REGION 7
Emergency Medical Services Systems

Advocate Christ Medical Center EMS System
Morris EMS System
Presence Saint Mary’s-Kankakee EMS System
Riverside EMS System
Silver Cross EMS System
South Cook County EMS System

BLS / ILS / ALS
Standing Medical Orders

REVISED: May 1st, 2016
Effective: May 1st, 1998
REGION 7
EMERGENCY MEDICAL SERVICES SYSTEMS
BLS / ILS / ALS
STANDING MEDICAL ORDERS

These orders are to be used as the prehospital treatment protocols. They are to be followed by all Basic Life Support (BLS), Intermediate Life Support (ILS), and Advanced Life Support (ALS) members of the EMS System. We have incorporated evidence-based guidelines with historically proven practices to produce them. While it is impossible to address every possible variation of disease or traumatic injury, these protocols do provide a foundation for treating the vast majority of patients we encounter. Certainly our education, experience, and clinical judgment will assist us as we strive to provide the highest quality prehospital patient care. Deviations from these orders can be made only by the EMS Medical Director or designee.

These orders are to be used in the following situations:

• When the initiation of care begins before hospital communication is established.
• In the event that communications cannot be established or communication is disrupted or lost between the responding paramedics and their directing hospital. Every effort should be made to contact the hospital over the telemetry radio, MERCI radio, cellular phone or landline phone.
• Until the patient arrives at the hospital and the patient’s care has been transferred to the appropriate hospital personnel.
• In disaster situations, when immediate action to preserve lives and limbs supersedes the need to communicate directly with the hospital.

Due to geographic and regional considerations, some systems may include or exclude certain drugs as indicated.

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# REGION 7 STANDING MEDICAL ORDERS

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PROTOCOL SYMBOL KEY

> greater than
\( \geq \) greater than or equal to
< less than
\( \leq \) less than or equal to
\( \checkmark \) enter from or exit to another protocol

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Prehospital providers shall always assess the scene to assure the safety of all personnel.

Patient care and treatment begins at the “bedside.”

Prehospital personnel shall take all reasonable precautions to prevent exposure to blood and/or body fluids of any patient. Use fluid repellent gowns, masks and goggles as situation dictates.

For pediatric dosing, utilize a length based Pediatric Tape or Chart

GENERAL PATIENT ASSESSMENT

Initial Assessment:
1. Circulation (pulse) and hemorrhage control (if indicated)
2. Airway - Establish and/or maintain an airway (cervical spine control, if indicated)
3. Breathing - Assist ventilation as required
4. Disability (Level of Consciousness)
   • “Alert”
   • “Verbal” - (responds to verbal stimuli)
   • “Pain” - (responds to painful stimuli)
   • “Unresponsive”
5. Expose and examine (if indicated)

Focused Assessment:
1. Vital signs, and where applicable, Glasgow Coma Scoring parameters
2. Systematic head - to - toe detailed assessment
3. History of present illness/injury

INITIAL MEDICAL CARE/ROUTINE CARDIAC CARE

1. Reassure patient, provide comfort and loosen tight clothing.
2. Sit patient in semi-Fowler’s or position of comfort (if applicable).
3. Obtain Pulse Oximeter value prior to oxygen delivery. Deliver OXYGEN 2-6L by nasal cannula or 12-15L by mask, unless otherwise specified.
4. Evaluate cardiac rhythm, if indicated. Consider use of 12-lead, (if available). All ALS patients do not necessarily require continuous ECG monitoring or transmission of a strip to the hospital.
5. If patient’s condition warrants, obtain IV access (Saline lock or NS). Attempt x2 unless requested to continue.
6. For adult and pediatrics ≥ 4 years old experiencing nausea, consider Zofran 4mg ODT/IV x1 dose.
   BLS: For adult and pediatrics ≥ 4 years old experiencing nausea, consider Zofran 4mg ODT x1 dose.
7. Contact hospital as soon as patient’s condition permits. Transmit assessment information and await orders. If no radio contact can be established or patient’s condition requires immediate treatment, refer to appropriate protocol and begin intervention immediately.
8. Recheck vitals and other pertinent signs at least every 15 minutes and record, note the times.
9. Transport to closest hospital. NOTE: By law, a physician must certify that the benefits outweigh the risk of transport to a facility other than the nearest hospital. If the patient refuses care or transport to the closest hospital, refer to policy and document signatures and situation.

NOTE: In a combative or uncooperative patient, the requirement to initiate initial routine medical care, as written, may be altered or waived in favor of rapidly transporting the patient for definitive care. Document the patient’s actions or behaviors which interfered with the performance of any assessments and/or interventions.
OUTLINE FOR RADIO REPORT (Transmit using as few words as possible)

1. Name and vehicle number of provider
2. Requested destination, closest hospital and estimated time of arrival
3. Age, sex, and approximate weight of patient
4. Chief Complaint, to include symptoms and degree of distress
5. History of present illness/injury
6. Pertinent Medical History:
   - Allergies
   - Medications
   - Past History of current illness
   - Last Meal
   - Events surrounding incident
7. Clinical condition:
   - Focused and detailed patient assessment findings
8. Treatment initiated and response

The use of an abbreviated report is optional. A full report may always be given at the discretion of the prehospital provider. A full report must always be given:
- when vital signs are unstable,
- when any treatment has been initiated other than OXYGEN and/or IV, or
- when requesting transport to destination other than the closest hospital (by time).

Refer to and follow the steps under GENERAL PATIENT ASSESSMENT and INITIAL MEDICAL CARE / ROUTINE CARDIAC CARE.

