ALS TREATMENT GUIDELINES

July 2001
Revised March 2002

SOUTHWESTERN CT AIS GUIDELINES

GENERAL OPERATING PROCEDURES

The following adult treatment guidelines are for the use of the paramedic in the field and the medical control physician. They have been developed to ensure quality and standardized medical care. The guidelines are specific for advanced life support intervention. Patient assessment and basic life support procedures have been enumerated herein and are always to be initiated as appropriate.

Without medical direction, the paramedic shall not deviate from the guidelines relating to drug. dosage, route of administration or repetition.

There may be situations where one or more clinical impressions may exist. The paramedic may initiate appropriate therapy (oxygen administration, cardiac monitoring, intravenous infusion and/or transportation), and shall contact medical direction in order to differentiate the most emergent clinical problem and define the most suitable therapy.

It is recognized that there may be rare situations where medical direction cannot be contacted. In that event, and with the exception of narcotics, the paramedic may consider implementation of therapies that are usually on-line direction *11* they feel the patient's condition wan-ants them.

Those aspects of the following treatment procedures requiring on-line medical direction are indicated by CAPITALIZATION, although local medical direction may opt to include any of these as a portion of the off- line protocols for their sponsored services.

SOUTHWESTERN CT ALS GUIDELINES

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ROUTINE BASIC LIFE SUPPORT

(BLS) CARE

1. Assure scene safety.

2. Assess airway (C-Spine precautions in clinical situations of traumatic etiology). If not present:
   a. Reposition head.
   b. Jaw thrust.
   c. Chin lift/head tilt.
   d. Perform obstructed airway procedure.

3. Assess breathing.
   a. Assure patent airway, suction as needed.
   b. Ventilate as needed.

4. Assess circulation.
   a Check for pulse.
   b. If no pulse, initiate chest compressions.
   c. Control bleeding as needed.

5. Determine level of consciousness.
   a. Alert.
   b. Responds to Verbal stimuli.
   c. Responds to Painful stimuli.
   d. Unresponsive.

6. Obtain recent history of events.

7. Record vital signs.

8. Perform secondary survey.

9. Obtain past medical history.
   a. Medications prescribed.
   b. Allergies.

10. Transport.

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ROUTINE PARAMEDIC LEVEL CARE

Evaluate the patient for airway, breathing, and circulation.

a. If airway, breathing, and/or circulation *are* absent:

1. Initiate pulmonary and/or cardiopulmonary resuscitation.
2. Establish airway with *ALS* measures.
3. Treat the patient according to appropriate patient care guidelines.

b. If airway, breathing, and circulation are present:

1. Maintain the patient's airway. Ensure adequate ventilation. Administer oxygen, as necessary. Assist ventilation if breathing is shallow or rate is decreased. Intubate as indicated by patient's condition and status.
2. Obtain the patient's chief complaint.
3. Evaluate the associated signs and symptoms.
4. Obtain vital signs.
5. Establish an IV and cardiac monitor as appropriate to patient's condition.
6. Treat the patient according to appropriate patient care guidelines.
7. Provide reassurance and comfort.
8. Pulse oximetry (optional)
9. 12-lead EKG (per local sponsor hospital).

Procedure #1

VASCULAR ACCESS

Intravenous solutions are administered by paramedics as part of routine paramedic care.

1. Solutions:

    a. Normal Saline Solution.
    b. Ringer's Lactate Solution.
    c. 5% Dextrose in Water.
    d. 10% Dextrose in Water.

2. Catheters/Cannulas:

    a. Catheter over the needle.
    b. Catheter sizes may range from 12 gauge to 24 gauge.
    c. Double lumen catheter per sponsor hospital guidelines.

3. IndIcations:

    Clinical impressions indicating the need for possible medication administration, impending shock, cardiac arrest.

4. Access of existing central lines (Pic, Hickman, Portacath, etc.) per online medical direction and sponsor hospital.

5. Blood drawing should occur according to sponsor hospital guidelines.

Procedure #2

UNCONSCIOUS PATIENT WITh COMPLETE AIRWAY OBSTRUCTION

1. Basic life support obstructed airway procedures are initiated.

2. If airway is still obstructed, direct laryngoscopy is performed. Removal of any foreign body is attempted using Magi1l Forceps according to training.

3. If airway is still obstructed, the following options may be utilized:

   a. Cricothyroidotomy per sponsor hospital guidelines.

   b. Immediate transportation.

   c. Attempt endotracheal intubation.

4. Routine paramedic care is implemented appropriately.

Procedure #3

ACUTE RESPIRATORY DISTRESS (ADULT)

1. Routine Paramedic Care.

2. Bronchospasm with known etiology (history of asthma. COPD. anaphylaxis).

   a. Bronchodilator by nebulizer according to sponsor hospital guidelines.

   b. *If unable to tolerate bronchodilator, or if no response to above,* administer Epinephrine (1:1,000) dose 0.3 cc subcutaneous (adult).

   CONTACT ON-LINE MEDICAL DIRECTION PRIOR TO ADMINISTRATION OF EPINEPHRINE IF PATIENT HAS ONE OF THE FOLLOWING:

   -History of Hypertension
   -History of MI or cardiac pain
   -60 years of age or more

3. Acute respiratory distress with unknown etiology, CALL FOR ONLINE MEDICAL DIRECTION.

4. Pulmonary Edema (cardiac asthma)- see Acute Pulmonary Edema guideline. Procedure #14.

5. If a burn patient, see Bum guideline, #24.

6. If respirations begin to decrease In rate or depth with change In mental status or cyanosis, begin to assist ventilations immediately, intubate as appropriate.

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Procedure #4

RESPIRATORY ARREST OR IMMINENT RESPIRATORY ARREST

1. Routine paramedic care.

2. For those patients who have inadequate ventilation requiring airway maintenance and ventilatory support, routine BLS measures and routine paramedic care shall be performed. In those instances where attempts to place an endotracheal tube are complicated by either an intact gag reflex and/or Involuntary muscular activity, the paramedic may employ the following:

    a. Under direct visualization, spray the pharynx and vocal cords with the topical anesthetic Hurricane Spray (20% Benzocalne]. Resume BLS measures as soon as practical.

    b. Repeat attempt to secure the airway with the endotracheal tube.

4. Nasogastric tube Insertion per sponsor hospital guidelines.

5. Per sponsor hospital guidelines, paramedics may use an end-tidal C02 detector or an esophageal detector device as an adjunct to auscultation to confirm endotracheal tube placement.

6. Follow Altered Mental Status guideline, Procedure #17, if clinically indicated.

7. TO FACILITATE ENDOTRACHEAL INTUBATION FOR A PATIENT WITH AN INTACT GAG REFLEX, WHO CANNOT BE INTUBATED USING USUAL METHODS, CONTACT ON-LINE MEDICAL DIRECTION FOR ThE FOLLOWING OPTIONS:

A. SEDATION:

1. MIDAZOLAM (VERSED®) 2 MG SLOW IV PUSH,

2. THIS MAY BE REPEATED AS PER MEDICAL DIRECTION AT A DOSAGE OF 0.1 MG/KG SLOW IV PUSH TITRATED TO EFFECT. (TOTAL MAXIMUM DOSE OF' MIDA.ZQLAM IS 10 MG).

