe external bleeding. If pulseless, initiate chest compressions and evaluate cardiac monitor.. Defibrillate, if indicated. Consult Field Death Determination (policy #2305) when appropriate.
- 2. Perform brief secondary survey as patient is secured to the immobilization device. Expose and examine patient, while trying to keep patient warm. Place anti-shock trousers, if indicated. If tension pneumothorax is identified, perform \*\* needle thoracostomy. Ensure adequate ventilation, hyperventilate when indicated. Ventilate pediatric patients at age appropriate rate. (< 1 year of age, 30 times a minute; child > 1 year of age, 20-24 times a minute). Place traction splint on obvious femur fractures.
- 3. Initiate transport (immediately for all suspected major trauma patients).
- 4. Contact the base hospital. Give brief report, including pertinent prehospital trauma triage criteria.
- 5. **Once the patient's trauma classification is determined, transport to the appropriate facility following the guidelines established in the Trauma Transport Destination Policy, #XXXX**
- 6. Establish IV access: two (2) large bore (12-16 gauge) lines of NS. Initiate fluid bolus of 250-500cc, as needed to maintain systolic

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Subject: ALS Trauma Treatment Guidelines

- B/P >90mmHg or pediatric dosage of 20cc/kg. (Do not delay transport to initiate IV's.)
7. Complete secondary survey:
    - a. Perform head-to-toe assessment.
    - b. Obtain vital signs.
    - c. Evaluate rhythm on cardiac monitor. Treat dysrhythmias per appropriate protocol.
  8. Obtain brief history, medications, and allergies, if possible.
  9. Initiate any specific treatment appropriate (see additional guidelines below).
  10. Update base hospital with patient status, and completion of patient assessment.

NOTE: Antishock trousers should not be used for hemorrhaging chest wounds or mechanism of injury leading to high index of suspicion for thoracic injury.

### **III. System Specific Trauma Treatment Guidelines**

#### **A. Head and Neck Trauma:**

1. Follow basic therapy guidelines.
2. Check oropharynx carefully for teeth or other foreign objects. Suction, as indicated. Avoid nasotracheal intubation, if severe midfacial fractures are present.
3. Ensure adequate ventilation. Do not hyperventilate patients unless signs of herniation exist (i.e. blown pupils, unconsciousness, severe hypertension and/or posturing). Consider intubation for patients with GCS <8, deteriorating vital signs, seizures, deepening coma, pupillary changes.
4. Remove impaled objects from the cheek and apply pressure to both sides to control bleeding.
5. Do not attempt to stop clear drainage (CSF) from nose or ears.
6. Avoid placing pressure on injured eyes. Do not attempt to remove foreign objects from the globe of the eye, or to replace a torn or displaced globe. Cover injured eyes with saline soaked gauze. Patch the unaffected eye, if necessary to control eye movements.
7. Save displaced teeth for hospital staff.

#### **B. Chest Trauma:**

1. Follow basic therapy guidelines.
2. Impaled objects: Attempt to stabilize impaled objects in position found. Do not remove unless object interferes with CPR.

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Subject: ALS Trauma Treatment Guidelines

3. Flail chest: Stabilize chest wall as required for patient comfort. Be prepared to support ventilations. Observe carefully for possible progression to tension pneumothorax
4. Open chest wound: Cover (do not stuff) the wound with an occlusive dressing. Continuously evaluate for the development of tension pneumothorax. If tension pneumothorax develops, remove dressing momentarily to decompress, then re-apply.
5. Tension pneumothorax: Perform \*\* needle thoracostomy.
5. Cardiac tamponade/contusion: Observe for dysrhythmias.

C. Abdominal Trauma:

1. Follow basic therapy guidelines.
2. Impaled objects: Attempt to stabilize object. Do not remove.
3. Eviscerating trauma: Cover eviscerated organs with saline soaked gauze. Do not attempt to replace organs into abdominal cavity.
4. Genital trauma: Cover injured areas with saline soaked gauze.

D. Extremity Trauma:

1. Follow basic therapy guidelines.
2. Evaluate neurovascular status of limbs distal to injuries.
3. In most cases, splint deformed limbs as found, unless this prevents spinal immobilization or loading. If neurovascular status is compromised distal to the injury, realign by applying gentle axial traction. Recheck distal neurovascular status after any splint is placed.
4. Cover open fractures with saline soaked gauze.
5. Analgesia for isolated extremity trauma: Morphine Sulfate 2-5mg per dose, titrated to pain. Recheck BP before and after each dose.

E. Amputations:

1. Follow basic therapy guidelines.
2. Partial amputation: Cover the wound with dry sterile gauze. Splint in anatomic position and elevate the extremity.
3. Complete amputation: Place the amputated part in a sterile or clean dry container or bag. Seal or tie off the bag, if possible. Place in a second container of ice or cold water, if available. Do not place the amputated part directly on ice or in water/saline. Elevate the extremity involved and cover the stump with saline soaked gauze. Control bleeding with direct pressure, if necessary.

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Subject: Administration – Patient Care  
**LALS/ALS – Determination of Death**

Associated Policies: 2304, 2307

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- I. Authority and Reference (incorporated herein by references)
  - A. Division 2.5 of Health and Safety Code
  - B. California Code of Regulations, Title 22
  - C. North Coast EMS Policies and Procedures

- II. Purpose  
To establish regional policy and procedure for limited advanced and advanced life support (LALS/ALS) personnel to determine and document death in the prehospital setting. For the purpose of this policy, "LALS/ALS personnel" is defined as a rescuer that is a currently certified or licensed EMT-II or EMT-P within the North Coast EMS Region. Additionally, this policy shall outline procedures to be followed whenever CPR is withheld or discontinued in the prehospital setting (also, refer to Policy #2307).

- III. Policy
  - A. Do Not Resuscitate (DNR) Requests:  
CPR should not be initiated on a pulseless, non-breathing patient when a valid Do Not Resuscitate (DNR) Request, No Code or No CPR Order meeting Policy #2307 requirements is presented.
  - B. Obvious Death:  
CPR does not need to be initiated if a pulseless, non-breathing patient has one or more of the following conditions:
    - 1. Decapitation.
    - 2. Decomposition.
    - 3. Incineration of the torso and/or head.
    - 4. Visible exposure, destruction, and/or separation of vital internal organs (brain, spinal cord, liver, heart, or lungs).
    - 5. Rigor or livor mortis (without contributing environmental factors - see special information).
    - 6. Major trauma resulting in full arrest with a known down time of greater than twenty (20) minutes with no CPR initiated.
    - 7. Severe injuries obviously incompatible with life.
    - 8. Submersion greater than or equal to twenty-four (24) hours.
    - 9. **Blunt Trauma in asystole or PEA < 40bpm.**
  - C. Possible Death:  
CPR does not need to be initiated on pulseless, non-breathing patients who do not meet the above conditions but do meet the following criteria (when CPR has not been initiated).
    - 1. Confirmed asystole upon placement of a cardiac monitor for at least two minutes.

Subject: Administration – Patient Care  
**LALS/ALS – Determination of Death**

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2. Absence of apical heart tones or breath sounds upon chest auscultation.
  3. Absence of breath sounds upon tracheal auscultation.
- D. Discontinuation of CPR:  
Resuscitation attempts may be discontinued under the following circumstances:
1. Upon presentation of a valid Do Not Resuscitate (DNR) Request, No Code or No CPR Order meeting Policy #2307 requirements.
  2. When the EMT is exhausted and cannot continue resuscitative efforts.
  3. When the base hospital physician directs the discontinuation of resuscitative efforts based on the information available to him/her. Some suggested guidelines are:
    - a. Documented apnea and pulselessness > ten (10) minutes without CPR.
    - b. No response to ACLS > thirty (30) minutes.
    - c. No ventricular activity after ten (10) minutes of ACLS.
- IV. Procedure
- A. LALS/ALS personnel need not initiate CPR when death has been determined using the criteria outlined above.
  - B. A cardiac monitor may be used by LALS/ALS personnel to assist in their determination of death without being committed to initiation of other ALS procedures.
  - C. Discontinuation of CPR:
    1. Identify all mortal injuries or confirm that a valid Do Not Resuscitate (DNR) Request, No Code or No CPR Order meeting Policy #2307 requirements is provided.
    2. Record EKG rhythm strip and confirm asystole.
    3. Contact base hospital, relay all facts/findings and request permission to discontinue CPR.
  - D. When CPR is not initiated, or has been discontinued, by BLS, LALS, or ALS personnel:
    1. Notify base hospital physician or MICN of findings via radio or telephone.
    2. Notify County Coroner or appropriate investigative authorities if this has not already been done.
    3. Complete North Coast EMS Prehospital Care Report (PCR) with all surrounding facts, findings, and time death was determined.

Subject: Administration – Patient Care  
**LALS/ALS – Determination of Death**

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VI. Special Information

- A. Division 2.5 of the California Health and Safety Code, Section 1798.6(a), states that the authority for patient care management in an emergency shall be vested in that licensed or certified health care professional, which may include any paramedic or other prehospital emergency personnel, at the scene of the emergency who is most medically qualified specific to the provision of rendering medical care.
- B. If directed by a law enforcement officer to transport a victim who is obviously dead, comply with the order and document the incident upon arrival at the hospital. Provisions of the California Penal Code make it unlawful to willingly fail or refuse to comply with any lawful order, signal or direction of any peace officer.
- C. Hypothermia can mask the positive neurological reflexes, which indicate life, so it is imperative to be certain no contributing environmental factors exist, such as cold water submersion or cold exposure, especially in children. If there exists any possibility that either of these could be a factor, resuscitation should be started immediately.
- D. Resuscitative efforts may be extended despite apparent death, at the discretion of the base hospital physician, to facilitate organ donation.