OUTLINE FOR ABBREVIATED RADIO REPORT (Transmit using as few words as possible)

1. Name and vehicle number of provider
2. Requested destination, closest hospital, and estimated time of arrival
3. Age and sex
4. Chief Complaint, to include symptoms and degree of distress
5. Clinical condition:
   - Vital signs stable

NOTE: When contacting the receiving hospital with a CODE STEMI or CODE STROKE it is acceptable to use an abbreviated radio format announcing CODE STEMI or CODE STROKE when the patient's condition and attention warrants.
Breathing Assessment

Assess the need for intubation
Intubate if indicated

Refer to MEDICATION ASSISTED INTUBATION PROTOCOL #82 as indicated, AND/OR

Refer to ADULT AIRWAY PROTOCOL #83 as indicated

Adequate
Inadequate

Consider assist with BVM

Adequate
Inadequate

Assess the need for intubation
Intubate if indicated

Refer to MEDICATION ASSISTED INTUBATION PROTOCOL #82 as indicated, AND/OR

Refer to ADULT AIRWAY PROTOCOL #83 as indicated

100% OXYGEN

Chest Assessment

TRANSPORT

For a pediatric patient refer to PEDIATRIC RESPIRATORY DISTRESS PROTOCOL #64
AIRWAY OBSTRUCTION

INITIAL MEDICAL CARE

Conscious

Cannot speak

> 1 year

5 abdominal thrusts
(or 5 chest thrusts if pregnant or obese)

Still cannot speak
REPEAT until ... obstruction relieved or unconscious

Conscious

TRANSPORT

Unconscious

Only if a foreign body is visible, remove object

Consider neck injury and use jaw thrust maneuver to open airway. Attempt to ventilate

If still obstructed and unconscious

Perform CPR 30 : 2

Every time you open the airway to give breaths (consider neck injury and use jaw thrust maneuver) if you see an object and it can be easily removed, remove the object.

Clear the airway by visualizing with laryngoscope using forceps and/or suction

Open airway

Support Ventilation as required

If still unable to ventilate, intubate and pass tube pushing foreign body into right mainstem, then pull back tube and ventilate left lung.

If unsuccessful

Perform NEEDLE CRICOTHYROTOMY PROTOCOL #84

TRANSPORT
GENERAL

Protocol 5

ADULT PAIN CONTROL

Enter from protocol based on Specific Complaint

Assess Pain Severity
Use combination of Pain Scale, Circumstances, MOI, Injury or Illness severity
BLS/ILS consider ALS Mutual Aid

Mild Pain
(Scale 0-6 out of 10)

Consider IV
Monitor and Reassess

TRANSPORT

Allow for position of maximum comfort unless contraindicated

Moderate to Severe Pain
(Scale >6)

Establish IV/IO
Cardiac Monitor

FENTANYL 50mcg IV/IO/IM/IN
May repeat every 10 minutes as needed until improvement. Max total dose 200mcg
OR
MORPHINE SULFATE (if available) in 2mg increments IV/IO/IM
May repeat every 5 minutes as needed until improvement. Max total dose 10mg
AND/OR
Consider NITROUS OXIDE 50/50 (if available)

Monitor and Reassess every 5 minutes:
following narcotic dose. Hold further doses of opioids if any respiratory depression or AMS

TRANSPORT

PAIN MEASUREMENT SCALE

For a pediatric patient refer to PEDIATRIC PAIN CONTROL PROTOCOL #59

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Effective: 05/01/98
**Protocol 6**

**ADULT CARDIAC ARREST**

**Criteria for Death / No Resuscitation**
- Decomposition
- Rigor Mortis
- Dependent Lividity
- Injury Incompatible with Life

**AT ANY TIME**
Return of Spontaneous Circulation
Go to **ADULT POST RESUSCITATION PROTOCOL #8**

**Do not begin resuscitation**
Refer to **TRIPLE ZERO / DNR / CRITERIA FOR INITIATION OF CPR PROTOCOL #76**

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**CAB’s**
Begin Continuous CPR Compressions
- Push Hard (> 2 inches)
- Push Fast (100-120/min)
- Change Compressors every 2 minutes
  (Limit changes/pulse checks < 5 seconds)

**AED (if available)**

**ILS/ALS available?**

**Shockable Rhythm**

**NO**
Continue CPR
2 Minutes
Repeat and Reassess

**YES**
Shock Delivery
Continue CPR
2 Minutes
Repeat and Reassess

Refer to **ADULT AIRWAY PROTOCOL #83**
as indicated

**TRANSPORT**

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**NOTE TO PREHOSPITAL PROVIDERS:**
ILS/ALS providers may refer to **TERMINATION OF RESUSCITATION PROTOCOL #9**

For a pediatric patient refer to **PEDIATRIC CARDIAC ARREST PROTOCOL #60**
**CARDIAC ARREST CALL MANAGEMENT**

**Protocol 7**

- **Criteria for Death / No Resuscitation**
  - Decomposition, Rigor Mortis
  - Dependent Lividity, and/or
  - Injury Incompatible with Life

- **IF TIERED RESPONSE AVAILABLE**
  - Utilize this protocol with the appropriate
    - **ADULT CARDIAC ARREST PROTOCOL #6**
    - **PEDIATRIC CARDIAC ARREST PROTOCOL #60**

---

**AT ANY TIME**

- Return of Spontaneous Circulation
- Go to **ADULT POST RESUSCITATION PROTOCOL #8**

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**Establish Team Leader / Code Commander**

(Hierarchy)
- Fire Department or Squad Officer
- EMT-B
- First Arriving Responder

**Rotate with Compressor**

To prevent fatigue and effect high quality compressions. Take direction from Team Leader.