NOTE: IF PLACEMENT OF THE ETT IS UNSUCCESSFUL AND RESPIRATORY DEPRESSION PERSISTS, MAINTAIN VENTILATION AND OXYGENATION AS PER BLS MEASURES AND RECONTACT ON-LINE MEDICAL DIRECTION TO REVERSE EFFECTS OF MIDAZOLAM:

1. FLUMAZENIL (ROMAZICON~~9 0.2 MG SLOW IX! PUSH.

2. REPEAT FLUMAZENIL 0.2 MG SLOW IV PUSH AS PER ONLINE MEDICAL DIRECTION.

B. SEDATE AND PARALYZE: Rapid Sequence Induction for Emergency Intubation

1. Routine paramedic care with BVM ventilation as necessary. Perform manual c-spine stabilization as indicated.

2. Prepare required equipment lncludlhg catastrophic airway kit. Perform brief neurological exam before RSI.

3. CONTACT ON-LINE MEDICAL DIRECTION FOR IMPLEMENTAITON ONE OR MORE OF THE FOLLOWING BY REQUESTING ORDERS FOR "SEDATE & PARALYZE":

A. VECURONIUM (NORCURON®) 0.01 MG/KG IV PUSH (DEFASCICULATING DOSE). ALLOW 3~5 MINUTES FOR DEFASCICULATION TO OCCUR.
B. BEGIN CRICOID PRESSURE (MAINTAIN UNTIL ET TUBE PLACEMENT IS CONFIRMED.)
C. MIDAZOLAM 0.1 MG/KG IV PUSH (PEDIATRIC DOSE: 0.1 MG/KG IV PUSH).

OR
DIAZEPAM (VALIUM®) 5-10 MG IV PUSH (PEDIATRIC DOSE: 0.1 MG/KG IV PUSH).

D. LIDOCAINE (XYLOCAINE®) 2% 1.5 MG/KG IV PUSH (TO PREVENT INCREASED INTRACRANIAL PRESSURE IN PATIENTS WITH SUSPECTED HEAD INJURY OR INTRACRANIAL HEMORRHAGE).

E. ATROPINE 0.6 .0.8 MG RAPID IV PUSH (FOR ADULTS WITH PREEXISTING BRADYCARDIA, CHILDREN ONE YEAR OLD OR LESS, AND ANY PATIENT RECEIVING SECOND DOSE OF SUCCINYCHOLINE. PEDIATRIC DOSE: 0.02 MG/KG IV PUSH.)

F. SUCCINYLCHOLINE 1.5 MG/KG IV PUSH.

G. SUCCINYLCHOLINE MAY BE REPEATED ONCE ONLY IF INADEQUATE RELAXATION IS PRESENT AFTER 3 MINUTES.

4. Perform endotracheal intubation and confirm tube placement.

5. If unable to intubate patient and patient cannot be adequately oxygenated/ ventilated with a BVM, secure rescue airway per sponsor hospital guideline (cricothyroidotomy, commercial cricothyroid device, Laryngeal Mask Airway.)

6. If the airway is compromised due to movement or other problem, or the patient is exhibiting signs of increased anxiety, perform one of the following:

A. Sedation may be repeated with Diazepam or Midazolam as above.
OR

B. If the patient requires continuous paralysis to maintain the airway, after endotracheal tube placement is confirmed, Vecuronium 0.1 mg/kg may be administered IV PUSH.

NOTE: Ensure adequate sedation of paralyzed patient prior to administration of Vecuronium.

Procedure #5

ENDOTRACHEAL MEDICATIONS

1. Endotracheal medications may be given in cardiopulmonary arrest or in other situations as needed.

2. Medications: Atropine, Epinephrlne. Lidocaine (Xylocaine®), and Naloxone (Narcan®) may be administered in this manner.

3. When given via endotracheal tube, medications should be administered at two times the recommended IV dosage.

Procedure:

1. Endotracheal tube is secured and adequate breath sounds are identified bilaterally.

2. Medication should be administered via catheter passed beyond tip of endotracheal tube. If not available, administer the medication forcefully by syringe through the opening of the endotracheal tube and immediately flush with 5-10 cc saline. Cover the end of the endotracheal tube until the bag is replaced.

3. Administer 5-10 forceful ventilations.

4. Continue ALS care and monitor drug effect.

5. On-line medical direction is appraised as appropriate.

Procedure #6

CHEST PAIN

1. Routine paramedic care.

2. With chest pain characteristic of, or suspicious of. cardiac etiology, with systolic HP greater than 100:

   a. Administer Nitroglycerin, 1-2 tabs, 0.4mg (1/150 gr) sublingual, or one to two measured dose.

   b. Monitor HP every 5 minutes. If patient becomes hypotensive, place In supine position and administer fluid challenge 250 cc normal saline.

   c. Reassess patient. If patients vital signs remain stable and chest pain persists, the Initial dose of Nitroglycerin may be repeated.

   d. If patient is not allergic to aspirin, administer two (2) chewable 81 mg tabs aspirin P0.

   e. If available, obtain 12 Lead EKG per sponsor hospital guideline.

3. CONTACT ON-LINE MEDICAL DIRECTION FOR CONSIDERATION OF' THE FOLLOWING OPTIONS:

   A. MORPHINE SULFATE 1-4 MG IV BOLUS.
   B. BETA BLOCKERS PER SPONSOR HOSPITAL GUIDELINE.

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Procedure #7

VENTRICULAR TACHYCARDIA/WIDE QRS TACHYCARDIA HEMODYNAMICALLY STABLE

Hemodynamically stable is defined as adequately perfusing, i.e., alert with BP of 90 mm Hg or greater without signs and symptoms of shock, ischemla. and/or AMS.

1. Routine paramedic care.
2. Administer Lidocaine (Xylocalne®) 1-1.5 mg/kg slowly (less than 50 mg/minute).
3. If patient remains in V-tach and is hemodynamlcally stable, repeat Lidocaine bolus every 5-10 minutes at 0.5-0.75 mg/kg up to 3 mg/kg. If conversion occurs, begin Lidocaine drip 2-4 mg/kg per minute.

   NOTE: Lidocaine must be used cautiously in patients over 70 years of age. with congestive heart failure, liver disease, or possible allergic response. If patient develops slurred speech, confusion, twitching, seizures, coma, paralysis or apnea discontinue the Lidocaine and contact on-line medical direction.
4. If patient becomes unstable at any time, follow guideline for Unstable V-Tach.
5. CONTACT ON-LINE MEDICAL DIRECTION IF VENTRICULAR TACHYCARDIA PERSISTS FOR ONE OF THE FOLLOWING OPTIONS:
   A. ADENOSINE (ADENOCARD®) 6 MG RAPID IV BOLUS FOLLOWED BY A 5 CC SALINE FLUSH.
   B. PROCAINAMIDE (PRONES'IYL®) 20-30 MG/MINUTE IS ADMINISTERED UNTIL V-TACH RESOLVES, UP TO 17MG/KG IS GIVEN. HYPOTENSION ENSUES, OR THE QRS COMPLEX WIDENS BY GREATER THAN 50 PERCENT OF ITS ORIGINAL WIDTH.
   C. IF CONVERSION OCCURS TO SUPRAVENTRICULAR RHYTHM, BEGIN PROCAINAMIDE IV DRIP 2-4 MG/MIN.
   D. MAGNESIUM SULFATE 2 GM IV PUSH OVER 1-5 MINUTES.

NOTE: If Ventricular Tachycardia is polymorphic (toursade de pointe), encourage early use of Magnesium Sulfate.