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Subject: BLS Trauma Treatment Guidelines – ~~BLS Personnel~~  
~~Major Trauma/Traumatic Shock~~

Associated Policies:

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I. Priorities

- A. ~~ABC's.~~ Perform scene survey for rescuer safety and mechanism of injury.
- B. Maintain A,B,C's and spinal precautions throughout assessment and care. ~~Protect C-Spine.~~
- C. Limit time on scene to triage and control of external hemorrhage. Further assessment must be done en route. ~~Control bleeding.~~
- D. Transport code 3 to nearest facility. ~~Rapid transport with as minimal a scene time as possible.~~
- E. Notify base hospital according to Med Net communications guidelines. ~~Further assessment en route to the hospital.~~
- F. ~~Communicate with transporting ambulance or base hospital.~~
- G. ~~Transport Code 3.~~

II. Initial Trauma Treatment ~~Traumatic Shock~~

A. Basic Therapy:

- 1. All traumatically injured patients in extremis require rapid transport, second only to:
    - a. Airway management. Use the simplest effective method with in-line cervical immobilizations. Administer high flow oxygen.
    - b. Control of significant hemorrhage.
    - c. Rhythm assessment for automatic defibrillation, if indicated.
    - d. Rapid spinal immobilization.
  - ~~2. Detailed assessments and all other treatment should be performed en route unless transportation is not available.~~
  - 2. Transport code 3 to nearest facility while continuing further assessment and treatment. Consider possible aircraft evacuation.
    - Expose and examine patient head to toe while keeping patient warm.
    - Obtain vital signs and GCS.
    - Obtain brief history, medications, and allergies, if possible.
  - 3. Initiate any specific treatment appropriate (see additional guidelines below).
  - 4. Update base hospital with patient status, and completion of patient assessment.
- Consideration: BLS unit must transport to the closest facility, or may rendezvous with an ALS unit if appropriate. (Refer to Trauma Transport Destination Policy #XXXX)

B. ~~At Scene:~~

Subject: BLS Trauma Treatment Guidelines – ~~BLS Personnel~~  
~~Major Trauma/Traumatic Shock~~

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1. ~~Agressive airway management and ventilatory support with spinal immobilization.~~
2. ~~Use the simplest effective method (basic airway management) with in line cervical immobilization.~~
3. ~~Control obvious external hemorrhage.~~
4. ~~Administer high flow oxygen.~~
5. ~~Treat for shock per protocol.~~
6. ~~Contact transporting ambulance and/or base hospital with trauma triage findings, especially if ETA to receiving hospital is five (5) minutes or less.~~
7. ~~Consider need for possible aircraft evacuation.~~
- C. ~~En Route (time permitting):~~
  1. ~~Continue patient assessment and secondary survey.~~
  2. ~~Treat for shock per protocol.~~
  3. ~~Place splints, dressings and bandages.~~
  4. ~~If transporting, contact base hospital with updated information, as needed.~~
  5. ~~Transport Code 3.~~
  6. ~~If BLS transport, rendezvous with responding ALS personnel as soon as possible.~~

### III. System Specific Trauma Treatment Guidelines

#### A. Head and Neck Trauma:

1. Follow Basic Treatment Guidelines.
2. Check oropharynx carefully for teeth or other foreign objects. Suction, as indicated.
3. Ensure adequate ventilation.
4. Do not attempt to stop clear drainage (CSF) from nose or ears.
5. Avoid placing pressure on injured eyes. Do not attempt to remove foreign objects from the globe of the eye, or to replace a torn or displaced globe. Cover injured eyes with saline soaked gauze. Patch the unaffected eye, if necessary to control eye movements.
6. Save displaced teeth for hospital staff.

#### B. Chest Trauma

1. Follow Basic Treatment Guidelines
2. Impaled Objects: Attempt to stabilize impaled objects in position found. Do not remove unless object interferes with CPR.
3. Flail Chest: Stabilize chest wall to reduce paradoxical chest wall movement. Be prepared to support ventilations.

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Approved: \_\_\_\_\_ Date: \_\_\_\_\_

Approved as to Form: \_\_\_\_\_ Date: \_\_\_\_\_

Subject: BLS Trauma Treatment Guidelines – ~~BLS Personnel~~  
~~Major Trauma/Traumatic Shock~~

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4. Open Chest Wound: Cover (do not stuff) the wound with an occlusive dressing. If patient's condition worsens, remove dressing to decompress tension, and then re-apply dressing taped on 3 sides.
5. Utilize automatic defibrillator for dysrhythmia recognition.

C. Abdominal Trauma

1. Follow Basic Treatment Guidelines
2. Impaled Object: Stabilize the object in place; do not remove unless it interferes with CPR.
3. Evisceration: Cover eviscerated organ(s) with sterile saline soaked gauze. If possible, then cover with plastic wrap to prevent hypothermia. Do not attempt to replace organs.
4. Genital Trauma: Apply direct pressure for bleeding. Cover exposed areas with moistened saline gauze.

D. Extremity Trauma

1. Follow Basic Treatment Guidelines.
2. Evaluate neurovascular status of limbs distal to injuries.
  - a. Intact CSM: Splint/Immobilize the joint above and below the injured site in position found. Remember to check CSM before and after splinting.
  - b. Impaired CSM: Apply gentle axial traction to restore circulation. Select and apply appropriate splint.
3. Cover open fractures with sterile saline moistened gauze.

E. Amputations/Avulsions:

1. Follow Basic Treatment Guidelines.
2. Partial Amputation: cover with dry sterile gauze. Splint in anatomic position and elevate. Remove any jewelry or possible existing tourniquets.
3. Complete Amputation: Place the amputated part in a sterile or clean dry container or bag. Seal or tie off the bag, if possible. Place in a second container of ice or cold water, if available. Do not place the amputated part directly on ice or in water/saline. Elevate the extremity involved and cover the stump with saline soaked gauze. Control bleeding with direct pressure, if necessary.

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Approved: \_\_\_\_\_ Date: \_\_\_\_\_

Approved as to Form: \_\_\_\_\_ Date: \_\_\_\_\_

June 5, 2003

Carol MacRae, Contracts Manager  
Emergency Medical Services Authority  
1930 9<sup>TH</sup> Street  
Sacramento, Ca 95814-7043

Dear Carol:

The North Coast EMS **2003/04 State General Fund (GF) Application** is enclosed.

We again would like to thank Richard Watson and other staff members at the EMS Authority for minimizing, for the second year in a row, the General Fund reduction to only 4%.

Please note, however, that the resulting state revenue loss of over \$20,000, combined with increasing costs and fixed local revenue, will result in a substantial budget deficit after the State Trauma Fund is completed December 31, 2004. After that date, we will experience a continuing decrease in discretionary expenses and contractors, and ultimately staff size, unless new state or local funds are forthcoming. Obviously, contractor and staff reduction will erode our ability to carry out GF contractual obligations.

As you are aware, North Coast EMS is eligible for State General Fund Assistance for the following reasons:

1. We are a multi-county region (three and one-third county) with high non-resident use.
2. Total population is less than 300,000 and we appropriate a cash match of \$0.41 per capita.
3. Del Norte, Humboldt and Lake Counties delegate to us all Division 2.5 functions listed on page 5 of the June 2001 EMSA #104.
4. Our EMS Plan is on file and approved by EMSA. The summary revision is in progress, although we consider our quarter and final General Fund reports submitted consistently since 1999 to constitute annual EMS Plan updates.
5. As of May 22, 2003, our Regional Trauma Plan has been approved by the Joint Powers Governing Board and will be submitted to the EMSA in the next several days thanks to the State Trauma Fund.
6. We have implemented a Public Safety Defibrillation program and submit required reports to EMSA.
7. We utilize the EPCIS computerized data system from Marin County and estimate that close to 100% of our EMS calls are documented on this centralized system.
8. Our JPA-member counties coordinate local medical disaster preparedness and response activities at the declaration level; North Coast EMS approves prehospital disaster training associated with EMT and paramedic programs, manages associated policies and collaborates with county, regional and state DMS officials.

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9. With regard to the Objectives, please note that North Coast EMS does not have county-delegated authority for approval of Public Safety Dispatch centers, maintenance of the Med-Net communications hardware, monitoring or enforcement of local ambulance ordinances (or exclusive operating areas), or oversight of disaster medical services.

Thank you for your ongoing support and assistance. Please call if you have any questions.

Sincerely,

Larry Karsteadt, Executive Director  
North Coast EMS

cc: JPA Governing Board  
County Health Officers  
Lake County Administrative Officers  
EMCC Chairpersons  
Clark Guzzi

## BUDGET

<b>BUDGET CATEGORIES</b>	<b>STATE GENERAL FUNDS</b>	<b>LOCAL FUNDS</b>	<b>TOTAL</b>
Personnel	185,009	-0-	185,009
Fringe Benefits	22,565	38,824	61,389
Communications	0.00	8,000	8,000
Office Maintenance and Repairs	0.00	2,740	2,740
Materials and Supplies	0.00	15,000	15,000
Printing and Reproduction	0.00	4,000	4,000
Professional Services (Consultants)	12,000	51,833	63,833
Space	9,780	9,780	19,560
Travel, Training, Memberships & Professional Activities	0.00	18,000	18,000
Obligated Reserve	0.00	33,500	33,500
<b>TOTALS</b>	<b>229,354</b>	<b>181,531</b>	<b>411,031</b>

**B. PROGRAM FUNDING**

<b>PROGRAM FUNDING</b>	<b>STATE GENERAL FUNDS</b>	<b>LOCAL FUNDS</b>	<b>TOTAL</b>
State General Fund	229,354		229,354
Humboldt County Contract		20,591	20,591
Lake County Contract		9,758	9,758
Del Norte County Contract		4,704	4,704
Trinity County Contract		2,250	2,250
SB612 – Humboldt		27,500	27,500
SB612 – Lake		15,000	15,000
SB612 – Del Norte		8,500	8,500
Bertha Russ Lytel Foundation		7,500	7,500
Other local funds		9,300	9,300
Reserve		15,000	15,000
<b>TOTALS</b>	<b>229,354</b>	<b>120,103</b>	<b>349,457</b>

## C. BUDGET DETAIL/NARRATIVE

1. **PERSONNEL:** No more than \$185,009 will be spent. Please note that 15% of the GF staff salaries will be covered by the State Trauma Fund from July 1 through December 31, 2003. The budget figures presented below are based upon twenty-six pay periods plus two days (minus five days at the beginning of the FY and plus five days at the end of the FY at .925 FTE [a total of 1804 hours]). There are five North Coast EMS staff members. They are:

a. Executive Director - Larry Karsteadt will continue as the Executive Director for twelve months at .925 FTE at the 10 Year step. The Director serves at the pleasure of the Joint Powers Governing Board and is responsible for administering all aspects of the North Coast EMS Agency and for managing the special projects. Larry will earn \$59,441 per year at .925 FTE.

b. Training Coordinator – Wendy Chapman will continue as the Training Coordinator for twelve months at .925 FTE at the D step for six months and E step for six months. Wendy will continue to approve training programs, administer certifications and oversee continuing education. Wendy will earn \$39,352 per year at .925 FTE.

c. EMS Coordinator – Louis Bruhnke, EMT-P will continue as the EMS Coordinator for twelve months at .925 FTE at the E Step for the fiscal year. Louis' primary responsibilities will include: protocol and medical policy development; test revision and Field Training Officer oversight; clinical program coordination; and, coordination of the continuous quality improvement and PCR programs. Louis will earn \$39,352 per year at .925 FTE.

d. Administrative Assistant – Charlotte Aros will continue as Administrative Assistant for one month at the C Step and eleven months at the D step at .925 FTE in the fiscal year. Charlotte is in charge of secretarial functions (for staff and contractors), certification cards and maintaining personnel records, office supplies, and receipt of revenue. Charlotte will earn \$22,653 per year at .925 FTE.

e. Program Assistant-II – Maris Hawkins will continue as the Program Assistant II. She will continue at 0.51 FTE at step E for six months and .60 FTE at step E for six months. Maris will assist with accounting, bookkeeping, project billing, audit oversight, and as needed, contract preparation and general office assistance. She will handle petty cash, receiving and paying bills, payroll, inventory and entries on the computerized bookkeeping system and fiscal reports. The Program Assistant will work approximately 1,092 hours this FY. Maris will earn \$22,322 at .56 FTE.