**Fourth / Subsequent Arriving Responders**

Take direction from Team Leader

Continue appropriate CARDIAC ARREST PROTOCOL

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**Team Leader / Code Commander**

ALS Personnel
- Responsible for patient care
- Ensures high-quality compressions
- Ensures frequent compressor change
- Responsible for briefing / counseling family

**Incident Commander**

Fire Department / First Responder Officer
- Team Leader until ALS Arrival
- Manages Scene / Bystanders
- Responsible for briefing family prior to ALS arrival

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**Effective:** 05/01/98
Protocol 8

ADULT POST RESUSCITATION

Repeat Primary Assessment

Optimize Ventilation and Oxygenation
- Maintain SpO2 = 90-99%
- Advanced airway if indicated
- Respiratory Rate 6-12/minute for ETCO2 (if available) 35-45mmHg
- Remove Impedance Threshold Device (if used)
- DO NOT HYPERVENTILATE

Establish IV/IO
Cardiac Monitor 12 Lead ECG
Monitor Vital Signs / Reassess

Hypotension
Systolic BP < 90

Follows Commands
YES

STEMI/Suspicion of MI
YES

Symptomatic Bradycardia
YES

ROSC with Antiarrhythmic given
YES

TRANSPORT

NORMAL SALINE bolus 500ml IV/IO
May repeat as needed if lungs remain clear
Maximum 2 L

Arrhythmias are common and usually self limiting after ROSC and may not need further meds or drips.
If Arrhythmia persists follow APPROPRIATE RHYTHM PROTOCOL

AT DISCRETION OF PHYSICIAN/ECRN:
For prolonged geographical transport consider DOPAMINE Drip (if available):
400mg in 250ml D5W = 1.6mg/ml=1600mcg/ml
Initiate DOPAMINE drip at 5mcg/kg/minute then titrate to maintain SBP > 90 and HR > 60
220 lbs. = 100kg x 5mcg/kg/min. = 500mcg/min. = 20microdrops/min. = 20ml/hr
132 lbs. =  60kg x 5mcg/kg/min. = 300mcg/min. = 12microdrops/min. = 12ml/hr

Revised: 05/01/16
Effective: 05/01/98
Policy:
Unsuccessful cardiopulmonary resuscitation (CPR) and other ALS interventions may be discontinued prior to transport or arrival at the hospital when this procedure is followed.

Purpose:
The purpose of this policy is to allow for discontinuation of prehospital resuscitation after the delivery of adequate and appropriate ALS therapy.

Procedure:
Following an assessment by an ILS/ALS provider AND consultation with Medical Control, resuscitation MAY BE stopped under the following circumstances:

• The physical environment becomes unsafe for EMS providers.
• The exhaustion of EMS providers.
• If after 3 rounds of 5 cycles of CPR the patient’s measured ETCO2 (if available) (via King Airway or ETT) remains below 6mmHg.
• The AED advises “no shock” on 5 sequential analyses during resuscitation and ALS/hospital care is not available within 20 minutes (hypothermia is an exception).
• Extrication is prolonged (>15 minutes) in a pulseless, apneic patient, with no resuscitation possible during extrication (hypothermia is an exception).
• There is no return of spontaneous circulation or shockable rhythm after 20 minutes of either BLS alone or combined BLS and ALS resuscitation efforts in the absence of hypothermia.
• Patient has a valid DNR where resuscitation efforts were initiated prior to knowledge of resuscitation status.
• Full ACLS has been instituted (ILS/ALS) to include rhythm analysis and defibrillation if indicated, appropriate airway management, and three rounds of the appropriate ACLS medications are given without return of spontaneous circulation.
• Correctable causes or special resuscitation circumstances have been considered and addressed.
• If directed to do so by Medical Control.
• Prolonged resuscitation efforts beyond 20 minutes without a return of spontaneous circulation may be futile, unless cardiac arrest is compounded by hypothermia, submersion in cold water, or refractory ventricular fibrillation or ventricular tachycardia.

Note: If the above criteria are not met and discontinuation of prehospital resuscitation is desired, contact Medical Control. Resuscitation efforts will be continued until orders for termination of resuscitation have been received by Medical Control.

Document all elements of patient care and interactions with the patient’s family, personal physician, medical examiner, law enforcement and Medical Control in the EMS patient care report (PCR).
INITIAL MEDICAL CARE

SBP <90 WITHOUT DYSRHYTHMIA

TRANSPORT ASAP

IV NS fluid bolus in 200ml increments up to 1000ml
(if lungs remain clear)
OR
until SBP >90

SBP >90

Continue IMC and Rapid Transport

SBP <90 WITH DYSRHYTHMIA

TREAT UNDERLYING DYSRHYTHMIA AND TRANSPORT ASAP

NOTE TO PREHOSPITAL PROVIDERS:
If patient is in or develops respiratory distress despite treatment, maintain airway and prepare to intubate.

AT DISCRETION OF PHYSICIAN/ECRN:
For prolonged geographical transport consider DOPAMINE Drip (if available):
400mg in 250ml D5W = 1.6mg/ml=1600mcg/ml
Initiate DOPAMINE drip at 5mcg/kg/minute then titrate to maintain SBP > 90 and HR > 60
220 lbs. = 100kg x 5mcg/kg/min. = 500mcg/min. = 20microdrops/min. = 20ml/hr
132 lbs. = 60kg x 5mcg/kg/min. = 300mcg/min. = 12microdrops/min. = 12ml/hr

For a pediatric patient refer to PEDIATRIC SHOCK PROTOCOL #66

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ADULT VENTRICULAR FIBRILLATION / PULSELESS VENTRICULAR TACHYCARDIA

BLS: Refer to ADULT CARDIAC ARREST PROTOCOL #6

CAB’s
Perform CPR until defibrillator attached

VF/VT present on monitor: Give 1 shock
Biphasic (device specific) 120-200J
Monophasic 360J
Resume CPR Immediately

- Intubate if unable to BVM
- IV/IO NS without interrupting CPR

Perform 5 cycles of CPR at 100-120/min
Check Rhythm
Shockable rhythm?

Continue CPR while Defibrillator is charging
Biphasic (device specific) 120-200J / Monophasic 360J
Resume CPR immediately after the shock

EPINEPHRINE (0.1mg/ml) 1mg IV/IO
Repeat every 3-5 minutes as long as rhythm persists

Perform 5 cycles of CPR
Check rhythm
Shockable rhythm?