E. OTHER TREATMENT MODALITIES.

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Procedure #8

VENTRICULAR TACHYCARDIA WIDE QRS TACHYCARDIA

HEMODYNAMICALLY UNSTABLE

Unstable patient Is defined as a blood pressure less than 90, with signs of inadequate perfusion (I.e., altered mental status, patient with congestive heart failure symptoms suggestive of myocardlal ischemla, or infarction,

1. Routine paramedic care.

2. If witnessed, check pulse. If no pulse, see Procedure #9, Pulseless Wide QRS Tachycardia.

3. If unconscious with pulse, cardiovert as below.

4. If conscious, administer Lidocalne (Xylocaine®) 1-1.5 mg/kg IV bolus, slowly less than 50 mg/minute while CONTACTING ON-LINE MEDICAL DIRECTION for implementation of the following:

   A. SEDATE AS APPROPRIATE WITH DIAZEPAM (VALIUM®) 5 TO 10MG IV, MORPHINE SULFATE 2TO 4MG IV, VERSED 0.1 MG/KG OR OTHER SEDATIVE AS PER MEDICAL DIRECTION.
   B. PERFORM SYNCHRONIZED CARDIOVERSION AT 100 WATI? SECONDS.
   C. IF UNSUCCESSFUL, REPEAT SYNCHRONIZED CARDIOVERSION AT 200 WATII' SECONDS.
   D. IF UNSUCCESSFUL. REPEAT SYNCHRONIZED CARDIOVERSION AT 300 WAIT SECONDS.
   E. IF' UNSUCCESSFUL, REPEAT SYNCHRONIZED CARDIOVERSION AT 360 WAfl' SECONDS

NOTE: Should the patient convert following cardioversion to a supraventricular. rhythm, even if only for short duration, IV bolus Lidocaine 1-1.5 mg/kg is administered if not previously given, and a Lldocalne drip at 2-4 mg/minute Is begun. Lidocaine must be used cautiously in patients over 70 years of age, with congestive heart failure, liver disease, or possible allergic response. If patient develops slurred speech, confusion, twitching, seizures, coma, paralysis or apnea. discontinue the Lidocaine and contact ON-LINE MEDICAL DIRECTION

5. IF ABOVE UNSUCCESSFUL, CONTACT ON-LINE MEDICAL DIRECTION FOR ONE OR MORE OF THE FOLLOWING:

   A. LIDOCAINE 0.5-0.75 MG/KG IV PUSH EVERY 5-10 MINUTES TO MAX DOSE OF 3 MG/KG.

   B. PROCAINAMIDE (PRONESTYL®)20-30 MG/MINUTE, ADMINISTERED UNTIL NO ECTOPY IS PRESENT, UP TO 17 MG/KG IS GIVEN. HYPOTENSION WORSENS. OR QRS COMPLEX WIDENS BY GREATER THAN 50% OF ITS ORIGINAL WIDTH.

   C. IF RHYTHM CHANGES, FOLLOW APPROPRIATE GUIDELINE. IF CONVERSION TO NORMAL RHYTHM OCCURS, CONTACT MEDICAL DIRECTION FOR CONTINUOUS DRIP THERAPY.

   D. MAGNESIUM SULFATE 2 GM IV PUSH OVER 1-5 MINUTES.

   B. REPEAT CAIRDIOVERSION.

   F, OTHER TREATMENT MODALITIES.

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Procedure #9

VENTRICULAR FIBRILLATION / PULSELESS WIDE QRS TACI-IYCARDIA

1. Initiate CPR.

2. ImmedIate defibrillation as follows:

   a. Defibrillate at 200 watt seconds, if no response:
   b. DeIibrlllate at 300 watt seconds, if no response:
   c. Defibrlllate at 360 watt seconds.

3. Begin routine paramedic care as soon as possible.

4. Administer IV bolus of 1.0mg of Eplnephrlne (10 cc of 1:10,000 solution). If IV is unobtainable. admlnster Epinephrine 2.0 mg down cndotracheal lube. Epinephrine is repeated every 3-5 minutes until change in rhythm.

5. If no change in rhythm. defibrillate at 360 watt seconds.

6. If no change, give Lidocaine (Xy1ocaint~') 1.5 mg/kg IV bolus.

7. If no change in rhythm, deflbrillate at 360 watt seconds.

8. If no change, repeat Lldocaine 1.5 mg/kg IV bolus in 3-5 **minutes to a total** of 3 mg/kg.

9. If no change in rhythm. defibrillate at 360 watt seconds.

10. Consider Sodium Bicarbonate 1 mEq/kg if hyperkalemia suspected (i.e., **renal** dialysis patient) or TCA overdose

11. If change in rhythm occurs, follow appropriate guideline. If conversion to normal rhythm occurs CONTACT ON-LINE MEDICAL DIRECTION for continuous drip therapy.

CONTACT ON-LINE MEDICAL DIRECTION IF NO CHANGE FOR IMPLEMENTATION OF ONE OR MORE OF THE FOLLOWING:

Procedure #10

BRADYCARDIA

1. Routine paramedic care WITh EARLY TRANSPORt

2. SymptomatIc bradycardta with unstable hemodynarnics, signs and symptoms of shock, CHF, chest pains suggestive of cardiac etiology, ventricular escape beats.

   a. Administer Atropine Sulfate 0.5-1 mg (0.01 mg/kg) IV bolus unless second degree type II or complete heart block (third degree).

   b. If no response to Atropine or if second degree type II or complete heart ‘block (third degree), apply transcutaneous pacemaker and begin pacing.

3. CONTACT ON-LINE MEDICAL DIRECTION IF THERE IS NO IMPROVEMENT IN CARDIAC STATUS FOR CONSIDERATION OF THE FOLLOWING:

   A. ATROPINE SULFATE 0.5-1 MG IV BOLUS (MAY BE REPEATED EVERY 3-5 MINUTES UP TO A TOTAL OF 0.04 MG/KG).

   B. DOP.AMINE (INTROPIN®) 5-20 MICROGRAMS/KG/MINUTE IV DRIP.

   C. EPINEPHRINE 2-10 MICROGRAMS PER MINUTE (1 MG ADDED TO 500 CC NORMAL SALINE OR D5W BEGINNING AT 2 MICROGRAM PER MINUTE-iCC PER MINUTE).

   I). TRANSPORT.

   E. OTHER TREATMENT MODALITIES.

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Procedure #11

NARROW QRS TACHYCARD IA. RATE > THAN 150
(INCLUDING SVT, RAPID ATRIAL FIBRILLATION/FLU'lTER)

1. Routine paramedic care.

2. Evaluate for hemodynaxnlc stability.

   a. Patient Is hemodvnamicallv stable.

      1. Attempt vagal maneuver.

      2. If narrow QRS tachycardia with a regular rhythm, rate greater than 150/mm. give Adenosine (Adenocard®) 6 mg rapid IV bolus over 1-3 seconds and flush with 5 cc normal saline. If after giving Adenoslne, the rhythm is identified as atrial fibrillation or atrial flutter proceed to #3, aabelow. IF NO CHANGE IN 1-2 MINUTES, CONTACT ON-LINE MEDItAL DIRECTION FOR:

         A. REPEATADENOSINE 12MG RAPID IVBOLUS OVER 1-3 SECONDS AND FLUSH WITh 5 CC NORMAL SALINE. MAY REPEATAN ADDITIONAL 12MG OFADENOSINE RAPID IV BOLUS IN 1-2 MINUTES.

      3. If the underlying rhythm is identified as rapid atrial fibrillation or atrial flutter, rate greater than 1 50/nUn, CONTACT ON-LINE MEDICAL DIRECTION FOR: (NOTE: Make every effort to establish the duration of onset of afib/flutter prior to contact of medical direction. If available, obtain 12 Lead EKG per sponsor hospital guideline.)
         A. DILTIAZEM HCL (CARDIZEM®) (USE CAUTION WITH CHF HISTORY) 0.25 MG/KG OVER TWO (2) MINUTES, FLUSH WITh SALINE. IF NO CHANGE AFTER 15 MINUTES, REBOLUS DILTIAZEM 0.35 MG/KG OVER TWO (2) MINUTES, FLUSH WITH SALINE. (Contralndicated with Wolfe-Parkinson-White, sick sinus syndrome, second or third degree

AV block, and hemodynamically unstable patients.)