**2. FRINGE BENEFITS:** The total amount of expenditures will not exceed \$61,389 with \$22,565 out of the General Fund revenue and \$38,824 out of local revenue. The fringe benefits calculations for staff members are shown below at 92.5% (please note that 15% of staff benefits will be covered by the State Trauma Fund from July 1, 2003 to December 30, 2003).

BENEFIT	% OF SALARY
Retirement	15%
Health/Dental/Life	11%
Workers Comp	\$2.45 per \$100 for LK and LB and \$2.09 per \$100 for the rest of staff
Unemployment	5% of 1 <sup>st</sup> \$7,000
Medicare Tax	1.45%

**3. COMMUNICATIONS:** This line item will cover telephone charges and postage expenses less those covered by the State Trauma Fund and other special projects. It will not exceed \$8,000 out of local funds.

**4. OFFICE MAINTENANCE AND REPAIRS:** This line item will cover office and liability insurance and weekly office cleaning at \$145 per month less the amount covered by the State Trauma Fund and other special projects. The total expenses will not exceed \$2,740 and will be out of local funds.

**5. MATERIALS AND SUPPLIES:** This line item will cover general office supplies and maintenance less those covered by the State Trauma Fund and special projects. The total expenditures will not exceed \$15,000 and will be out of local fund revenue.

**6. PRINTING AND REPRODUCTION:** This line item will cover all printing and copying, and the monthly lease agreement for the office copier. The total expenses will not exceed \$4,000 and will be out of local funds.

**7. PROFESSIONAL SERVICES:** The total contractual expenditure will not exceed \$63,833, with \$12,000 out of the General Fund revenue and \$51,833 out of local revenue. The expected contractors will be:

- a. Medical Director – John Kelsey, M.D. will continue as the part-time Medical Director. This position is funded partially by the Bertha Russ Lytel Foundation. Dr. Kelsey is responsible for overseeing all medical operations of North Coast EMS. This line item includes travel and expenses, etc. The total expenditure (paid at a flat rate) will not exceed \$14,500 for contractual and \$1,000 for travel. (Approximately \$100 per hour and 0.06 FTE.) He will work approximately 135 hours. It is our intention to increase Dr. Kelsey’s time and fee to cover additional responsibilities associated with ongoing medical oversight of the Regional Trauma System. This increase will require additional state or local funding.
- b. Clinical Nurse Consultant – Pat Farmer, R.N. will continue as a part-time consultant for base hospital site-visits, Mobile Intensive Care Nurse Program coordination, assistance with standing orders and protocol development, and base hospital designation and policy development. The contractual line item includes travel and expenses. The total expenditure will not exceed \$ 9,000. (Approximately \$35 per hour and 0.13 FTE.) The fee is approximately \$8,250 with \$750 for travel and 257 hours.

- c. Ezequiel Sandoval – North Coast EMS will continue to contract with Ezequiel to provide office computer services as needed. The total amount will be \$3,000 at \$60 per hour for 0.035 FTE or 50 hours.
- d. Prehospital Care Report Contractor – North Coast EMS will continue to contract with C. Jay Myhre for computer programming and training as needed relative to the maintenance of the Marin County PCR program. The total expenditure will be \$3,000. (Approximately \$50.00 per hour for 0.03 FTE or 60 hours.)
- e. Nurse Contractor – Pam Haynes, R.N. will continue to conduct Emergency Department Approved for Pediatrics site-visits, assist with scope of practice expansion and other activities. The total expenditure will not exceed \$6,000. (Approximately \$25 per hour for 240 hours or 0.12 FTE). It is our intention to increase Pam’s time and fee, and Mary Donati’s time and fee in Lake County as well, to cover additional responsibilities associated with ongoing coordination and quality improvement review of the Regional Trauma System. This increase will require additional state or local funding.
- f. Injury Prevention Public Safety Announcements (PSA’s) - \$1,200 is ear-marked to continue sponsorship of Injury Prevention PSA’s. Many of these are directly associated with continuation of our EMSC program efforts. This expenditure will be dropped if additional funding is not secured.
- g. Med-Net Trust Fund – North Coast EMS will contribute up to \$500 next year as part of the Med-Net Replacement Fund.
- h. Auditor – Moss, Levy & Hartzheim CPA’s will continue to conduct regular annual audits and state-mandated single audits, when required. The total expenditure will be \$7,000 and paid at a flat rate. (Approximately \$65 per hour for 0.05 FTE and 107 hours.)
- i. Legal Services - This line item will be used if necessary for legal support. The total expenditure will be \$1,000. Hourly rate and time worked is yet to be determined.
- j. Clinical Coordinator – North Coast EMS intends to contract with one or more Paramedics or Nurses, to assist with policy and protocol development, scope of practice additions, utilization of EPCIS, etc. One of these contractors will continue preparing state required early defibrillator reports. The total expenditure will not exceed \$12,000.00. (Between \$18 to \$30/hour to be determined.) Other coordinator activity will be reduced or eliminated as needed to balance the budget unless new revenue is forthcoming.
- l. Other Consultants - Contracts with other consultants as necessary to assist with protocol development, other projects, or to attend training or continuing education programs, such as: paramedic, CQI, PHTLS, PALS, EMD, etc., as determined by the Executive Director. The expenditure will not exceed \$5,633. Hourly rate and time worked is yet to be determined, but \$150 is ear-marked for travel. Other consultant activity will be reduced or eliminated as needed to balance the budget unless new revenue is forthcoming.

8. **OCCUPANCY/SPACE**: This line item will cover office rent and utilities for the year. Square footage is 2400 at a rate of \$.583 per square foot (which is well below the industry average in this area). We estimate the expense to be \$1,630 per month. The total will not exceed \$19,560 with \$9,780 from the General Fund revenue and \$9,780 will come out of local funds.

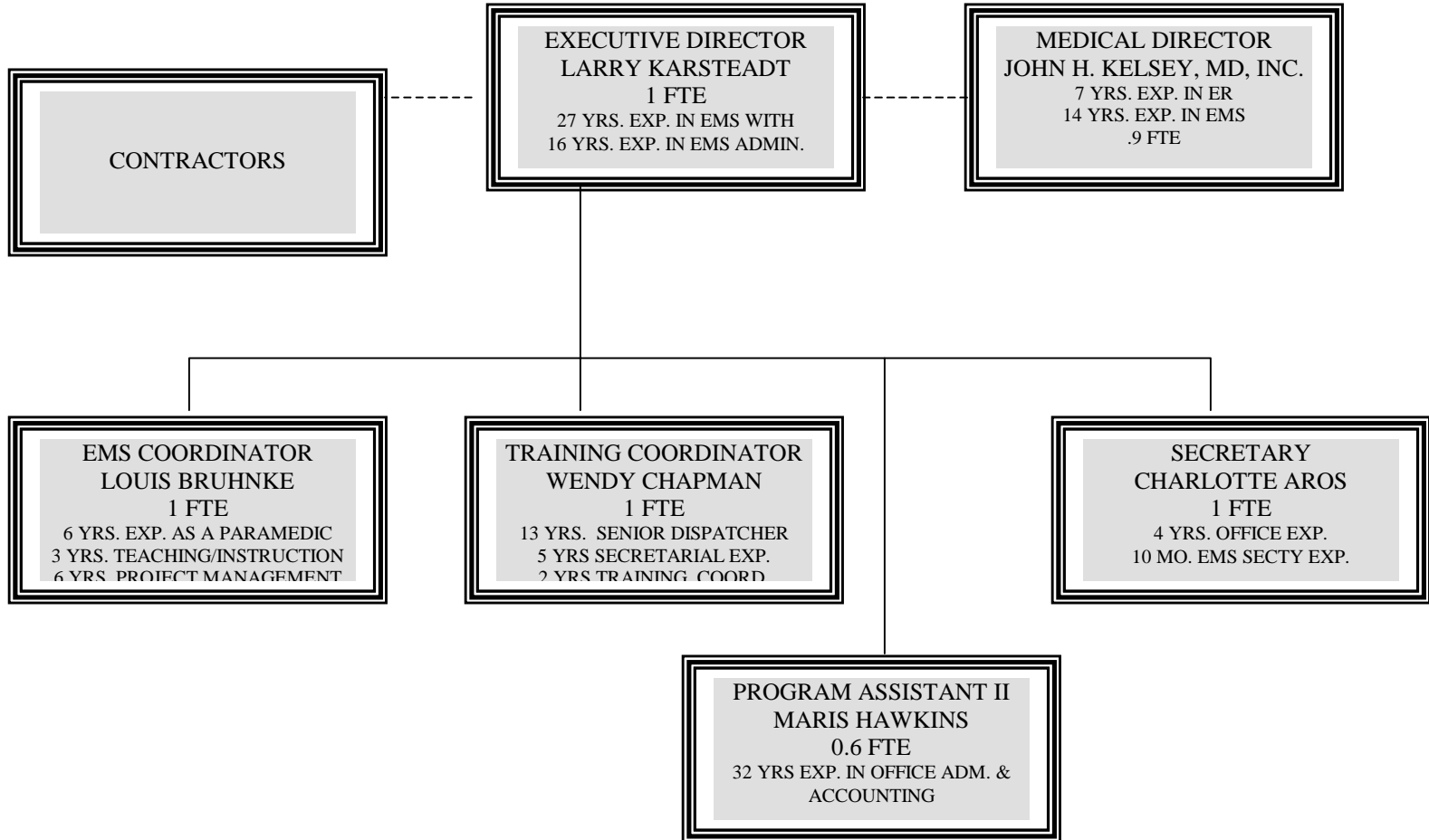
9. **TRAVEL, TRAINING, MEMBERSHIPS & PROFESSIONAL ACTIVITIES**: This line-item covers estimated travel, per diem and conference costs, seminar fees and memberships for General Fund staff travel within the region (estimate 10 trips to Del Norte County, 20 to Lake, 1 to Trinity, plus 40 within Humboldt). Travel to state meetings by staff and contractors will be limited this coming year due to the anticipated revenue shortfall. Employees will be reimbursed for mileage at the rate set forth by the Internal Revenue Service. The total estimated expenses are \$18,000 out of local funds.

**10. OBLIGATED RESERVE:** This line item is to cover personnel and benefit expenses in the unlikely event the office were to close and have to reimburse all employees for accumulated time. The \$33,500 is the estimated by the agency to cover personnel and benefit obligation for accumulated sick, vacation, holiday, comp, etc.