Continue CPR while Defibrillator is charging
Give 1 shock Biphasic (device specific) 120-200J / Monophasic 360J
Resume CPR immediately after shock

Give antiarrhythmics during CPR
LIDOCAINE at 1.5mg/kg IV/IO first dose
May repeat at 0.75mg/kg IV/IO, Maximum 3mg/kg

TRANSPORT

For a pediatric patient refer to PEDIATRIC TACHYCARDIA PROTOCOLS #62 / #63

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**INITIAL MEDICAL CARE**

**STABLE**
Rate >150
Patient is alert, without any signs of hypoperfusion*

- Narrow Complex
- Vagal Maneuvers
- **ADENOSINE (Adenocard)**
  6mg RAPID – IV/IO
  Immediately followed with a 10ml NS bolus

- Wide Complex
- **ADENOSINE (Adenocard)**
  12mg RAPID – IV/IO
  Immediately followed with a 10ml NS bolus

- Continue IMC and TRANSPORT

**UNSTABLE**
Rate >150 with signs of hypoperfusion*

- If conscious, consider sedation with **MIDAZOLAM HYDROCHLORIDE (Versed)**
  2.5mg slow IV/IO/IM/IN

- Synchronous Cardioversion
  Biphasic (device specific) 100-120J
  or Monophasic 100-200J

- If no response:
  2nd dose
  Biphasic escalate to maximum
  Monophasic 360J

- Contact Medical Control for further orders

**ACCELERATED TRANSPORT**

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**NOTE TO PREHOSPITAL PROVIDERS:**

1. *Signs of hypoperfusion: severe CP, severe SOB, SBP < 90, diaphoresis, altered mental status.
2. **ADENOSINE (Adenocard)** should always be administered RAPID IV and immediately followed with a 10ml NS bolus. Antecubital vein is preferred site to administer **ADENOSINE (Adenocard).**
3. Always record rhythm strip and deliver to physician caring for patient.
4. Wide Complex = QRS > 0.12 sec. (3 small boxes)
   Narrow Complex = QRS < 0.12 sec.
5. Sinus Tachycardia should be treated appropriately.
6. If **MIDAZOLAM HYDROCHLORIDE (Versed)** is administered for sedation, the patient’s oxygen saturation must be monitored via pulse oximetry.
7. **Do not delay synchronous cardioversion while awaiting IV access.**

For a pediatric patient refer to **PEDIATRIC TACHYCARDIA PROTOCOLS #62 / #63**
DO NOT TREAT ASYMPTOMATIC VENTRICULAR ECTOPY WITHOUT CONTACTING MEDICAL CONTROL
ADULT PULSELESS ELECTRICAL ACTIVITY (PEA) / ASYSTOLE

BLS: Refer to ADULT CARDIAC ARREST PROTOCOL #6

PULSELESS ARREST
CAB’S
Perform CPR and attach Cardiac Monitor
PEA/Asystole present on monitor

Resume CPR immediately for 5 cycles
Establish IV/IO

EPINEPHRINE (0.1mg/ml) 1mg IV/IO
Repeat every 3 to 5 minutes as long as rhythm persists

Perform 5 cycles of CPR
Check rhythm
Shockable rhythm?

Not Shockable
Continue CPR

Shockable
Go to ADULT VF / PULSELESS VT PROTOCOL #11

Identify and treat possible causes:
- Hypovolemia 200ml IV NS fluid bolus
- Hypoxia Ventilate with 100% OXYGEN (Check tube placement)
- Acidosis/Hypoxemia Ventilate with 100% OXYGEN (Check tube placement)
- Hypothermia Follow appropriate protocol
- Hypoglycemia Follow appropriate protocol
- Hypo/Hyperkalemia 200ml IV NS fluid bolus
- Toxins 200ml IV NS fluid bolus
- Tamponade, cardiac 200ml IV NS fluid bolus
- Tension Pneumothorax Pleural Decompression
- Thrombosis/Pulmonary Embolism Rapid TRANSPORT 100% OXYGEN
- Trauma Follow appropriate protocol

Consider TERMINATION OF RESUSCITATION PROTOCOL #9
CRITERIA MET
Contact Medical Control
CRITERIA NOT MET
TRANSPORT

AT DISCRETION OF PHYSICIAN/ECRN:
SODIUM BICARBONATE at 1meq/kg IV/IO

For a pediatric patient refer to PEDIATRIC CARDIAC ARREST PROTOCOL #60

Revised: 05/01/16
Effective: 05/01/98
INITIAL MEDICAL CARE

UNSTABLE
- Signs of hypoperfusion*
- OR
- altered mental status

ATROPINE 0.5mg IV/IO every 3 to 5 minutes
Up to a total dose of 3mg

Transcutaneous Pacemaker**
(if available) at rate=70
Increase MA until pulse is present

STABLE
- Patient is alert, without any signs of hypoperfusion*

Monitor continuously enroute. Reassess and recheck vital signs

While pacing, consider sedation with
MIDAZOLAM HYDROCHLORIDE (Versed) 2.5mg slow IV/IO/IM/IN

Rapid TRANSPORT
Continue IMC enroute.

NOTE TO PREHOSPITAL PROVIDERS:
1. *Signs of hypoperfusion include: severe chest pain, severe SOB, SBP <90, diaphoresis
2. If Transcutaneous Pacer not available, Medical Control may order Dopamine Drip (if available)
3. **Do not delay Transcutaneous Pacer while awaiting IV access OR for ATROPINE to take effect if patient is symptomatic.
4. If MIDAZOLAM HYDROCHLORIDE (Versed) is administered for sedation, the patient’s oxygen saturation must be monitored via pulse oximetry.