NOTE: IF 1-IYPOTENSION AND/OR SYMPTOMATIC BRADYCARDIA OCCURS FOLLOWING ADMINISTRATION OF DILTIAZEM, GIVE 8MG/KG OF CALCIUM CHLORIDE.

b. If patient is hemodvnamicallv unstable, (I.e. HP < 90 mm Hg and/or altered level of consciousness, signs/symptoms of shock, congestive heart failure. and/or chest pains suggestive of cardiac lschemia or Infarction.)

1. CONTACT ON-LINE MEDICAL DIRECTION FOR IMPLEMENTATION OF ONE OF ThE FOLLOWING:

A. TRANSPORT

B. ADMINISTER ADENOSINE 6 MG RAPID IV BOLUS FOLLOWED BY A 5 CC SALINE FLUSH WHILE CONTACTING ON-LINE MEDICAL DIRECTION FOR SYNCHRONIZED CONVERSION.

C. SYNCHRONIZED CONVERSION:

1. SEDATE AS APPROPRIATE WITH DIAZEPAM (VALIUM®) 5 TO 10 MG IV, MORPHINE SULFATE 2 TO 4 MG Pt!, MIDAZOLAM (VERSED®) 0.1 MG/KG. OR OTHER SEDATIVE PER MEDICAL DIRECTION.

2. PERFORM SYNCHRONIZED CA1RDIOVERSION USING 100 WAlT SECONDS. (50 WAIT SECONDS FOR PSVT AND ATRLAL FLUrrER.)

3. IF UNSUCCESSFUL, SYNCHRONIZED CARDIOVERSION AT 200 WATT' SECONDS.

4. IF UNSUCCESSFUL, SYNCHRONIZED CARDIOVERSION AT 300 WAlT SECONDS.
5. IF UNSUCCESSFUL, SYNCHRONIZED CAIRDIOVERSION AT 360 WATt' SECONDS .

D. IF NO CHANGE IN 1-2 MINUTES, REPEAT ADENOSINE 12 MG PAPID IV BOLUS AND 5 CC SALINE FLUSH.

E. LIDOCAINE (XYLOCAINE®) 1-1.5 MG/KG SLOW IVP.

F. FLUID CHALLENGE

G. OTHER TREATMENT MODALITIES

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Procedure #12

PULSELESS ELECTRICAL ACTIVITY - PEA
(ELECTRO-MECHA.NICpW DISSOCIATION)

1. Routine paramedic care.

2. Administer Epinephrlne 1 mg IV (10 cc of 1:10,000 solution)* repeat every 3-5 minutes.

3. Administer Atroplne 1 mg IV push if less than 60 beats/minute every 3-5 minutes up to 0.04 mg/kg.

4. AdminIster 500 cc Crystalloid as bolus.

5. Ensure adequate hyperventilation at 25-30 per minute.

6. Administer Sodium Bicarb 1 mEq/kg If patient suspected to have hyperkalemia (renal dialysis patient) or if a tricyclic overdose.

NOTE: Consider the **following diagnoses as a cause of electromechanical** dissociation: hypovolemia, cardiac tamponade, tension pneumothorax, hypoxemia, acldosls, pulmonary emboli, drug overdose, hypothermia, or hyperkalemia. If it is suspected that the patient is hypotensive secondary to any of these causes, CONTACT ON-LINE MEDICAL DIRECTION.

7. CONTACT ON-LINE MEDICAL DIRECTION IF NO IMPROVEMENT IN HEMODYNAMIC STATUS, FOR ONE OR MORE OF THE FOLLOWING:
   A. ADMINISTER 8 MG/KG CALCIUM CHLORIDE IF PATIENT IS SUSPECTED TO HAVE HYPERKALEMIA FROM ANY CAUSE.

   B. RAPID TRANSPORT.

tMay also be given via the endotracheal tube in a 2 mg dose (see Endotracheal Medications guideline, Procedure #5).

SOUTHWESTERN CT AXIS GUIDELINES

Procedure #13

ASYSTOLE

1. Routine paramedic care. Confirm Asystole in more than one lead.

2. IV bolus of Epinephrine 1.0 tug (10 cc of 1:10.000 solution). Repeat every 3-5 minutes.

3. Consider transcutaneous pacing if witnessed arrest with short down time.

4. If no change, Atroplne 1 mg IV.' May be repeated every 3-5 minutes up to 0.04 mg/kg if no change.

5. Ensure adequate hyperventilation at 25-30 per minute.

6. Administer Sodium Bicarbonate 1 mEq/kg if patient is suspected to have hyperkalernia (renal dialysis patient) or if a tricyclic overdose.

7. CONTACT ON-LINE MEDICAL DIRECTION FOR CONSIDERATION OF ONE OF THE FOLLOWING:
   A. REPEAT OF ANY OF THE ABOVE ORDERS.

   B. EXTERNAL PACING.

   C. REPEAT SODIUM BICARBONATE.

   D. FLUID CHALLENGE.

   E. TERMINATION OF ARREST SEQUENCE.

   F. OTHER TREATMENT MODALITIES.

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Procedure #14

ACUTE PULMONARY EDEMA

1. RoutIne paramedic care.

2. If systolic blood pressure is greater than 120 mm Hg:

   a. Administer Nitroglycerin, 1-2 tabs, 0.4mg (1/150 gr) sublingual or one to two measured dose.

   b. Vital signs are monitored at least every 5 minutes.

   c. If no response to the initial dose of Nitroglycerin within 5 minutes and vital signs are stable, the initial dose of Nitroglycerin may be repeated every 5 minutes.

   d. Furosemide (LasixW), 40 mg IV bolus Is administered. If patient is on Furosemide, administer 80 mg IV.

3. If BP is less than 120 systolIc, CONTACT ON-LINE MEDICAL DIRECTION FOR THE FOLLOWING:
   A. REPEAT BOLUS OF FUROSEMIDE.

   B. MORPHINE SULFATh 2-5 MG IV BOLUS IF SYSTOLIC BLOOD PRESSURE IS GREATER THAN 110 mm Hg.

      I. Vital signs are monitored every 5 minutes.

      2. If hypotension develops secondary to morphine, morphine sulfate is withheld.

   C. BIPAP/CPAP PER SPONSOR HOSPITAL GUIDELINES.

   D. OThER TREATMENT MODALITIES.

NOTE: Assisted ventilation and/or Intubation may be required if status deteriorates.

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Procedure #15

SHOCK PROTOCOL

CARDIOGENIC OR UNKNOWN ETIOLOGY NOT DUE TO HYPOVOLEMLA

1. Routine paramedic care.

2. Rapid transport.

3. 250 cc normal saline as a rapid fluid challenge (unless signs and symptoms of congestive heart failure).

4. Dopamine (Intropin®) drip to begin at 5 *mcglkg/minute.* gradually increasing drip rate to achieve a systolic BP of 90 or a maximum drip rate of 20 mcg/kg/minute.

5. CONTACT ON-LINE MEDICAL DIRECTION FOR CONSIDERATION OF THE FOLLOWING:

   A. 250 CC NORMAL SALINE AS A REPEAT BOLUS.

   B. PASG (MASfl ACCORDING TO MEDICAL DIRECTION. TITRATE

      PRESSURE TO PATIENT RESPONSE.