**D. PERSONNEL DETAIL**

PERSONNEL CLASSIFICATION	STAFF PERSON	STATE FUNDED		LOCALLY FUNDED		TOTAL % OF TIME LOCAL & STATE
		% of Time	Pay Rate	% of Time	Pay Rate	
Executive Director	Larry Karsteadt	92.5%	\$ 59,441	-0-%	\$ -0-	85%
Trn'g Coordinator	Wendy Chapman	92.5%	\$ 39,352	-0-%	\$ -0-	92.5%
EMS Coordinator	Louis Bruhnke	92.5%	\$ 41,241	-0-%	\$ -0-	92.5%
Secretary	Charlotte Aros	92.5%	\$ 22,653	-0-%	\$ -0-	92.5%
Program Assistant	Maris Hawkins	56%	\$ 22,322	-0-%	\$ -0-	56%

# FY 2002-03 NORTH COAST EMS PERSONNEL ORGANIZATIONAL CHART



May 27, 2003

Carol MacRae, Contracts Analyst  
Emergency Medical Services Authority  
1930 Ninth Street, Suite 100  
Sacramento, CA 95814-7043

Re: FY 2002-03 General Fund Contract # EMS-2036 – Budget Revision

The letter constitutes a formal request to change the FY 2002-03 GF Contract #EMS-2036 budget.

This request is essential because we expect to under spend the line items listed below by more than \$2,000 for the following reasons:

1. Personnel: our Training Coordinator, Wendy Chapman, was part time for several months due to a Worker's Compensation injury. Also, a portion of EMS Coordinator, Louis Bruhnke's salary will be covered by his additional time spent on the MCI/Disaster special project grant.
2. Benefits: covers the above changes and increases in health, unemployment and workers compensation insurance for all employees.

To make up the difference and balance the budget, we have allocated a portion of Space: Rent/Utilities to the State General Funds column from the Local Funds column. Also, we have increased the locally funded Professional Services accordingly. Please note that it was not possible to request a contract modification earlier because details were not available until recently. These changes are essential and were approved last week by our Joint Powers Governing Board.

We appreciate your prompt attention to the contract revision. Please call Maris if you have any questions.

Sincerely,

Larry Karsteadt, Executive Director  
North Coast EMS

cc: JPA Governing Board  
County Health Officers  
Lake County Administrative Officer

**FY 2002-03 GENERAL FUND BUDGET (REVISED 5/22/03)**

<b>FY 02-03 PROPOSED EXPENDITURES</b>		<b>FY 02-03 ESTIMATED REVENUE</b>	
EXECUTIVE DIRECTOR	\$ 53,933	EMS AUTHORITY	\$ 229,993
TRAINING COORDINATOR	25,528	BERTHA RUSS LYTEL	7,500
EMS COORDINATOR	33,686	CERTIFICATION	7,000
PROGRAM ASSISTANT-II (.60 FTE)	19,851	INTEREST	1,000
SECRETARY	21,021	MISCELLANEOUS	800
MEDICARE TAX	2,233	DEL NORTE CONTRACT	4,704
MEDICAL/DENTAL/LIFE	19,674	LAKE CONTRACT	9,758
RETIREMENT	23,103	HUMBOLDT CONTRACT	20,591
WORKER'S COMPENSATION	3,004	TRINITY CONTRACT	2,250
UNEMPLOYMENT	1,649	DEL NORTE SB612	8,500
MEDICAL DIRECTOR	14,500 (TRAVEL) 1,000	HUMBOLDT SB612	27,500
AUDITOR	7,000	LAKE SB612	15,000
CONTRACTORS	50,700 (TRAVEL) 1,000	RESERVE	44,862
TRAVEL	13,500	<b>GRAND TOTAL</b>	<b>\$ 379,458</b>
SEMINAR FEES/DUES	2,500		
COMMUNICATION (TELEPHONE/POSTAGE)	7,000		
OFFICE MAINT/REPAIR (INSUR/CLEAN/TRASH)	2,686		
MATERIALS/SUPPLIES	15,000		
PRINTING/REPRODUCTION	4,000		
OCCUPANCY	18,580		
EXPENSES FROM OBLIGATED RESERVE	24,354		
<b>GRAND TOTAL</b>	<b>\$ 365,502</b>		

**A. BUDGET**

<b>BUDGET CATEGORIES</b>	<b>STATE GENERAL FUNDS</b>	<b>LOCAL FUNDS</b>	<b>TOTAL</b>
Personnel	154,019	-0-	154,019
Fringe Benefits	49,663	-0-	49,663
Communications	0.00	7,000	7,000
Office Maintenance and Repairs	0.00	2,686	2,686
Materials and Supplies	0.00	15,000	15,000
Printing and Reproduction	0.00	4,000	4,000
Professional Services (Consultants)	12,944	61,256	74,200
Space	13,367	5,213	18,580
Travel, Training, Memberships & Professional Activities	0.00	16,000	16,000
Obligated Reserve	0.00	24,354	24,354
<b>TOTALS</b>	<b>229,993</b>	<b>135,509</b>	<b>365,502</b>

**B. PROGRAM FUNDING**

<b>PROGRAM FUNDING</b>	<b>STATE GENERAL FUNDS</b>	<b>LOCAL FUNDS</b>	<b>TOTAL</b>
State General Fund	229,993		229,993
Humboldt County Contract		20,591	20,591
Lake County Contract		9,758	9,758
Del Norte County Contract		4,704	4,704
Trinity County Contract		2,250	2,250
SB612 – Humboldt		27,500	27,500
SB612 – Lake		15,000	15,000
SB612 – Del Norte		8,500	8,500
Bertha Russ Lytel Foundation		7,500	7,500
Other local funds		8,800	8,800
Reserve		30,000	30,000
<b>TOTALS</b>	<b>229,993</b>	<b>134,603</b>	<b>364,596</b>

**C. BUDGET DETAIL/NARRATIVE**

**1. PERSONNEL:** No more than \$154,019 will be spent. Please note that 15% of the GF staff salaries will be covered by the State Trauma Fund during FY 2002-03. The budget figures presented below are based upon twenty-six pay periods plus two days (minus five days at the beginning of the FY and plus five days at the end of the FY at .85 FTE [a total of 1670 hours]). There are five North Coast EMS staff members. They are:

a. Executive Director - Larry Karsteadt will continue as the Executive Director for twelve months at .85 FTE at the E step. The Director serves at the pleasure of the Joint Powers Governing Board and is responsible for administering all aspects of the North Coast EMS Agency and for managing the special projects. Larry will earn \$53,933 per year at .85 FTE.

b. Training Coordinator – Wendy Chapman will continue as the Training Coordinator for twelve months at .63 FTE as she worked part time during her recovery from wrist surgery for five months at the C step for six months and D step for six months. Wendy will continue to approve training programs, administer certifications and oversee continuing education. Wendy will earn \$25,528 per year at .63 FTE.

c. EMS Coordinator – Louis Bruhnke, EMT-P will continue as the EMS Coordinator for twelve months at .76 FTE at the E Step for the fiscal year. A portion of Louis’ salary will be covered by his time spent on the MCI/Disaster grant. Louis’ primary responsibilities will include: protocol and medical policy development; test revision and Field Training Officer oversight; clinical program coordination; and, coordination of the continuous quality improvement and PCR programs. Louis will earn \$33,686 per year at .76 FTE.

d. Secretary – Charlotte Aros replaced Helena Neary as Secretary on July 22, 2002 at the C step eleven months at .85 FTE at the C step. Helena continued at the C step for two months. Charlotte is in charge of secretarial functions (for staff and contractors), certification cards and maintaining personnel records, office supplies, and receipt of revenue. Helena and Charlotte will earn \$21,021 per year at .85 FTE.

e. Program Assistant-II – Maris Hawkins will continue as the Program Assistant II. She will continue at 0.51 FTE at step D for six months and E step for six months. Maris will assist with general office duties, as necessary, and contracts, PCR policy compliance and sorting, administrative policies, grant maintenance assistance and bookkeeping. She will handle petty cash, receiving and paying bills, payroll, inventory and entries on the computerized bookkeeping system and fiscal reports. The Program Assistant will work approximately 1,002 hours this FY. Maris will earn \$19,851 at .51 FTE.

**2. FRINGE BENEFITS:** The total amount of expenditures will not exceed \$49,663. The fringe benefits calculations for staff members are shown below at 85% (please note that 15% of staff benefits will be covered by the State Trauma Fund from July 1, 2002 to December 30, 2003:

BENEFIT	% OF SALARY
Retirement	15%
Health/Dental/Life	11%
Workers Comp	\$2.45 per \$100 for LK and LB and \$2.09 per \$100 for the rest of staff
Unemployment	5.0% of 1 <sup>st</sup> \$7,000
Medicare Tax	1.45%

**3. COMMUNICATIONS:** This line item will cover telephone charges and postage expenses less those covered by the State Trauma Fund and other special projects. It will not exceed \$7,000 out of local funds.

**4. OFFICE MAINTENANCE AND REPAIRS:** This line item will cover office and liability insurance and weekly office cleaning at \$130 per month less the amount covered by the State Trauma Fund and other special projects. The total expenses will not exceed \$2,686 and will be out of local funds.

**5. MATERIALS AND SUPPLIES:** This line item will cover general office supplies and maintenance less those covered by the State Trauma Fund and special projects. The total expenditures will not exceed \$15,000 and will be out of local fund revenue.

**6. PRINTING AND REPRODUCTION:** This line item will cover all printing and copying, and the monthly lease agreement for the office copier. The total expenses will not exceed \$4,000 and will be out of local funds.

**7. PROFESSIONAL SERVICES:** The total contractual expenditure will not exceed \$74,200, with \$12,944 out of the General Fund revenue and \$61,256 out of local revenue. The expected contractors will be:

- a. Medical Director – John Kelsey, M.D. will continue as the part-time Medical Director. This position is funded partially by the Bertha Russ Lytel Foundation. Dr. Kelsey is responsible for overseeing all medical operations of North Coast EMS. This line item includes travel and expenses, etc. The total expenditure (paid at a flat rate) will not exceed \$14,500 for contractual and \$1,000 for travel. (Approximately \$100 per hour and 0.06 FTE.) He will work approximately 135 hours
- b. Clinical Nurse Consultant – Pat Farmer, R.N. will continue as a part-time consultant for base hospital site-visits, Mobile Intensive Care Nurse Program coordination, assistance with standing orders and protocol development, and base hospital designation and policy development. The contractual line item includes travel and expenses. The total expenditure will not exceed \$ 9,000. (Approximately \$35 per hour and 0.13 FTE.) The fee is approximately \$8,250 with \$750 for travel and 257 hours.
- c. Ezequiel Sandoval – North Coast EMS will continue to contract with Ezequiel to provide office computer services as needed. The total amount will be \$3,000 at \$60 per hour for 0.035 FTE or 50 hours.
- d. Prehospital Care Report Contractor – North Coast EMS will continue to contract with C. Jay Myhre for computer programming and training as needed relative to the maintenance of the Marin County PCR program. The total expenditure will be \$3,000. (Approximately \$50.00 per hour for 0.03 FTE or 60 hours.)
- e. Nurse Contractor – Pam Haynes, R.N. will continue to conduct Emergency Department Approved for Pediatrics site-visits, assist with scope of practice expansion and other activities. The total expenditure will not exceed \$3,000. (Approximately \$25 per hour for 120 hours or 0.06 FTE).
- f. Injury Prevention Public Safety Announcements (PSA's) - \$1,200 is ear-marked to continue sponsorship of Injury Prevention PSA's. Many of these are directly associated with continuation of our EMSC program efforts.
- g. Med-Net Trust Fund – North Coast EMS will contribute up to \$500 next year as part of the Med-Net Replacement Fund.