AT DISCRETION OF PHYSICIAN/ECRN:
For prolonged geographical transport consider DOPAMINE Drip (if available):
400mg in 250ml D5W = 1.6mg/ml=1600mcg/ml
Initiate DOPAMINE drip at 5mcg/kg/minute then titrate to maintain SBP > 90 and HR > 60
220 lbs. = 100kg x 5mcg/kg/min. = 500mcg/min. = 20microdrops/min. = 20ml/hr
132 lbs. = 60kg x 5mcg/kg/min. = 300mcg/min. = 12microdrops/min. = 12ml/hr

For a pediatric patient refer to PEDIATRIC BRADYCARDIA PROTOCOL #61

Revised: 05/01/16
Effective: 05/01/98
INITIAL MEDICAL CARE
Perform 12-Lead ECG and Transmit, (if available)

SBP <90mmHg
ASAIPIN 81mg CHEWABLE TAB PO x 4 unless contraindicated*
Max total dose 324mg

SBP 90-110mmHg
ASAIPIN 81mg CHEWABLE TAB PO x 4 unless contraindicated*
Max total dose 324mg

SBP >110mmHg
ASAIPIN 81mg CHEWABLE TAB PO x 4 unless contraindicated*
Max total dose 324mg

May assist with administration of patient’s NITRO
NITROGLYCERIN** 0.4mg tab OR spray SL May repeat every 5 minutes x 2
(If no IV, consider Medical Control contact prior to administration)

Repeat vital signs
FENTANYL 50mcg IV/IO/IM/IN
May repeat every 10 minutes as needed until improvement. Max total dose 200mcg
OR
MORPHINE SULFATE (if available) in 2mg increments IV/IO/IM May repeat every 5 minutes as needed until improvement. Max total dose 10mg

Repeat vital signs
TRANSPORT

NOTE TO PREHOSPITAL PROVIDERS:
1. If adverse response to MORPHINE SULFATE consider NALOXONE (Narcan)
2. For prolonged geographical transport, consider Right-side 12-Lead
3. *Contraindications to ASAIPIN would include ASAIPIN allergy, pregnancy, and history of gastrointestinal bleeding.
4. ** Contact Medical Control prior to administration of NITRATES if patient is taking erectile dysfunction medications (i.e. Viagra, Levitra, Cialis).
**NOTE TO PREHOSPITAL PROVIDERS:**

*Contact **Medical Control** prior to administration of **NITRATES** if patient is taking erectile dysfunction medications (i.e. Viagra, Levitra, Cialis).
INITIAL MEDICAL CARE

Treat non-VAD related conditions per usual protocol.
Transport to hospital where VAD was placed if at all possible.
Notify Medical Control

Signs or Symptoms of possible device malfunction or failure

YES

DURING TRANSPORT

Determine type of device and assess any alarms
CALL VAD COORDINATOR
and DISCUSS PLAN WITH CAREGIVERS
Consider: change device batteries, reconnect cables

Continuous Flow Device

Auscultate chest for whirring mechanical pump sound.
Assess patient for hypoperfusion: altered mental status, pallor, diaphoresis

Consider CPR If no pump sound, no pulse or blood pressure, and signs of hypoperfusion

NO

Pulsatile Flow Device

Measure pulse and blood pressure. If no pulse or blood pressure, providers should use the device’s HAND PUMP to maintain perfusion

Problem with Circulation, Perfusion, SYMPTOMATIC Dysrhythmia not at patient’s baseline, any other problems

YES

Refer to appropriate protocol
Treat as per usual protocol, AND
1. Place an IV, consider IV bolus
2. Put patient on cardiac monitor
3. Obtain a 12-lead EKG
4. Treat symptomatic dysrhythmias
5. If indicated, place defib pads away from LVAD site and ICD
CALL VAD COORDINATOR and DISCUSS PLAN WITH CAREGIVERS

NO

Transport to hospital where VAD was placed if at all possible.

Notify Medical Control

Revised: 05/01/16
Effective: 05/01/98
TRANSPORT directly to the nearest Level I Trauma Center if transport time is less than 25 minutes.
TRANSPORT to the nearest Level II Trauma Center if transport time is less than 30 minutes.
TRANSPORT to the nearest Emergency Department if transport time is greater than 30 minutes.

FIELD TRIAGE CATEGORY I

Sustained hypotension - B/P ≤ 90 systolic on two consecutive measurements five minutes apart. (For Peds hypotension see Peds VS below)

- Cavity penetration of the torso or neck

⇒ MANDATORY NOTIFICATION OF THE TRAUMA SURGEON FROM THE FIELD (done by the Trauma Center).

⇒ PATIENTS BEING BYPASSED TO A TRAUMA CENTER MUST BE ADEQUATELY VENTILATED (ET TUBE OR BVM) AND HAVE CERVICAL IMMOBILIZATION AS INDICATED. OTHERWISE, THE PATIENT SHOULD BE TRANSPORTED TO THE CLOSEST COMPREHENSIVE EMERGENCY DEPARTMENT.

- Blunt or penetrating trauma with unstable vital signs and/or:
  - Hemodynamic compromise as evidenced by:
    - Adult B/P: ≤ 90 systolic
    - Peds: 0 – 5 mos of age: Sys BP < 60 mmHg
    - 6 mos – 5 yrs: Sys BP < 70 mmHg, HR < 70
    - > 6yrs: Sys BP < 80 mmHg, HR < 60
  - Respiratory compromise as evidenced by: respiratory rate <10 OR >29
  - Head injury with altered mentation as evidenced by a GCs ≤ 10.

- Anatomical Injury:
  - Penetrating injury of the head, neck, chest or abdomen.
  - Two or more body regions with potential life or limb threat.
  - Combination trauma with ≥ 20%TBSA.
  - Amputation above the wrist or ankle.
  - Limb paralysis and/or sensory deficit above the wrist or ankle.
  - Flail chest.
  - Two or more proximal long bone fractures.