   C. OTHER TREATMENT MODALITIES.

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Procedure #16

ANAPHYLAXIS /ALLERGIC REACTION

1. **Anaphylaxis with stable hemodynamics (systolic blood pressure** within normal limits) with minor or extensive skin manifestation, and/or minor respiratory distress.

   a. Routine paraxnedlc care.

   b. Epinephrlne 1:1,000 (1 mg/cc); 0.01 mg/kg subq. max dose 0.3mg (0.3 cc).

      *CONTACT ON-LINE MEDICAL DIRECTION if patient has one of the following:
      -History of Hypertension
      -History of MI or cardiac pain
      -60 years of age or more
      -Pregnancy

   c. Diphenhydramine Hydrochloride (Benadryl®) 1 mg/kg im/iv slowly at 50 mg/minute. Maximum 50 mg.

   d. If bronchospasm occurs, administer bronchodilator by aerosol per sponsor hospital guidelines.

   e. CONTACT ON-LINE MEDICAL DIRECTION TO REPEAT EPINEPHRINE.

2. SEVERE anaphylaxis with unstable hemodynamics. systolic blood pressure less than 90 mm Hg, or impending upper airway obstruction with strldor or severe respiratory distress.

   a. Routine paramedic care.

   b. Epinephrine* 1:1,000 (1 MG/CC); 0.01 MG/KG SubQ. MAX DOSE 0.3 MG (0.3CC).
      *CONTACT ON-LINE MEDICAL DIRECTION if patient has one of the following:
      -History of Hypertension
      -History of MI or cardiac pain
      -60 years of age or more
      -Pregnancy

c. Diphenhydramlne HydrochlorIde 1 mg/kg slowly over one minute. Maximum 50 mg. (1 mg/kg in pediatric patients.)

d. Fluid Challenge

3. CONTACT ON-LINE MEDICAL DIRECTION FOR ONE OR MORE OF THE FOLLOWING:

A. EPINEPHRINE5 A 1:10.000 SOLUTION GIVEN IV 0.5 CC AT A TIME SLOWLY EVERY 1-2 MINUTES UP TO 0.01 CC/KG INITIAL DOSE (MAX 0.5 MG OR 5 CC). THE INITIAL DOSE MAY BE REPEATED EVERY 10 MINUTES.

1. IF PATIENT IS UNCONSCIOUS AND WITHOUT IV LINE. GIVE 0.01 MG/KG OR 0.1 CC/KG EPINEPHRINE 1:10.000 DOWN ET TUBE.

2. IF IV OR ET TUBE IS NOT AVAILABLE, GIVE EPINEPHRINE **1:1,000 SubQ AS** ABOVE **UNDER STABLE GUIDELINE.**

B. EPINEPHRINE DRIPS I MG EPINEPHRINE IN 500 CC NS BEGIN AT 1 MCG/MINUTE (30 c/hr). TITRATE TO EFFECT 2-10 MCG/MINUTE.

C. PASO (MAST)* APPLIED AND INFLATED.

D. OTHER TREAThENT MODALITES.

5On-line medical direction will determine specific regimen according to the patient's needs.

SOUTHWESTERN CT AIS GUIDELINES

Procedure #17

ALTERED MENTAL STATUS

1. Routine paramedic care.

2. Rule out trauma as etiology.

   a. Immediately:

      1. If a narcotic overdose is suspected and respiratory insufficiency present, administer Naloxone (Narcan®) 0.4 mg IV bolus. Administer up to 2 mg Naloxone IV (IM if no IV available) if respirations are not adequate.

         Note: May administer Naloxofle 2mg IN via MAD~ as per Appendix I.

      2. Obtain blood sample for a serum glucose level. If available, **determine blood glucose by quick method** and **if low, administer one of the following:**

         A. Dextrose 50% 25 gin. (50 cc) IV bolus slowly.

         B. Dextrose 10% at 75 cc/hr (add 25 cc D50 to 250 cc DSW). Titrate for clinical signs and symptoms.

         If no quick method available and hypoglycemia is suspected, administer glucose as above. If LV not available, administer Glucagon 1 mg IM as available.

   b. En route: Administer Thiamine 100 mg IM/IV if dextrose was administered or if clinically indicated.

3. CONTACT ON-LINE MEDICAL DIRECTION IF ADDITIONAL MEDICATION IS REQUIRED.

NOTE: All empty medicine containers, drug paraphernalia, bottles of alcohol and the like are to be transported to the hospital with the patient.July 2001**Revised** March 2002

SOUTHWESTERN CT MS GUIDELINES

Procedure #18

SEIZURES

1. Routine paramedic care.

2. Assess central nervous system and cardiorespiratory function. Veri1~i by history or observation, the presence of seizure activity.

3. Begin IV nonnal saline (ItVO).

4. If patient is pregnant, follow Eclainpsia, procedure #19.

5. If hypoglycemia is suspected, obtain blood sample for a serum glucose level. If available, determine blood glucose by quick method and if low, administer one of the following:

    a. Dextrose 50% 25 gin. (50 cc) IV bolus slowly.

    b. Dextrose 10% at 75 cc/hr (add 25 cc D50 to 250 cc D5W). Titrate for clinical signs and symptoms.

6. CONTACT ON-LINE MEDICAL DIRECTION FOR ThE FOLLOWING IF SEIZURE ACTIViTY CONTINUES OR RECURS.

    A. ADMINISTER UP TO 5 MG DLAZEPAM (VALIUM®) OR UP TO 2 MG LORAZEPAM (ATIVAN®) IV OR OTHER ANTIEPILEPTIC MEDICATION OVER 30 SECONDS OR UNTIL SEIZURE SUBSIDES.

    BE ALERT **FOR RESPIRATORY INSUFFICIENCY REQUIRING** VENTILATORY ASSISTANCE.

7. Transport as soon as possible.

NOTE: All empty medicine containers, drug paraphernalia, botfles of alcohol and the like are to be transported to the hospital with the patient.

SOUTHWESTERN CT ALS GUIDELINE

Procedure #19

ECL.AMPSIA

1. Provide routine paramedic care.

2. Assess central nervous system and cardiorespiratory function. Verify, by history or observation, the presence of seizure activity. Determine gestation age and previous history of eclampsia.

3. If hypoglycemia is suspected, obtain blood sample for a serum glucose level. If available, determine blood glucose by quick method and if low, administer one of the following:

    a. Dextrose 50% 25 gm. (50 cc) IV bolus slowly.

    b. Dextrose 10% at 75 cc/hr (add 25 cc D50 to 250 cc D5W). Titrate for clinical signs and symptoms.

4. CONTACT ON-LINE MEDICAL DIRECTION FOR CONSIDERATION OF THE FOLLOWING:

    A. DIAZEPAM (VALIUM) 5-10 MG SLOW IV/lM PUSH OR MIDAZOLAM (VERSED®) 0.1 MG/KG.

    B. LORAZEPAM (ATIVAN®) 1-2 MG SLOW [V/IM PUSH.

    C. FOUR (4) GM MAGNESIUM SULFATE IV SLOWLY OVER 2-3 MINUTES.

    D. FOUR (4) GM MAGNESIUM SULFATE IV SLOWLY OVER **2-3** MINUTES FOLLOWED BY AN INFUSION DRIP OF MAGNESIUM SULFATE 2 GM/HR (20 GM IN 500 CC NORMAL SALINE AT 50 CC/HR).