- h. Auditor – Moss, Levy, & Hartzheim CPA’s, will continue to conduct regular annual audits and state-mandated single audits, when required. The total expenditure will be \$7,950 and will be paid at a flat rate. \$950 will be paid from the State Trauma Grant. (Approximately \$65 per hour for 0.05 FTE and 107 hours.)
- i. Legal Services - This line item will be used if necessary for legal support. The total expenditure will be \$1,000. Hourly rate and time worked is yet to be determined.
- j. Clinical Coordinator – North Coast EMS intends to contract with one or more Paramedics or Nurses, to assist with policy and protocol development, scope of practice additions, utilization of EPCIS, etc. One of these contractors will continue preparing state required early defibrillator reports. The total expenditure will not exceed \$12,000.00. (Between \$18 to \$30/hour to be determined.)
- l. Other Consultants - Contracts with other consultants as necessary to assist with protocol development, other projects, or to attend training or continuing education programs, such as: paramedic, CQI, PHTLS, PALS, EMD, etc., as determined by the Executive Director. The expenditure will not exceed \$19,000. Hourly rate and time worked is yet to be determined, but \$150 is ear-marked for travel.

**8. SPACE:** This line item will cover office rent and utilities for the year. The rate per square foot is \$.58, well below comparable average costs for this area. We estimate the expense to be \$1,548 per month. The total will not exceed \$18,580 with \$5,213 coming out of local funds.

**9. TRAVEL, TRAINING, MEMBERSHIPS & PROFESSIONAL ACTIVITIES:** This line-item covers estimated travel, per diem and conference costs, seminar fees and memberships (e.g., EMSAAC) for General Fund staff travel within the region (estimate 10 trips to Del Norte County, 20 to Lake, 1 to Trinity, plus 40 within Humboldt); Executive Director travel to EMSAAC, Commission and other state EMS meetings; staff travel to relevant state meetings; and, out of state travel as needed (and as approved by the JPA Board - the State EMS Authority is not required to approve out-of-state travel from local funds). Each staff member is generally expected to attend at least one EMS conference annually. Employees will be reimbursed for mileage at the rate set forth by the Internal Revenue Service. The total estimated expenses are \$16,000 out of local funds.

**10. OBLIGATED RESERVE:** This line item is to cover personnel and benefit expenses in the unlikely event the office were to close and have to reimburse all employees for accumulated time. The \$24,354 is the estimated by the agency to cover personnel and benefit obligation for accumulated sick, vacation, holiday, comp, etc.

**D. PERSONNEL DETAIL**

PERSONNEL CLASSIFICATION	STAFF PERSON	STATE FUNDED		LOCALLY FUNDED		TOTAL % OF TIME LOCAL & STATE
		% of Time	Pay Rate	% of Time	Pay Rate	
Executive Director	Larry Karsteadt	85%	\$ 53,933	-0-%	\$ -0-	85%
Trn'g Coordinator	Wendy Chapman	63%	\$ 25,528	-0-%	\$ -0-	63%
EMS Coordinator	Louis Bruhnke	76%	\$ 33,686	-0-%	\$ -0-	76%
Secretary	Charlotte Aros	85%	\$ 21,021	-0-%	\$ -0-	85%
Program Assistant	Maris Hawkins	51%	\$ 19,851	-0-%	\$ -0-	51%

## **Paramedic Interfacility Transport Program Guidelines**

### **A. Background**

Interfacility transports are a common aspect of the current medical care practice and will likely increase in the future. The Paramedic Interfacility Transport Program Guidelines encourage expanding the use of paramedics under existing paramedic scope of practice for medically appropriate interfacility transports.

A smaller number of interfacility transports require higher skills and training such as those of a registered nurse (RN) or physician. Due primarily to the difficulty of assuring the timely availability of an RN or MD for such transports, some of these interfacility transports can be appropriately transported by paramedics who have additional training and skills as may be included in a paramedic expanded scope of practice. The Guidelines also recommend a standardized paramedic expanded scope of practice as an option for a local EMS agency to allow for increased use of paramedics in the interfacility transports that would be medically appropriate for a paramedic with additional training and skills to perform.

In some instances interfacility transports are necessary from a health care institution to an acute care hospital and are appropriate for the paramedic using the locally approved basic scope of practice but are unscheduled requiring an emergency response. These guidelines address three (3) levels of interfacility transport response:

1. Tier One Emergency Response  
Summoned through the 9-1-1 system with standard ALS dispatch protocol response.
2. Tier Two Emergency Response  
Accessed through a designated phone link to the ambulance provider, or through the 9-1-1 system with policies in place for a modified ALS system response.
3. Tier Three Scheduled Response  
Scheduled and medically appropriate under the existing ALS scope of practice or, for a smaller number of patients, transported by paramedics who have additional training and skills as may be included in a paramedic expanded scope of practice.

The interfacility transport program should serve as a nexus linking resources and meeting the needs of the various stakeholders involved in the care of patients requiring transfer. To provide quality care, systems must match resources with patient needs. The scope of care for interfacility transport needs to be defined, and levels of providers identified. The selection of personnel, equipment, and credentials should be appropriate for the care needed, rather than based upon convenience or personnel availability. The specific level of resources needed will vary according to patient condition, transport configuration, and other factors.

## **B. General Principles**

1. Maintain the integrity of the existing 9-1-1 emergency transport system allowing local options for interfacility transport programs.
2. Allow local EMS systems to develop a program to make emergency and scheduled ALS services available to health care facilities for interfacility transportation
3. Health care facilities should be able to access the 9-1-1 emergency transport system for patients requiring emergency medical care not available at the sending facility with either a traditional or modified ALS system response.
4. Local EMS systems consider the development of a two-tiered emergency response for interfacility transport providing for a modified ALS system response.
5. Local EMS systems consider the adoption of the standardized expanded scope of practice for its paramedic interfacility transport program if the need exists.

## **C. Interfacility ALS Emergency Response**

### TIER ONE EMERGENCY RESPONSE

A TIER ONE EMERGENCY RESPONSE means a transport request by the sending facility utilizing the 9-1-1 system.

#### General Principles:

- a. The TIER ONE EMERGENCY RESPONSE should be consistent with the standard ALS dispatch protocol response.
- b. The EMS responders practice within the local ALS scope of practice and within existing EMS system policies and medical oversight.
- c. This level of response is for the transport of an emergency patient from a non-acute care facility or acute-care hospital emergency department to a higher level of care.

The purpose of a TIER ONE EMERGENCY RESPONSE is to obtain an ALS response for the transport of a patient with a life-threatening condition(s) where the patient's condition may measurably deteriorate by delay in transfer to a higher level of care, as determined by the transferring physician. The most common application of this response level is transport of a critical trauma patient from a stand-by emergency department to a trauma center. Physicians should reserve 9-1-1 transfers for patients whose conditions may deteriorate while waiting for other transportation.

It is understood the 9-1-1 response may include not only a transport unit but additional first responders as required in local dispatch policy.

The receiving specialty care center should have a physician immediately available to respond to transfer requests with the authority to accept patients requiring a higher level of care. The sending facility has an obligation to have the patient ready for transport when the unit arrives and assure specialty support and/or personnel as needed for patient care as

determined by the sending physician. There should be system review on all TIER ONE EMERGENCY RESPONSES to assure appropriate utilization of the system.

### TIER TWO EMERGENCY RESPONSE

A TIER TWO EMERGENCY RESPONSE means an emergent transport request for the transport of an emergency patient from an acute or sub-acute facility to an acute care hospital for emergency care not available at the sending facility at the direction of a physician when scheduled ALS transportation is unavailable.

#### General Principles:

- a. Nothing shall preclude a hospital from requesting a TIER ONE EMERGENCY RESPONSE via the 9-1-1 system
- b. The sending physician maintains the responsibility for determining the level of care necessary for the transport.
- c. Allows flexibility in system status planning and dispatch response protocols

Local EMS systems may develop policy and procedures to allow for a modified operational response to address:

- a. First Response Manpower
- b. Access through 9-1-1 or provider phone number
- c. Unit staffing
- d. Response times
- e. Response code

The TIER TWO EMERGENCY RESPONSE should only be used when there is no scheduled interfacility unit available within the timeframes necessary for appropriate patient care. When requesting the transport through the 9-1-1 system, the requesting physician is responsible for communicating the need for a modified emergency response, i.e. transport unit only. The sending facility has an obligation to have the patient ready for transport when the unit arrives and assure specialty support and/or personnel as needed for patient care as determined by the sending physician. An example for requesting this level of response is the cardiac patient requiring stat transport for cardiac catheterization. In this case, there is no scheduled transport unit available within the necessary timeframe, and first responder manpower is not required. There should be system review on all TIER TWO EMERGENCY RESPONSES to assure appropriate utilization of system.

## **D. Interfacility Scheduled Response**

### TIER THREE SCHEDULED RESPONSE

A TIER THREE SCHEDULED RESPONSE means a paramedic level transport for the purposes of transporting a patient to/from an acute or sub-acute facility. This level of transport may use the basic or expanded paramedic scope of practice.

### General Principles:

- a. Transports are scheduled in advance between the sending facility and the transport provider
- b. The sending physician, in collaboration with the transport provider, shall determine the level of care necessary for the transport
- c. Scheduled transports may or may not be part of the emergency response system; determined by the local EMS system

The TIER THREE SCHEDULED RESPONSE should be used when there is a scheduled interfacility unit available within the timeframes necessary for appropriate patient care. The sending facility has an obligation to have the patient ready for transport when the unit arrives. An example for requesting this level of response, using basic scope of practice, is the repatriation of a patient who has received a cardiac catheterization and needs to be returned to the admitting facility. Patient requires monitoring and basic ALS level care. The advanced scope of practice transport request could accommodate the patient needing cardiac catheterization and monitoring of an integrelin drip.