- All patients who, in the judgment of the prehospital personnel, would benefit from the care derived at a Trauma Center- those conditions which may be considered for direct bypass to a Trauma Center may include:
  - Head injury with persistent unconsciousness or focal signs such as seizures, posturing or the inability to respond to simple commands.
  - Transmediastinal gunshot wounds
  - Spinal cord injury with paralysis
  - Maternal trauma with significant mechanism and/or obvious trauma at 20-32 weeks gestation.
  - Pediatric trauma including blunt or penetrating head, chest or abdominal trauma.

FIELD TRIAGE PROTOCOLS

Protocol 19

TRAUMA

Revised: 05/01/16
Effective: 05/01/98

B EMT B
I EMT-I I
P Paramedic P

CATEGORY II

Mechanism of Injury:
- Ejection from a motor vehicle.
- Death in the same passenger compartment.
- Falls > 20 feet.
- Falls > three times the body length of a child.
- Maternal trauma > 24 weeks.
A standard procedure for assessing revised trauma scores in the field is necessary so that the reliability of that revised trauma score is recognized by both field personnel and emergency department personnel.

The patient is scored by assessing the following vital functions and computing a score - the **REVISED TRAUMA SCORE**.

1. Respiratory rate
2. Systolic blood pressure
3. Glasgow coma scale

For the Glasgow Coma Scale, the examiner determines the best response the patient can make to a set of standardized stimuli.

1. **Eye opening**: The examiner determines the minimum stimulus that evokes opening of one or both eyes.
   a. (4 points) **SPONTANEOUS**
   b. (3 points) **VOICE**
   c. (2 points) **PAIN**
   d. (1 point) **NONE**

   Note: If the patient cannot open the eyes because of bandages, edema or direct trauma, please note and document in the patient's record.

2. **Best Verbal Response**: The examiner determines the BEST response after arousal:
   a. (5 points) **ORIENTED**
   b. (4 points) **CONFUSED**
   c. (3 points) **INAPPROPRIATE WORDS**
   d. (2 points) **INCOMPREHENSIBLE SOUNDS**
   e. (1 point) **NO VERBAL RESPONSE**

   Note: If the patient is intubated, dysphasic or has maxillofacial injuries which may preclude a verbal response, the examiner’s assessment should be documented in the patient’s record.

3. **Best Motor Response**: The examiner determines the BEST movement from either arm in response to stimulus.
   a. (6 points) **OBEYS SIMPLE COMMANDS**
   b. (5 points) **LOCALIZES PAIN**
   c. (4 points) **FLEXION WITHDRAWAL**
   d. (3 points) **ABNORMAL FLEXION**
   e. (2 points) **ABNORMAL EXTENSION**
   f. (1 point) **NO MOTOR RESPONSE**

   Note: If the patient has suspected or known spinal cord injury, this neurologic deficit should be noted in the patient’s record.

The components necessary to calculate the Revised Trauma Score and Glasgow Coma Scale will be obtained by prehospital personnel. The actual calculation of these scores will be performed by **Medical Control**. These scores are to be obtained when the need for transport to a trauma center is questionable.
1. Prehospital providers shall always assess the scene to assure the safety of all personnel.

2. Patient care and treatment begins at the scene.

3. Prehospital personnel shall take all reasonable precautions to prevent exposure to blood and/or body fluids of any patient. Use fluid repellent gloves, gowns, masks and goggles, as situation dictates.

**PRIMARY PATIENT ASSESSMENT**

1. ESTABLISH LEVEL OF RESPONSIVENESS
   - Brief history: Any dyspnea or pain?

2. IMMobilize C-SPINE
   - Manual immobilization initially
   - Rigid collar, Cervical Immobilization Device, and backboard as indicated prior to transport (Refer to CERVICAL SPINE INJURY PROTOCOL #23)

3. CIRCULATION (Refer to the ADULT HEMORRHAGIC SHOCK PROTOCOL #22 or the PEDIATRIC SHOCK PROTOCOL #66)
   - Life threatening hemorrhage - STOP THE BLEEDING.
     For uncontrolled hemorrhage, consider use of a hemostatic agent.
   - Peripheral pulses (weak, thready, absent)
   - Capillary refill (if delayed)

4. CHECK THE NECK
   - Carotid pulses
     If absent: CPR, minimize scene time (Refer to TRAUMATIC CARDIOPULMONARY ARREST PROTOCOL #25)
   - Tracheal deviation (Refer to CHEST TRAUMA PROTOCOL #31)
   - JVD (Refer to CHEST TRAUMA PROTOCOL #31)

5. AIRWAY (If obstructed Refer to AIRWAY OBSTRUCTION PROTOCOL #4)
   - Open or secure as needed

6. BREATHING (Refer to CHEST TRAUMA PROTOCOL #31 and either the ADULT RESPIRATORY DISTRESS PROTOCOL #3 or the PEDIATRIC RESPIRATORY DISTRESS PROTOCOL #64)
   - ASSIST VENTILATION AS REQUIRED
   - Inspect the chest
   - Palpate the chest
   - Auscultate the chest (including the heart)

7. NEUROLOGIC DEFICIT (Refer to HEAD TRAUMA / UNCONSCIOUS PATIENT PROTOCOL #24)
   - AVPU
   - Motor & Sensory
   - Pupils
SECONDARY PATIENT ASSESSMENT

1. Vital Signs
2. GCS scoring parameters
3. Systematic head to toe assessment
4. Medications
5. Allergies
6. Reassure patient, provide comfort and loosen tight clothing
7. Evaluate cardiac rhythm, if indicated. (All ALS patients do not necessarily require continuous ECG monitoring or transmission of a strip to the hospital.)
8. Contact hospital as soon as patient’s condition permits. Transmit assessment information and await orders.
   If no radio contact can be established or patient’s condition requires immediate treatment, refer to appropriate protocol and begin intervention immediately.
9. Recheck vitals and other pertinent signs and symptoms at least every 15 minutes and record, noting times.
   If unstable vital signs/sustained hypotension (SBP <90 on two separate readings 5 minutes apart), vital signs should be taken and recorded every 5 minutes.
10. All patients, who, in the judgment of prehospital personnel, would benefit from care derived from a Trauma Center, should be transported accordingly (Refer to FIELD TRIAGE PROTOCOLS #19).
    If unable to ventilate, transport to nearest hospital.