    BE ALERT FOR RESPIRATORY DEPRESSION. IF DEPRESSION OCCURS. STOP MEDICATIONS AND CALL ON-LINE MEDICAL DIRECTION.

5. If seizures recur or do not subside, CONTACT ON-LINE MEDICAL DIRECTION for repeat of the above.

6. Transport as soon as possible.

SOUTHWESTERN CT hIS GUIDELINES

Procedure #20

OVERDOSE/POISONING

1. Routine paramedic care.

2. **If a narcotic overdose is suspected:**

a. If respiratory insufficiency present:

1. Administer Naloxone (Narcan®) 0.4 mg ~ bolus, administer up to 2 mg Naloxone IV (IM if no IV available) if respirations are not adequate.
2. Monitor the patient's vital signs frequenfly as indicated by the patient's condition.
3. CONTACT ON-LINE MEDICAL DIRECTION and transport ASh?.

b. If respirations and BP adequate CONTACT ON-LINE MEDICAL DIRECTION and transport.

3. If the patient orally ingested a poison and/or overdosed:

A. CONTACT ON-LINE MEDICAL DIRECTION FOR ThE FOLLOWING:

1. ACTIVATED CHARCOAL (60-100 GM).

2. TRANSPORT PATIENT AS SOON AS POSSIBLE.

3. OTHER TREATMENT MODAL]TIES.

4. If patient inhaled a poisonous substance:

a. Follow local Haz Mat response for exposed contaminated patients.

b. CONTACT ON-LINE MEDICAL DIRECTION and transport ASAP.

5. If the patient was exnosed to a poison topically:

a. Follow local Haz Mat response for exposed contaminated patients.
b. Transport ASh? and CONTACT ON-LINE MEDICAL DIRECTION for receiving area

SOUTHWESTERN CT ALS GUIDELINES

Procedure #21

NEAR DROWNING

1. Routine paramedic care.
2. While protecting cervical spine, establish a patent airway appropriate to clinical situation.
3. If hypothermic follow Hypothermia guideline, Procedure #22.
4. Bronchodilator by nebulizer as required for bronchospasm. (Follow Acute Respiratory Distress guideline, Procedure #3).
5. All near drowning victims must be transported to the hospital.

NOTE:

Drowning:

Near Drowning:

"Dry" Drowning:

'Wet" Drowning:
Death by water immersion. Refers to Initial recovery after immersion.

Little or no aspiration of water (10-20% of victims). Asphyxia by la~ngospasmn and/or bronchospasm.

Aspiration of water accompanying drowning.

SOUTHWESTERN CT ALS GUIDELINES

Procedure #22
HYPOTHERMIA

1. Routine advanced airway and BLS care. Monitor.
2. Generalized Hypothermia:
   A. Hypothermic patients are prone to ventricular fibnllation. Transport and MONITOR CAREFULLY.
   B. No routine guidelines for hypotension or arrhythmia management.
   C. Assess respirations:_____

Support respirations by BVM if indicated
Check pulse (to one minute count)

PULSE NO PULSE

TRANSPORT NON-ARREST ARREST

RHYTHM RHYTHM

TRANSPORT AND CALL V-FIB/TACH ASYSTOLE

] MEDICAL DIRECTION

DEFIB X 3

TRANSPORT WITH CPR

CPR/INTUBATE
TRANSPORT

D. Remove all wet clothing unless frozen to skin.
   E. Cover patient with blanket. DO NOT attempt active rewarrnlng.

Localized Hypothermia:
   A. Follow BLS Guidelines, avoid further cooling and do not attempt to rewarm.

NOTE: Severely hypothermlc patients may be without detectable pulse, blood pressure, or detectable respirations. These may be physiologic for a hypothermic patient.
Successful resuscitation without CNS complications has been accomplished in patients with core temperature less than 70 degrees F.
July 2001.

SOUTHWESTERN CT MS GUIDELINES

Procedure #23

OPHTHALMIC CHEMICAL BURNS

1. ImmedIate and continuous flushing of the affected eye is perfonned. using Saline 0.9% or Ringer's Lactate solution. If contact lenses are known to be in the patlents eyes, an attempt should be made to remove them and continue flushing.

2. If the patient is agitated or unable to hold his eyelid open, administer one drop of topical ophthalmic anesthesia, if available.

3. Transport while flushing each affected eye with 1,000 cc Normal Saline. Utilize Morgan Lens as per medical direction as available.

NOTE: Alkali burns should be flushed continously en route to the ED.

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SOUTHWESTERN CT MS GUIDELINES

Procedure #24

BURN PROTOCOL

Evaluate the causative agent. Protect yourself and crew from exposure. Stop the burning process by removal of the patient from the source of the injury or eliminating the source product as per local Haz Mat guidelines. NotifY C-MED as appropriate. Evaluate the degree and extent of body surface area (BSA) of the burn injury.

THERMAL/ELECTRICAL BURNS

1. Provide routine paramedic care. NOTE: Establish IV in noninjured area for 2nd or 3rd degree BSA> 20%.

2. Remove clothing that is not adhering to the patient's skin. Remove jewelry and other constricting hazards from the patient.

3. Apply dry sterile dressing to affected areas.

4. If patient is hemodynamically stable [BP => 100 mm Hg) with no evidence of respiratory burn or compromiSe. CONTACT ON-LINE MEDICAL DIRECTION FOR CONSIDERATION OF THE FOLLOWING:

   A. MORPHINE SULFATE 2-5 MG IV. REPEAT DOSE UP TO A MAX OF 15 MG.

   B. TRANSPORT TO DESTINATION HOSPITAL/SPECIALTY CENTER.

CHEMICAL BURNS

1. Follow guidelines for possible hazardous material exposure and CONTACT ON-LINE MEDICAL DIRECTION FOR SPECIFIC TREATMENT ORDERS.

2. Routine paramedic care as indicated by situation and exposure risk.

3. NotifY receiving hospital for orders regarding receiving area.

SOUTHWESTERN CT aS GUIDELINES

Procedure #25

SEVERE HEAD TRAUMA

1. Routine paramedic care with C-Spine precautions*.

   NOTE: Excessive fluid should be avoided in head Injury patients.

2. Secure airway while performing spinal immobilization.

3. If patient is unconscious, endotracheal intubation is performed (providing spinal immobilization is not compromised).

4. If patient is in shock, see Hypovolemic Shock guideline, Procedure #26.

5. CONTACT ON-LINE MEDICAL DIRECTION FOR EARLY TRANSPORT TO AN APPROPRIATE HOSPITAL.
   IF SIGNS OP HERNIATION PRESENT
   (PUPIL BLOWN, BRADYCARDICJ, CONSIDER HYPERVENTILATION.

6. Record patient's condition every 10 minutes including Glascow Coma Scale. If <12 consider transport to trauma center.

*These procedures should only be performed if delay In transport will not

compromise the patient's condition.

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Procedure It 26

MULTISYSTEM TRAUMA

Field time for multisystem trauma patients and hypovolemic patents must be kept to a minimum. Airway and C-Spine control are the primary goals of prehospltal care for the mult.isystem trauma patient. All other treatments should be perfonned while en route to the hospital.

1. Routine paramedic care.

2. Establish large bore IV. Number of PJs and rate of infusion will vary according to clinical presentation and mechanism of injury. If hypotensive, infuse fluids to maintain a systolic BP of 90 mm Hg.

3. PASG (MAST) as per local medical control guidelines. Not to be used with penetrating injuries above the diaphragm.

4. Transport patient to appropriate trauma facility **according to** State of Connecticut Trauma Regulations.

5. Notitt hospital via radio of patient's condition and need for trauma team if indicated according to receiving hospital policy.