### E. Paramedic Scope of Practice

Interfacility Transport Programs that operate under the basic scope of practice should address the general principles in Section B. Additionally, local EMS agencies may apply for EMSA approval to use an expanded scope of practice for the purposes of interfacility transport. An expanded scope of practice for interfacility transport may include, but not be limited to:

1. Monitoring and adjustment of nitroglycerin infusion;
2. Monitoring of heparin infusion;
3. Monitoring of intravenous potassium chloride in concentrations greater than 20 meq/liter, but less or equal to 40 meq/liter.
4. Monitoring and adjustment of lidocaine infusion;
5. Monitoring and adjustment of integrelin infusion;
6. Monitoring of intravenous amiodarone hydrochloride infusion;
7. Monitoring of tube thoracostomy;
8. Stoma and tracheostomy care;
9. Chemical sedation for ventilator dependent and agitated patients

A Paramedic Interfacility Transport Program should address the following:

1. Local EMS agency approval and medical oversight of paramedic interfacility transport programs.
2. Recognition of the ability of the local EMS agency to recover costs related to paramedic interfacility transfer programs through program approval fees.
3. State approval of standardized expanded scope of practice for use within the local jurisdiction.
4. Intercounty agreements when system allows for cross-county interfacility transport
5. A requirement that paramedic interfacility transfer programs adequately address the following components:
  - a. scope of practice for paramedic interfacility transfers (basic or expanded)
  - b. treatment protocols
  - c. staffing standards
  - d. equipment

- e. training and experience standards for interfacility transfer unit staff
- f. medical control
  - (1) Local EMS agency medical director role
  - (2) Base hospital / alternate base hospital role
  - (3) Provider agency medical director role
  - (4) Transferring physician role
- g. quality improvement program

### **Model Expanded Scope of Practice Paramedic Interfacility Transfer Program**

The *Model Expanded Scope of Practice Paramedic Interfacility Transfer Program* is intended to serve as a template for local EMS agencies wishing to implement paramedic interfacility transfers using an expanded scope of practice prior to the adoption of paramedic interfacility transfer regulations. Included in the model are the basic components that should be a part of any interfacility transfer program. These include a scope of practice, protocols, staffing standards, training, medical control and quality improvement. The specific needs for paramedic interfacility transfer programs whether at the basic or expanded scope of practice level may vary. Any local EMS agency wishing to implement and *Expanded Scope of Practice Paramedic Interfacility Transfer Program* should consider what expanded skills are appropriate in its area and may wish to modify the training requirements accordingly.

The training program described in the *Model Expanded Scope of Practice Paramedic Interfacility Transfer Program* addresses medications and procedures, as well as additional educational requirements recommended for the paramedic using an expanded scope of practice for interfacility transfer. Future developments in medicine, with accompanying additions to the scope of practice, may necessitate augmentation of education to address specific concerns related to a medication or procedure. Treatment guidelines, appropriate additional education, and quality improvement mechanisms should be in place for any added items. Some items may also be deleted from the expanded scope of practice and would be removed from the list of approved medications or procedures. The transferring physician is responsible for assuring that the level of transport chosen meets the needs of the patient.

Other interventions, such as maintenance of automated ventilators for the high-risk patient, are beyond the scope and educational process described in this document. Some interventions, such as use of an intraortic balloon pump define levels of acuity that are beyond the training and skill of the expanded scope paramedic as defined in this document, and define a subset of patients who require a specialized level of care in transport.

**Model**  
**Expanded Scope of Practice**  
**Paramedic Interfacility Transfer Program**

**A. Purpose**

The purpose of an *Expanded Scope of Practice Paramedic Interfacility Transfer Program* is to provide a level care for the transfer between acute care hospitals or other facilities designated by the local EMS agency of patients who require medications or other procedures beyond the paramedic basic scope of practice and have been determined by the transferring physician not to require a specialized level of care beyond the local EMS agency approved for the paramedic expanded scope of practice.

**B. Definition**

An *Expanded Scope of Practice Paramedic Interfacility Transfer Program* is a program operated by an EMS provider agency that is staffed with paramedics using specially equipped ambulance units to transfer patients whose medical needs fall within a defined scope of practice from one acute care hospital or designated medical facility to another.

**C. Staffing**

An *Expanded Scope of Practice Paramedic Interfacility Transfer* unit shall be staffed with a minimum of one paramedic patient attendant and one EMT-I patient assistant/driver, *both of whom shall have successfully completed training specified herein.*

**D. Equipment**

An *Expanded Scope of Practice Paramedic Interfacility Transfer* unit shall be a fully equipped paramedic ambulance and, in addition, shall be equipped with medications, and equipment appropriate for the expanded scope of practice as specified by the local EMS agency of jurisdiction.

**E. Responsibility of Transferring Physician**

The transferring physician shall be responsible for determining that the local EMS agency approved paramedic interfacility transfer unit is the appropriate level of care for the patient. If additional specialized resources are required for the transfer beyond those normally provided by the paramedic interfacility transfer unit, the transferring physician must assure that arrangements have been made for those resources.

Hospital and physician staff shall be oriented to level of care provided by the paramedic staffed interfacility transfer unit.

## F. Medical Control

The *Expanded Scope of Practice Paramedic Interfacility Transfer Program* operates under the overall medical control of the local EMS agency medical director. Each patient transfer shall be made based upon protocols approved by the local EMS agency medical director. The transferring physician shall specify those procedures within the EMS-approved protocols that are to be carried out for each transfer. In the event of an emergency occurring during transport that is outside the transferring physician's directives, the transporting unit shall revert to the local EMS agency's regular paramedic medical control policies.

## G. EMSA Approval

A local EMS agency wishing to provide an Expanded Scope of Practice Paramedic Interfacility Transfer Program must first obtain EMSA approval for the expanded scope of practice. The request shall include a description of the local EMS agency process for program approval and oversight.

## H. Local EMS Agency Approval

An *Expanded Scope of Practice Paramedic Interfacility Transfer Program* must have approval of the local EMS agency within whose jurisdiction the originating facility is located. A local EMS provider agency wishing to provide an Expanded Scope of Practice Paramedic Interfacility Transfer Program must first obtain local EMS agency approval.

## I. Sample Expanded Scope of Practice

The expanded scope of practice for an *Expanded Scope of Practice Paramedic Interfacility Transfer Program* shall be limited to the following:

1. Monitoring and adjustment of lidocaine infusion during interfacility transport.
2. Monitoring and adjustment of intravenous nitroglycerin infusion during interfacility transport.
3. Monitoring of heparin infusion during interfacility transport.
4. Monitoring of intravenous potassium chloride during interfacility transport.
5. Monitoring of intravenous integrelin during interfacility transport
6. Monitoring of intravenous amiodarone hydrochloride during interfacility transport
7. Monitoring of thoracostomy tube during interfacility transport.
8. Stoma and tracheostomy care
9. Chemical sedation for ventilator dependent and agitated patients.

## J. Sample Protocols for Expanded Scope of Practice

### 1. Intravenous Infusion of Lidocaine

- a. Patient shall be placed and maintained on cardiac and pulse oximetry monitors during transport.
- b. Signed transfer order from the transferring physician must be obtained prior to transport. Transfer order must provide for maintaining the lidocaine infusion during transport and must specify any circumstances under which the rate will be changed or the infusion discontinued.

### Standard Strength

1 Gram/250cc D5W or NS or 2  
Gm/500cc

cc/hr	mg/min
15	1
30	2
45	3
60	4

- c. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc), paramedic may restart the line as delineated in the transfer orders. Caution will be used to prevent inadvertent overdose of medication by using a plain IV to restart the infusion.
- d. Infusion must be regulated by a mechanical pump familiar to the paramedic. If pump failure occurs and cannot be corrected, paramedic shall discontinue lidocaine infusion and notify transferring physician or, in the event transferring physician is unavailable, notify base physician.
- e. The following parameters shall apply to all patients with pre-existing lidocaine infusion:
  - (1) Infusion fluid shall be either NS or D5W. Medication concentration shall be either
    - 1 gram/250cc or
    - 2 grams/500cc
  - (2) Regulation of the infusion rate shall occur within the parameters as defined by the transferring physician, but in no case will changes be in greater than 1 mg/minute increments every 3 - 5 minutes.
  - (3) Paramedic may initiate two infusion rate changes prior to consulting with the base hospital. Any additional changes must be made only base hospital approval.
  - (4) INFUSION RATE MAY NOT EXCEED 4 mg/min.
  - (5) Vital signs shall be monitored as indicated in transfer order.

**2. Intravenous Infusion of Nitroglycerin**

- a. Patient shall be placed and maintained on cardiac and pulse oximetry monitors during transport.
- b. A non-invasive blood pressure monitor device that will record and print out blood pressure readings every five (5) minutes shall be utilized.
- c. Signed transfer order from transferring physician must be obtained prior to transport. Transfer order must provide for maintaining the nitroglycerin infusion during transport.
- d. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc), paramedic may restart line as delineated in transfer order. Caution will be used to prevent inadvertent overdose of medication by using a plain IV to restart the infusion.
- e. Infusion must be regulated by a mechanical pump familiar to the paramedic. If pump failure occurs and cannot be corrected, paramedic shall discontinue nitroglycerin infusion and notify transferring physician or, in the event transferring physician is unavailable, notify base physician.
- f. The following parameters shall apply to all patients with pre-existing nitroglycerin infusions:

cc/hr	mcg/min	
	25 mg/250cc or 50mg/500cc	50 mg/250cc
	half-strength concentration = 100 mcg/1cc	full-strength concentration = 200 mcg/1cc
1	1.7	3.3
2	3.3	6.7
3	5.0	10.0
4	6.7	13.3
5	8.3	16.7
6	10.0	20.0
7	11.7	23.3
8	13.3	26.7
9	15.0	30.0
10	16.7	33.3
11	18.3	36.7
12	20.0	40.0
13	21.7	43.3
14	23.3	46.7
15	25.0	50.0
16	26.7	
17	28.3	
18	30.0	
19	31.7	
20	33.3	
22	36.7	
24	40.0	
26	43.3	
28	46.7	
30	50.0	

- (1) Infusion fluid shall be either NS or D5W.  
Medication concentration shall be either  
    Half strength: 25mg/250cc, or 50mg/500cc  
    Full strength: 50mg/250cc.
- (2) Regulation of the infusion rate shall be within parameters specified by transferring physician, but in no case shall changes be in greater than 5mcg/minute increments every 5 - 10 minutes
- (3) Paramedic may initiate two infusion rate changes prior to consulting with the base hospital. Any additional changes must be made only base hospital approval.
- (4) INFUSION RATE MAY NOT EXCEED 50 mcg/min.
- (5) In case of severe hypotension, medication infusion shall be discontinued and notification made to both transferring physician and base hospital.