NOTE TO PREHOSPITAL PROVIDERS:
In a combative or uncooperative patient, the requirement to initiate initial routine trauma care, as written, may be altered or waived in favor of rapidly transporting the patient for definitive care. Document the patient’s actions or behaviors which interfered with the performance of any assessments and/or interventions.

OUTLINE FOR RADIO REPORT (Transmit using as few words as possible)

1. Name and vehicle number of provider
2. Requested destination, closest hospital, and estimated time of arrival
3. Age, sex, and approximate weight of patient
4. Chief Complaint, to include symptoms and degree of distress
5. History of present illness/injury
6. Pertinent Medical History:
   - Allergies
   - Medications
   - Past History of Current Illness
   - Last Meal
   - Events surrounding incident
7. Clinical condition:
   - Focused and detailed patient assessment findings
8. Treatment initiated and Response
CONTROL EXTERNAL HEMORRHAGE IF PRESENT

CONSIDER USE OF A HEMOSTATIC AGENT
(if available)

ECG MONITOR

ACCELERATED TRANSPORT

2 LARGE BORE IV/IO NS WIDE OPEN
IV IS TO BE ATTEMPTED ENROUTE AFTER TRANSPORTATION HAS BEGUN AS LONG AS IT DOES NOT DELAY TRANSPORTATION TO THE NEAREST TRAUMA CENTER.
Mechanism:
Suspected Deceleration Injuries, Motor Vehicle Crashes, Falls, etc.

Spine pain/tenderness or complaint of neck/spine pain

YES

Physical findings suggesting neck injury

YES

Other painful injury identified (distracting Injury)

NO

Decreased or altered level of consciousness

YES

Motor/Sensory Exam

Abnormal?

Patient is

• Calm
• Cooperative
• Alert
• Ambulatory without pain
• No apparent distress
• No suspected intoxication

Reliable patient exam

NO IMMOBILIZATION NEEDED

• Having an acute stress reaction
• Suspected of being intoxicated
• Have symptoms of brain injury
• Acting inappropriately
• Having difficulty communicating, such as, speaks a foreign language, deaf, etc.

CERVICAL IMMOBILIZATION

 Revised: 05/01/16
Effective: 05/01/98
Protocol 24

HEAD TRAUMA/UNCONSCIOUS PATIENT

- 100% OXYGEN
- Assist ventilations as needed
- Vomiting precautions
- Immobilize C-spine
- Routine Trauma Care

Transport

Alert?

Unresponsive to Voice and Pain

- Pupil(s) dilated
- Signs of increased intracranial pressure and/or
- Glasgow Coma Score 8 or less

BLS and ILS
Consider ALS Mutual Aid

*ET intubation with in-line manual stabilization

Sedate - Referring to MEDICATION ASSISTED INTUBATION PROTOCOL #82 if indicated

Accelerated Transport

Note to Prehospital Providers:
1. *Do not delay transport time with multiple intubation attempts.
2. If unequal or fixed pupils and/or posturing, ventilate at 20 breaths/min.
TRAIUMATIC CARDIOPULMONARY ARREST

Protocol 25

Confirm Arrest — NO — Routine Trauma Care

YES

CPR

Maintain C-Spine in neutral position

Secure airway

Ventilate with 100% OXYGEN

ACCELERATED TRANSPORT

2 large bore IV/IO NS wide open

IV is to be attempted enroute after transportation has begun as long as it does not delay transportation to the nearest Trauma Center.

NOTE TO PREHOSPITAL PROVIDERS:
1. If IV/IO attempt is unsuccessful, refer to APPROPRIATE DYSRHYTHMIA PROTOCOL. Reminder: Defibrillation does not require an IV.
2. Consider bilateral chest decompression in Blunt Trauma.
Certain situations require treatment within minutes.

These situations occur when a problem is discovered in the primary survey that cannot be rapidly resolved by field intervention.

Only airway and cervical spinal immobilization should be managed prior to transport.

Further efforts at stabilization should be performed enroute and should not delay transport.

If circumstances demand hospital care for patient stability, rapid transport is indicated.

Each case will be unique and compelling reasons must be documented.

Notify the receiving hospital of the situation so that preparations can be made.

Primary resuscitative measures must be initiated.

Establish contact with Medical Control as soon as possible.
INITIAL TRAUMA CARE
(CABs always take priority over the severed part)

Control bleeding with direct pressure and elevation

For uncontrolled hemorrhage:
- Consider use of a hemostatic agent
- Use a tourniquet if needed
  - Note time of placement
  - Apply as close to the injury as possible
  - DO NOT release once applied

Refer to ADULT PAIN CONTROL PROTOCOL #5

- Wrap part in sterile gauze, sheet or towel.
- Place part in waterproof bag or container and seal.
- DO NOT immerse part in any solutions.
- Place this container in a second one filled with ice, cold water or cold pack.