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SOUTHWESTERN CT MS GUIDELINES

Procedure #27

HYPOVOLEMIC SHOCK

1. Paramedic care with C-Spine immobilization where appropriate.

2. Rapid and early transport is primary In this *situation* and to be done as the following are in progress.

   a. Establish at least 2 lVs of Ringer's Lactate or Normal Saline with large bore catheters wide open.

   b~ Apply PASG (MAST) as soon as possible. Inflate as per local medical control guidelines. Not to be used with penetrating chest trauma above the diaphragm.

   c. IF NO RESPONSE TO ABOVE, CONTACT ON-LIME MEDICAL DIRECTION AND CONSIDER OTHER ETIOLOGY WHILE TRANSPORTING.

NOTE: Do not allow procedures to delay transport.

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PROCEDURE 28

TENSION PNEUMOTHORAX WITH SHOCK

NOTE: This procedure is for the rapidly deteriorating critical patient who has a life-threatening tension pneumothorax.

If the patient has unstable vital signs **consistent with shock,** and signs and symptoms consistent with the diagnosis of a tension pneumothorax. such as:

-absent breath sounds unilaterally;
-tracheal deviation:
-distended neck veins:
-chest hyperreasonaflt to percussion:
-massive subcutaneous emphysema:

the paramedic may perform needle compression of the affected side, as follows:

1. The skin should be cleansed with an antiseptic solution.

2. A 14 or 16 gauge intravenous catheter, attached to a syringe containing sterile normal saline solution, should be introduced through the chest wall at the mid-clavicular lines' second or third intercostal space. Entry must be at the superior rib margin.

3. Air may now be aspirated trough the syringe.

4. The escape of air through the syringe should be noted as well as any change In the patient's status and medical control shall be contacted.

5. A one-way flutter valve may be attached to the in-dwelling catheter en route to the hospital.

APPENDICES

SOUTHWESTERN CT MS GUIDELINES

APPENDIX A

ADULT AILS GUIDELINE PHARMACOLOGY LIST

Adenosine (Adenocard®)

Atropine Sulfate

Calcium Chloride

Dextrose

Diazepam (Valium®)

Dlltiazem HCL (Cardizein®)

Diphenhydramine Hydrochloride (Benadryl®)

Dopannne (Intropin®)

Epinephrine

Fluma.zenil (Romazicon®)

Furosemide (Lasix®)

Lidocaine (Xylocaine®)

Larazepam (Ativan®)

Magnesium Sulfate

Midazolam (Versed®)

Morphine Sulfate

Naloxone (Narcan®)

Nitroglycerin

Procalnamide (Pronestyl®)

Sodium Bicarbonate

Succlnylcholine

Thiamine

Vecuronium (Norcuron®)

APPENDIX B

DYSTONIC REACTION

Dystonic reaction is a side effect to certain medications, particularly phenothiazines. antiemetics, and other antlpsychotic medications. It may start with a neck spasm that leads to a stiff neck and stiff tongue. The eye muscles may also be involved and the eyes may roll back.

1. Manage airway.

2. Routine paramedic care.

3. Administer Diphenhydramine Hydrochloride (Benadryl'ti 50-100 mg IV push. If unable to obtain venous access, administer deep IM.

CONTACT ON-LINE MEDICAL DIRECTION IF PEDIATRIC PATIENT TO ADMINISTER DIPHENHYDRAMINE 1 MG/KG IV PUSH OR IF NO VENOUS ACCESS, DEEP IM.

SOUTHWESTERN CT MS GUIDELINES

APPENDIX C

PAIN MANAGEMENT

Indication

1. Patients in significant pain due to an isolated injury.
2. Suspected extremity injury.
3. Bums.

Contraindications

1. Major traumas to head, chest, abdomen, or pelvis follow appropriate protocol.
2. Suspected spine injury.
3. Respiratory compromise, asthma, or COPD.
4. Drug/alcohOl Intoxication.

Procedure

1. Manage patent airway
2. Routine paramedic care
3. CONTACT ON-LINE MEDICAL DIRECTION FOR CONSIDERATION OF THE FOLLOWING:

   A. MORPHINE SULFATE 2-5 MG IV PUSH; REPEAT AS TOLERATED UNTIL ADEQUATE RELIEF.
   B. DIAZEPAM (VALIUM®) 2-10 MG NOR 1-10MG IV PUSH AS TOLERATED FOR AMNESIA AND SEDATION.
   C. FLUMAZENIL (ROMAZICON®) AS PER SPONSOR HOSPITAL.

   (When using narcotics and benzodiazepines, especially together, observe closely for hypotension and respiratory depression. Have Naloxone (Narcan®) available.)

NOTE: Assess and document on a ten-pain scale pre and post administration.

July 2001.

APPENDIX D

STATE OF CONNECTICUT

INTERFACILITY AMBULANCE TRANSFER GUIDELINES

PURPOSE: To provide appropriate levels of care for patients during interfacility transports in accordance with COBRA regulations and responsible sponsor hospital guidelines.

PROCEDURE: The following procedures should be used in order to ensure appropriateness of staffing, equipment and medical oversight for interfadilIty ambulance transfers:

Responsibility

A. COBRA regulations require all medical facilities and physicians who participate in Medicare to have a transfer effected through qualified personnel and transport equipment for each patient who must be transferred. This is the responsibility of the referring hospital.

B. Personnel should be trained to deal with the current medical condition of the patient and any reasonably foreseeable complication that could occur during transport.

C. Sponsored EMS providers have the responsibility of retrospectively notilSring their medical director of the types of transfers being requested to facilitate assessment and training of personnel by the sponsor hospital.

D. Patient care responsibility during transfer lies with the itferring institution until the patient is received at another facility. Overlapping responsibilities with the EMS provider's sponsor hospital may occur If the patient deteriorates en route and unforeseen treatment is required.

fl. Written protocols

A. Each sponsor hospital should have written protocols which specifically address those transfers encountered most frequenily by their sponsored EMS services.

B. The written protocols should address the minimal requirements for transfer personnel. Minimal requirements

must be met on all transfers.

C. Examples of conditions which may require accompaniment by non-EMS personnel (MD, RN, IC) Include:

1. Medications beyond the scope of paramedic training.
2. Equipment beyond the scope of paramedic training.
3. When the level of care required exceeds the training and capabilities of EMS personnel.
4. When the attending physician directs that other *staff* are needed.

D. EMS personnel will not transfer patients receiving treatments or utilizing equipment for which they have not received documented training without being accompanied by personnel appropriately trained in such treatments/devices.

IlL Ttansfer orders

A. Written orders for ALS care during transfer on a non- physician accompanied transport will be obtained by the paramedic from the referring hospital staff.

B. EMS personnel will receive patient history and a patient status report from the hospital staff sending the patient and will have access to pertinent medical information.

C. In the event of a change in patient condition during a non- physician accompanied transport, standing orders appropriate to the patient condition will be implemented and medical control will be contacted for Implementation of medical control options per sponsor hospital guidelines.

D. If the patient is not stabilized following these interventions and medical control Is not available for consultation, the patient will be transported to the nearest appropriate facility for stabilization.

IV. Communication

A. EMS providers must follow their sponsor hospital guidelines regarding notification of medical control prior to transport of patients and regarding radio report to receiving facilities.

B. Any unanticipated deterioration of the patient en route should

be communicated to the receiving facility or to the sending facility, depending on location and radio reception availability.

V. Documentation

A. All patient transfers will have an Emergency Medical Service Run Form or authorIzed equivalent completed. All assessments, care and interventions must be documented in keeping with current standards.