### **3. Intravenous Infusion of Heparin**

- a. Patient shall be placed and maintained on cardiac and pulse oximetry or capnography monitors during transport.
- b. Signed transfer order from the transferring physician must be obtained prior to transport. Transfer order must provide for maintaining the heparin infusion during transport and must specify any circumstances under which the rate will be changed or the infusion discontinued.
- c. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc), paramedic may restart line as delineated in transfer orders.
- d. Infusion must be regulated by a mechanical pump familiar to the paramedic. If pump failure occurs and cannot be corrected, paramedic shall discontinue lidocaine infusion and notify transferring physician or, in the event transferring physician is unavailable, notify base physician.
- e. The following parameters shall apply to all patients with pre-existing heparin infusion:
  - (1) Medication concentration shall not exceed 100 units/cc or IV fluid (25,000 units/250cc or 50,000 units/500cc).
  - (2) Infusion rate must remain constant during transport with no regulation of rate being performed by paramedic, except for discontinuation of infusion (e.g., as in a case of bleeding).
  - (3) INFUSION RATE MAY NOT EXCEED 1,600 UNITS PER HOUR.
  - (4) Vital signs shall be monitored as indicated in transfer order.

### **4. Intravenous Infusion of Potassium Chloride (KCl)**

- a. Patient shall be placed and maintained on cardiac monitor during transport.
- b. Signed transfer order from the transferring physician must be obtained prior to transport. Transfer order must provide for maintaining the potassium chloride infusion during transport and must specify any circumstances under which the rate will be changed or the infusion discontinued.
- c. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc), paramedic may restart line as delineated in transfer

- orders. Caution will be used to prevent inadvertent overdose of medication by using a plain IV to restart the infusion.
- d. Infusion must be regulated by mechanical pump familiar to the paramedic. If pump failure occurs and cannot be corrected, paramedic shall discontinue potassium chloride infusion and notify transferring physician or, in the event transferring physician is unavailable, notify base physician.
  - e. The following parameters shall apply to all patients with pre-existing potassium chloride infusion:
    - (1) Medication concentration shall not exceed 40 meq per liter of IV fluid.
    - (2) Infusion rate must remain constant during transport with no regulation of rate being performed by paramedic.
    - (3) INFUSION RATE MAY NOT EXCEED 10 meq PER HOUR.
    - (4) Vital signs shall be monitored as indicated in transfer order.

### **5. Intravenous Infusion of Integrilin (eptifibatide) [to be developed further]**

Class: Anti-Platelets

Indication: Acute coronary syndrome

It is given with a loading bolus and followed with a drip.

Side effects are severe bleeding and it is used with caution with ASA and Heparin.

### **6. Intravenous infusion of amiodarone hydrochloride**

- a. Paramedics may not initiate amiodarone hydrochloride infusions.
- b. Patients shall be placed and maintained on cardiac and pulse oximetry monitors during transport.
- c. Signed transfer orders from the transferring physician must be obtained prior to transport. Transfer orders must provide for maintaining the amiodarone hydrochloride infusion during transport.
- d. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc), the paramedic may restart the line as delineated in the transfer orders.
- e. Infusions must be regulated by a mechanical pump familiar to the CCT-P. If a pump failure occurs and cannot be corrected, the paramedic is to discontinue the amiodarone hydrochloride infusion and notify the transferring physician, or the base physician if the transferring physician is not available.
- f. The following parameters shall apply to all patients with pre-existing amiodarone hydrochloride infusion:
  - (1) Medication concentration must be a minimum concentration of 150mg/250mL (0.6 mg/mL); unstable in more dilute solutions.
  - (2) Infusion rates must remain constant during transport with no regulation of rates being performed by the CCT-P, except for the discontinuation of the infusion.
  - (3) Infusion rates may vary between 0.5 – 1.0 mg/min.
  - (4) Physician orders must specify the infusion rate.

- (5) Vital signs are to be monitored as indicated in the transfer orders, not less frequently than every 15 minutes.
- (6) Y – Injection incompatibility; the following will precipitate with amiodarone hydrochloride
  - Heparin Sodium
  - Sodium Bicarbonate
- (7) Amiodarone hydrochloride intravenous infusion monitoring is not approved for patients < 14 years old without base physician contact.
- (8) In infusions longer than one hour, amiodarone hydrochloride concentrations should not exceed 2mg/mL unless a central venous catheter is used.

## **7. Monitoring of Thoracostomy Tube**

- a. Patient shall be placed and maintained on cardiac and pulse oximetry or capnography monitors during transport.
- b. Signed transfer order from the transferring physician must be obtained prior to transport. Transfer order must specify the maintenance of chest tube either to gravity or mechanical suction drainage. If mechanical suction drainage, the amount of mechanical suction must be specified.
- c. Mechanical suction rate must remain constant during the transport with no regulation of the rate being performed by paramedic.
- d. Collection receptacle must be kept below level of the chest to prevent drained fluid from re-entering the pleural space. Do not allow the collection receptacle to tip over.
- e. If hemorrhage occurs through the chest tube, observe for signs and symptoms of shock and treat according to protocol.

### **Complications:**

- a. If the thoracostomy tube is partially pulled out:
  - Do not push the tube back into the chest.
  - Secure the site.
- b. If the thoracostomy tube is completely pulled out, place an occlusive dressing over the insertion site.
- c. If air leaks are present, check all connections.
- d. If the patient becomes dyspneic:
  - Assess breath sounds
  - Contact base hospital (needle thoracostomy may need to be performed).

### **Precautions**

- a. Avoid pulling on thoracostomy tube to prevent accidental dislodging of tube.
- b. Do not restrict gravity or suction drainage from the chest by the use of clamps, dependent loops or kinks in tubing as this will interfere with flow of drainage and may lead to increased pleural pressure or formation of clots.
- c. Do not disconnect the drainage system or puncture tubing. Tape all connections securely to prevent violation of sterility and loss of negative pressure.

## **8. Stoma and Tracheostomy Care**

- a. Temporary or permanent placement of a tracheostomy tube is often necessary to maintain an open airway.
- b. Patients with tracheostomy tubes or stomas should not be intubated orally.
- c. Suctioning of surgical airways is often required to attempt to clear and maintain an open airway.
- d. Administration of inhaled medications will need to be given via the stomas or tracheostomy tubes.
- e. Never attempt to reinsert a dislodged tracheostomy tube. Trying to do so may cause a false channel in the subcutaneous tissue anterior to the trachea. Compression of the trachea may result.

### **Suctioning**

#### Equipment:

1. Appropriate size suction catheter (Pediatrics use 8-10F)
2. Suction unit with adjustable suction capacity
3. Bag-valve-mask with oxygen supply
4. 5 cc syringe filled with sterile saline

Contraindication: Use of demand valve

#### Procedure:

1. Adjust suction to 120 - 150 mm Hg for adults; decrease suction to 80 - 100 mm Hg for pediatrics.
2. Apply sterile gloves.
3. Flush suction catheter with saline to lubricate tip and establish patency of suction catheter.
4. Remove the T-tube if a tracheostomy patient is on humidified oxygen.
5. Ventilate the patient with 100% oxygen several times.
6. Insert the suction catheter into the stoma or tracheostomy opening with the suction off (the thumb hole open). The short length of the tracheostomy tube facilitates suctioning. The catheter may be directed through the right or left bronchus by having the patient turn his/her head to the opposite side.
7. Apply suction by occluding the thumb hole while slowly withdrawing the catheter in a twisting motion. Suction of a tracheostomy tube should take no longer than 10 seconds for the adult patient and 3-4 seconds for the pediatric patient.
8. If mucus plugs or thick secretions are present, the instillation of 3 - 5 cc of sterile saline may be helpful.
9. Hyperventilate with 100% O<sub>2</sub>.
10. Check breath sounds.
11. Suctioning can stimulate a cough reflex. Allow the patient to cough. Be prepared to suction or catch secretions from the tracheal opening. Recheck breath sounds.

### **Stoma Intubation**

#### Equipment:

1. appropriate sized cuffed and uncuffed ET tubes
2. bag-valve-mask

3. appropriate sized suction catheters
4. oxygen supply
5. suction equipment with adjustable suction capacity

Contraindication: Use of demand valve

Procedure:

1. Select the largest endotracheal tube that will fit through the stoma without force. Check the cuff, unless an uncuffed tube is being used on a pediatric patient.
2. Hyperventilate with 100% oxygen using a bag-valve-mask device with the face mask fitted over the stoma. Do not use demand valve.
3. Wear sterile gloves. Do not use a stylet. It is not necessary to lubricate the tube.
4. Suction, if necessary.
5. Pass the endotracheal tube and inflate the cuff. The pharynx has been bypassed, so the tube will protrude from the neck several inches.
6. Hold the tube in place, watch for chest rise with ventilation.
7. Secure the tube and hyperventilate.
8. Auscultate the lung fields. Check the neck for subcutaneous emphysema, indicating false passage.
9. Allow no longer than 30 seconds for the procedure.

## **9. Chemical sedation for ventilator dependent and agitated patients.**

- a. Only CCT-Paramedics will be permitted to utilize chemical sedation without base hospital contact. Midazolam will be used for :
  - (1) ventilator dependent patients requiring chemical sedation or restraint due to agitation, restlessness and/or anxiety that is compromising the patient's stability.
  - (2) agitated patients requiring chemical sedation or restraint due to restlessness and/or anxiety that is compromising the patient's stability

### **Indications**

Subjective: Any or all of the following symptoms:

- 1) Agitation
- 2) Restlessness
- 3) Anxiety

Objective:

- 1) Changes in Cardiac Monitor
- 2) Increase in level of distress
- 3) Change in vital signs
- 4) Need for invasive procedure
- 5) Decrease in pulse oximetry

### **Procedure**

Ventilator patients:

1. Apply soft, four – point restraints.

2. Continuously monitor oxygen saturation, ETCO<sub>2</sub>, heart rate, blood pressure, and LOC.
3. Administer midazolam as per physician orders, if no orders, use guidelines below.
4. Guidelines for the administration of midazolam as follows:

Adult: (Age 12 and older):

- a) 2 – 4 mg, slow IV push
- b) May repeat intravenous dose every 20 – 30 minutes as needed for sedation. Maximum total dose is 10mg.
- c) Use IM only if IV access is unavailable, dose is 3 – 5 mg, given deep into a large muscle mass. Maximum total dose is 10 mg.
- d) May repeat IM dose every 60 – 90 min. as needed for sedation.

Children: ( Not to be used in neonates)

- a) Initial IV dose: .05 - .10 mg/kg slow IV push, Max: 4 mg.
- b) May repeat with smaller intravenous doses of .025 - .05mg/kg every 20 – 30 minutes as needed for sedation. Maximum total dose is 10 mg.
- c) Use IM only if IV access is unavailable, dose is 0.1 – 0.15 mg/Kg, given deep into a large muscle mass. Maximum dose is 5 mg.
- d) May repeat with smaller IM dose of .05 - .10 mg/kg every 60– 90 min. as needed for sedation. Maximum total dose is 10 mg.