B. The name(s) of any hospital staff accompanying the patient should be documented on the run form.

C. A copy of the completed run form and of the transfer orders should be left at the receiving facility at the time of the
transfer.

U. A copy of the completed run form should be retained by the service.

E. A copy of both forms should be submitted to the provider's sponsor hospital in accordance with their guidelines for documentation.

F. Questions regarding this policy should be referred immediately to the EMS provider's sponsor hospital.

November 1, 1996

SOUTHWESTERN CT *hIS* GUIDELINES

APPENDIX E

TRANSPORTATION OF PATIENT WITH NITROGLYCERIN (TRIDIL®1 DRIP

Nitroglycerin is a chemical substance used for the control of unstable angina through relaxation of vascular smooth muscle and subsequent dilation of peripheral arteries and veins.

Clinical Indications

For treatment of perioperative elevated blood *pressure/CHF* in the setting of AJMI. Also for treatment of angina pectoris in patients who have not responded to sublingual Nitroglycerin or Beta Blockers.

Complications/Adverse Effects

Hypotension. syncope, rebound elevated blood pressure and death.

Usual Dosage

Dilution of 50 mg Nitroglycerin (ampule) into 250 cc or 500 cc glass bottle of either D5W or 0.9% Normal Saline, yields a concentration of 50 tolOO meg/cc.

Infusion: Usually starting at 5 mcg per minute via infusion pump, capable of exact and constant delivery of the drug. Guidelines:

1. Nitroglycerin will not be initiated in the prehospital setting.

2. The solution will be premixed and hung by the hospital.

3. Nitroglycerin drip will only be transported by a paramedic level service.

4. Nitroglycerin will be transported as a continuous infusion under direct physician's orders in which the amount of Nitroglycerin, its dilution, and the specific drip rate is specified.

5. Nitroglycerin drip may be discontinued under the following circumstances:

    a. Any of the above adverse effects begin to appear.
    b. If there is a change in the patient's clinical symnptomatolo~r alter discussion with medical direction.

6. Prior to departure from the hospital, the paramedic must be aware of the physician to whom the patient is being transferred, and from whom his medical direction will be obtained in the event of complications. The paramedic should also be familiar with the operation of the pump in case of side effects.

    a. It is imperative that medical direction have adequate information prior to transfer

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SOUTHWESTERN CT ALS GUIDELINES

APPENDIX F

TRANSPORTATION OF PATIENT WITH HEPAIRIN DRIP

Heparin is a substance extracted from beef lung and liver. Its dosage is measured In USP units. Its chief use is as an anticoagulant. It may be given subcutaneously or IV (either as a bolus injection or as a drip). When given intravenously Its effect is reduced 50% in 1 hour and duration is less than 4 hours.

~4Dosae

Subcutaneous (i.e.. 5,000 units q8h). In this dose it is used primarily for prevention of venous thrombosis.

Dosage may also be given by continuous Intravenous Infusion per sponsor hospital guideline.

Clinical Situations Utilizing Heparin

Pulmonary embolus, venous thrombosis, myocardial infarction, post thrombolytic therapy.

Complications

Bleeding: Usually due to a previous area of injury of a vessel or secondary to excess of medication.

Guidelines:

1. Heparin will not be started in the field.
2. Heparln will be transported as a continuous infusion per the following:
    a. Under direct physician's orders in which the amount of Heparin, its dilution, and the specific drip rate is specified.

3. The solution will be premlxed and hung by the hospital.

4. HeparIn drip will only be transported by a paramedic level service.

5. Heparin drip may be discontinued under the following circumstances:

   a. If abnormal bleeding occurs.

   b. If there is a change in the patient’s clinical symptomatology after discussion with medical direction.

6. Prior to departure from the hospital. the paramedic must be aware of the physician to whom the patient is being transferred, and from whom his on-line medical direction will be obtained in the event of complications:

   a. It is imperative that medical direction have adequate information prior to transfer.

SOUTHWESTERN CT ALS GUIDELINES

APPENDIX G

INITIATION OF EXTERNAL JUGULAR INTRAVENOUS LINES

1. The intravenous solution is prepared in the usual manner.

2. The head and neck are stabilized manually in an anatomically neutral position if any suspicion of C-spine injury. Otherwise, rotate the head to the lower left or right to expose the fateral area of the neck.

3. Place two fingers over the exposed external jugular vein proximal to the heart. Allow the vein to fill.

4. Spread fingers to pull the skin taut over site.

5. Prep the site with an antibacterial swab.

6. Cannulate the vein as high on the neck as possible.

7. Assure flashback, remove needle, occlude end with sterile object to prevent air passage into the catheter, and advance catheter simultaneously. Advance catheter to hub.

8. Attach I.V. line, remove fingers, and establish flow.

9. Observe site for ~ny extravasatlon of fluid from vein. Momentarily, lower the solution bag to verily flashback into I.V. tubing. Restore the I.V. as high as possible above the patient.

10. Tape the catheter and tubing in place. DO NOT apply tape circumferentially over neck.

CAUTION: These veins may be under negative pressure and care must be exercised to prevent air from being sucked into the venous system.

APPENDIX H

DEACTIVATION OF AUTOMATIC IMPLANTAELE CARD IOVERTER DEFIBRILLATORS

Routine paramedic care.

NOTE: For treatment of AICD malfunctions including: inappropriate shocking of benign rhythms, sinus tachycardia, atrial fibrillation, cardiac arrest and DOA.

2. CONTACT ON-LINE MEDICAL DIRECTION FOR IMPLEMENTATION OF ONE OR MORE OF THE FOLLOWING OPTIONS:

Ad TRANSPORT.

B. ArI'EMPT PHARMACOLOGICAL ARRHYTHMIA SUPPRESSION AS PER APPROPRIATE REGIONAL GUIDELINES, UNLESS KNOWN TO BE ALLERGIC OR REFRACTORY TO TREATMENT.

C. DEACTIVATE THE AICD, BY HOLDING THE DOUGHNUT SHAPED MAGNET OVER THE AICD GENERATOR UNTIL ThE SYNCHRONOUS R-WAVE TONES CONVERT TO A CONTINUOUS TONE (AT LEAST 30 SECONDS) WHICH SIGNALS AICD DEACTIVATION.

D. AFTER THE AICD CYCLES, CARDIOVERT, DEFIBRILLA.TE, OR PACE AS APPLICABLE. SHOULD STANDARD ENERGY LEVELS BE INEFFECTIVE, USE INCREASED ENERGY AND/OR UTILIZE ANTERIOR/POSTERIOR PADDLE PLACEMENT TO OFFSET INCREASED TRANSTHORACIC RESISTANCE CAUSED BY TITANIUM ENDOCARDIAL PATCHES.

SOUTHWESTERN CT ALS GUIDELINES

APPENDIX I

USE OF MAD® TO ADMINISTER INTRANASAL MEDICATIONS

Indications:

a. Nasal administration of medications as specffied in specific treatment guidelines.
b. Lack of IV access.
c. To reduce possibility of needle stick.

2. Contraindications:

a. Epistaxis
b. Nasal trauma
c. Nasal septal abnonnalities

3. Procedure:

a. Draw up medication into a syringe using appropriate transfer needle.
b. Remove air from syringe.
c. Remove needle and place MAD® onto syringe.
4. Place MAts tip into nostril.
e. Compress the syringe plunger to spray atomized solution into nasal cavity.

4. Precautions:

a. Evaluate the effectiveness of the medication administered and consider repeating and/or changing route of administration if desired effect not received.

Approved March 2002