### **Agitated Patients**

1. Continuously monitor oxygen saturation, ETCO<sub>2</sub>, heart rate, blood pressure, and LOC.
2. Administer midazolam as per physician orders, if no orders, use guidelines below.
3. Guidelines for the administration of midazolam as follows:

Adult: (Ages 12 and over )

- a) 2 – 4 mg, slow IV push
- b) May repeat with smaller intravenous dose of 1 –2 mg every 20 – 30 minutes as needed for sedation. Maximum total dose is 6 mg.
- c) Use IM only if IV access is unavailable, dose is 3 – 5 mg, given deep into a large muscle mass.
- d) May repeat with smaller IM dose of 1 – 3 mg every 60 – 90 min. as needed for sedation. Maximum total dose is 6 mg

Children: ( Not to be used with neonates )

- a) IV dose: .025 - .05 mg/kg slow IV push, Max: 3 mg.
- b) May repeat with smaller intravenous doses of .025mg/kg every 20 – 30 minutes as needed for sedation. Maximum total dose is 6 mg.
- c) Use IM only if IV access is unavailable, dose is 0.05 – 0.15 mg/Kg, given deep into a large muscle mass.
- d) May repeat with smaller IM dose of .05mg/kg every 60– 90 min. as needed for sedation. Maximum total dose is 10 mg.

### **Precautions**

1. Assess for sedative effects. Midazolam is 3 – 4 times more potent than diazepam.
2. The half-life of midazolam is < 2 hours.
3. Onset of action is usually 2 – 5 minutes. Wait after each incremental dose to assess effect. A total dose greater than 6 mg is usually not necessary.
4. Serious cardiorespiratory adverse events have occurred. These include respiratory depression, apnea, respiratory and/or cardiac arrest. Resuscitative equipment should be immediately available.
5. Hypotension has been noted, particularly with concomitant narcotic administration.
6. Use 25 - 33 % less if narcotics are co-administered or administered prior to arrival by hospital staff.
7. Do not administer midazolam, or decrease the dose by 50% if the patient is hypovolemic.
8. Children under age of 6 years old may require relatively larger doses than older children.

### **K. Training Program**

An *Expanded Scope of Practice Paramedic Interfacility Transfer Program* shall include a local EMS agency approved training program that must be successfully completed by all paramedic and EMT-I personnel assigned as required personnel to an *Expanded Scope of Practice paramedic interfacility Transfer unit*.

1. Didactic - paramedic
  - a. Minimum number of hours for course is 80 didactic hours plus 40 clinical hours.
  - b. Method of assessing successful course achievement/evaluation must be described.
  - c. Principle instructor of paramedic training must be a registered nurse or physician knowledgeable in the subject matter.
  - d. Course content to include:
    - (1) **Breathing and airway management**
      - (a) Pulmonary anatomy and physiology
        - Upper and lower airway anatomy
        - Mechanics of ventilation
        - Gas exchange
      - (b) Respiratory pathophysiologies (including signs and symptoms)
        - Respiratory failure
        - Atelectasis
        - Pneumonia
        - Pulmonary embolism
        - Pneumothorax / hemothorax
        - Pleural effusion
        - Chronic obstructive pulmonary disease
        - Adult respiratory distress syndrome (ARDS)
      - (c) Breathing Assessment
        - Obtaining a relevant history
        - Physical exam
        - Breath sounds

- Percussion
- Pulse oximetry
- Capnography (end tidal CO<sub>2</sub> monitoring)
- (d) Tracheostomies
  - Types of tracheostomies
  - Tracheostomy care
- (e) Endotracheal intubation – review of procedure
- (f) Esophageal tracheal airway device (combitube)
- (g) Laryngeal tracheal mask device
- (h) Needle cricothyrotomy – review of procedure
- (i) Pharmacological agents
  - Bronchodilators
  - Anti-inflammatory agents
  - Antibiotics
  - Sedation
  - RSI
- (j) Chest tubes
  - Operation of and troubleshooting
  - Indications for and positioning of dependent tubing
  - Varieties available
  - Gravity drainage
  - Suction drainage
  - On-going assessments of drainage amount and color
- (k) Pleural decompression – review of procedure
- (l) Portable ventilators
  - Principles of ventilator operation
  - Procedures for transferring ventilator patients
  - Complications of ventilator management
  - Troubleshooting and practical application

## **(2) Laboratory values**

- (a) Arterial blood gases
  - The pH scale
  - Bodily regulation of acid-base balance
  - Acid-base derangements
  - Practical evaluation of arterial blood gas results
- (b) Review of the following laboratory tests to include normal values, possible implications of abnormal values, and interrelationships.
- (c) Urinalysis
  - Normal output
  - Specific gravity
  - PH range
- (d) Complete blood count (CBC)
  - H&H
  - RBC
  - WBC with differential
  - Platelets

(e) Other

Acid phosphate  
Albumin  
Alkaline phosphate  
Amylase  
AST  
Bilirubin  
Calcium  
Chloride  
Cholesterol  
CK  
Creatinine  
Globulin  
Glucose  
Lactate  
LDH  
Lipase  
Magnesium  
Phosphate  
Potassium  
Protein, total  
PT & PTT  
SGOT  
Sodium  
Triglycerides  
Troponin  
Urea nitrogen  
Uric acid

(f) Practical application of laboratory values to patient presentations.

**(3) Pharmacology and infusion therapies:**

(a) Review of common medications encountered in the critical care environment to include those in the following categories:

Analgesics  
Antianginals  
Antiarrhythmics  
Anticoagulants  
Antihypertensives  
Bronchodilators  
Paralytics  
Sedatives  
Thrombolytics  
Vasopressors  
Volume expanders

(b) Review of drug calculation math  
IV bolus medication  
IV infusion rates

By volume

By rate

- (c) Detailed instruction (drug action and indications, dosages, IV calculation, adverse reactions, contraindications and precautions) on following medications:

- IV NTG

- Heparin

- KCl infusion

- Lidocaine

- (d) Blood and blood products

- Blood components and their uses in therapy

- Administrative procedures

- Administration of blood products

- Transfusion reactions – recognition, management

**(4) Infusion pumps:**

- (a) Operation of, indications for and troubleshooting

- (b) Discussion of various pumps that may be encountered

- (c) Discussion of prevention of “run-away” IV lines while transitioning

- (d) Practical application of transfer of IV infusions, setting drip rates and troubleshooting

- (e) Procedures to be used when reestablishing IV lines

**(5) Hemodynamic monitoring and invasive lines:**

- (a) Non-invasive monitoring

- NIBP

- Pulse oximetry

- Caponography

- Heart and bowel sound auscultation

- (b) Invasive monitoring (use, care, and complication management)

- Arterial

- Swan-Ganz

- (c) Vascular access devices

- Hickman-Broviac

- Porta-cath

- (d) Dressing and site care

- (e) Management of complications

**(6) 12-lead EKG interpretation:**

- (a) Essential 12 lead interpretation

- (b) Acquisition and transmission

- (c) Acute coronary syndromes

- (d) The high acuity patient

- (e) Bundle branch block and the imitators of ACS

**(7) Implanted cardioverter defibrillators:**

- (a) Eligible populations

- (b) Mechanism

- (c) Complications and patient management

**(8) Cardiac pacemakers**

- (a) Normal operations, troubleshooting and loss of capture
  - Implanted devices
  - Unipolar and bipolar
- (b) Temporary pacemakers
- (c) Transcutaneous pacing

**(9) Indwelling tubes:** (the following should be discussed, described, and preferably demonstrated and/or viewed)

- (a) Urinary:
  - Foleys
  - Suprapubic
- (b) Nasogastric (NG)
- (c) PEG
- (d) Dobhoff

**(10) Isolation issues:**

- (a) Common pathogens
  - HIV
  - Hepatitis
  - Vancomycin resistant enterococcus (VRE)
  - Multiple-antibiotic resistant bacteria (MRSA)
  - Tuberculosis (TB)
- (b) Procedures for self-protection and decontamination
- (c) Exposure procedures

**(11) Shock and multi-system organ failure**

- (a) Pathophysiology of shock
- (b) Types of shock
- (c) Shock management
- (d) Multi-system organ failure
  - Recognition and management of sepsis
  - Recognition and management of disseminated intravascular coagulation (DIC)

**(12) Special population considerations:**

- (a) Renal and peritoneal dialysis
- (b) Pediatric
- (c) OB
- (d) Neurological
- (e) Trauma

**(13) Role of interfacility transfer paramedic:**

- (a) Healthcare system explained
- (b) Critical care vs. 911 system
- (c) Hierarchy of hospital / facility nursing staff
- (d) Hospital charts – where to look for what
- (e) Physician orders vs. ALS protocols

**(14) Medical–legal issues:**

- (a) EMTALA
- (b) COBRA

- (c) Review of CA paramedic scope of practice
- (d) Consent issues
- (e) DNR and physician orders for modified resuscitation

**(15) Operational procedures:**

- (a) Dispatching and deployment
- (b) Recognition of patients who require a higher level of care  
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.
- (c) Review of specific county policies
- (d) Obtaining and receiving reports from sending / receiving facilities
- (e) Re-calculate hanging dose prior to accepting patient
- (f) Notification to receiving hospital while en route (cell phone)  
Patient status and ETA
- (g) What to do if the patient deteriorates
- (h) Diversion issues
- (i) Wait and return calls – continuity of care issues

**(16) Documentation:**

- (a) Patient consent forms
- (b) Physician order sheets
- (c) Critical care flow sheets
  - Adult
  - Pediatric
  - Neonatal

- 2. Clinical – paramedic
  - a. Minimum number of hours for course is 40 clinical hours.
  - b. Clinical rotation to include the following minimums:
    - (1) 8 hours with respiratory therapist
    - (2) Ride-along observation of 4 interfacility critical care transports
- 3. Didactic – EMT-I driver/assistant
  - a. Minimum four (4) hours didactic and clinical instruction specific to the skills needed to assist a single paramedic in-patient care delivery during *Expanded Scope of Practice Paramedic Interfacility Transfer* calls.
  - b. Principle instructor of EMT-I training may be a paramedic, registered nurse or physician.

**L. Quality Improvement Plan**

- 1. An *Expanded Scope of Practice Paramedic Interfacility Transfer Program* shall have a written QI plan approved by the local EMS agency.
- 2. A Registered Nurse or physician shall have clinical oversight of the QI plan.
- 3. Provider's QI staff shall evaluate all *Expanded Scope of Practice Paramedic Interfacility Transfer* for medical appropriateness. Review shall include:
  - (a) Review of transferring physician's orders and evidence of compliance with orders.
  - (b) Documentation of vital signs, including frequency.

- (c) Documentation of any side effects/complications including hypotension, bradycardia, increasing chest pain, arrhythmia, altered mental status, and interventions with these events.
  - (d) Documentation of any unanticipated discontinuation or rate adjustments of infusions along with rationale and outcome.
  - (e) Review of any base contact for medical direction.
4. Unusual occurrences shall be communicated promptly to the local EMS agency.
  5. Reports summarizing QI activity, identified trends, and resolutions shall be provided as required by the local EMS agency.