Transport part to hospital with patient

TRANSPORT

NOTE TO PREHOSPITAL PROVIDER:
FENTANYL 50mcg IV/IO/IM/IN
May repeat every 10 minutes as needed until improvement. Max total dose 200mcg

OR
MORPHINE SULFATE (if available) in 2mg increments IV/IO/IM
May repeat every 5 minutes as needed until improvement. Max total dose 10mg

Consider NITROUS OXIDE (if available)
Suspected in extended entrapment of extremity and/or torso

Check for:
Pain – Paresthesia – Paralysis – Pallor – Pulselessness
Not needed but good indicators

INITIAL MEDICAL CARE
BLS and ILS STRONGLY CONSIDER ALS MUTUAL AID (if available)

AIRWAY AS NEEDED
Cardiac Monitor as soon as possible

FENTANYL 50mcg IV/IO/IM/IN
May repeat every 10 minutes as needed until improvement. Max total dose 200mcg

MORPHINE SULFATE (if available) in 5mg increments IV/IO/IM
May repeat every 5 minutes as needed until improvement. Max total dose 10mg
As needed for pain
(May refer to appropriate ADULT PAIN CONTROL PROTOCOL #5)
(Do not administer if respiratory depression, bradycardia or hypotension SBP <90)

PRIOR TO RELEASE OF COMPRESSION,
INITIATE IV NORMAL SALINE 1000ml bolus
ALBUTEROL (Ventolin) 2.5mg via nebulization

If hyperkalemia suspected and abnormal ECG rhythm - peaked T-wave or widened QRS

SODIUM BICARBONATE 50meq IV/IO followed by 20ml NS flush
CALCIUM GLUCONATE 1gm slow IV/IO followed by 20ml NS flush

NOTE TO PREHOSPITAL PROVIDERS:
Consider hypoglycemia and need for 50% DEXTROSE IV/IO.
Suspension trauma is a term used to describe the condition where a person is trapped in an upright position while using a safety harness for fall protection.

**INITIAL MEDICAL CARE**

- **W-position**
  - AIRWAY AS NEEDED
  - Do NOT allow the patient to lie flat or stand up
  - Provide oxygen at 100% for all patients
  - Manually stabilize the C-Spine via all possible means (KED), but do not lie the patient flat
  - FULLY CONSCIOUS and MOBILE:
    - Place patient in a safe position which is, sitting upright with the legs bent at the waist ('W-position') for 30 minutes

- **Cardiac Monitor as soon as possible**

- **IV NORMAL SALINE 1000ml bolus**

- **ALBUTEROL** (Ventolin) 2.5mg via Nebulization

- If hyperkalemia suspected and abnormal ECG rhythm - peaked T-wave or widened QRS
  - **SODIUM BICARBONATE 50meq IV/IO** followed by 20ml NS flush
  - **CALCIUM GLUCONATE 1gm slow IV/IO** followed by 20ml NS flush

**NOTE TO PREHOSPITAL PROVIDERS:**

- Consider hypoglycemia and need for **50% DEXTROSE IV/IO**.
Burn patients are often victims of multiple trauma. Treatment of major traumatic injuries takes precedence over wound management. **Isolated burn injury patients should be transferred to the closest available hospital**

### ASSESS
- **Total body surface area:** use rule of 9s or estimate using patient’s palmar surface as 1%
- **Depth of burn:** partial or full thickness, consider exposure to products of combustion and treat as soon as possible.

### INITIAL TRAUMA CARE

#### THERMAL
- **OXYGEN 100%** Use humidified Oxygen, (if available).
- Note presence of hoarseness, wheezing, stridor or productive cough and document.
- If present, refer to [ACCELERATED TRANSPORT PROTOCOL #26](#).

#### CHEMICAL
- **Brush off excess dry chemicals**
- **Irrigate or flush with copious amounts of water or saline unless contraindicated.**
- For eye exposures Refer to [HAZARDOUS MATERIALS-EYE PROTOCOL #47](#)

#### ELECTRICAL
- **Without placing self at risk for injury, remove patient from source of electricity or have power cut off.**
- **Immobilization (as indicated) Refer to CERVICAL SPINE INJURY PROTOCOL #23**
- **Apply monitor and treat dysrhythmias per appropriate protocol.**

### Burn Wound Care
- **Note quality of distal pulse in extremity burns and document.**
- **Wear sterile gloves and mask until burn wounds are covered.**
  - Remove clothing, jewelry, etc.
  - Do not pull away clothing that is stuck to burn wound.
- **Cover burn wound with sterile dressing. DO NOT BREAK BLISTERS. DO NOT APPLY CREAMS, OINTMENTS OR ANTIDOTES TO BURNS.**
- **Open sterile sheet on stretcher before placing patient for TRANSPORT.**
  - Cover patient with dry, sterile sheets and blanket to maintain body temperature.

### TRANSPORT
- **Cover burn wound with sterile dressing.**
- **No cooling necessary**
  - **Cover with dry, sterile dressings**

### NOTE TO PREHOSPITAL PROVIDER: FOR ALL TYPES OF BURNS
- **FENTANYL 50mcg IV/IO/IM/IN**
  - May repeat every 10 minutes as needed until improvement.
  - Max total dose 200mcg
- **OR MORPHINE SULFATE (if available) in 5mg increments IV/IO/IM**
  - May repeat every 5 minutes as needed until improvement.
  - Max total dose 10mg
  - Do not administer until shock has been controlled.
- **AND/OR NITROUS OXIDE Inhalation (if available)**
Chest Assessment

Sucking Chest Wound? → Partially Occlusive Dressing → Reassess

Flail Chest? → Assure Adequate Ventilation → Reassess

Tension Pneumothorax? → Perform Needle Decompression
Refer to DECOMPRESSION OF TENSION PNEUMOTHORAX PROTOCOL #81

Massive Hemothorax? → ACCELERATED TRANSPORT

Pericardial Tamponade? → Refer to ADULT HEMORRHAGIC SHOCK PROTOCOL #22

TRANSPORT
Principles of Management

Routine Trauma Care

Increased IV volume is needed. Establish IV. IV is to be attempted enroute after transportation has begun as long as it does not delay transportation to the nearest Trauma Center.

Check externally for uterine contractions

Check externally for vaginal bleeding

Unless spinal injury is suspected, transport the patient on her left side to minimize uterine compression of the inferior vena cava

If a patient with suspected spinal injury becomes hypotensive while supine on backboard, elevate right side of backboard to relieve pressure on vena cava from uterus

Manually displace the uterus to the left side during CPR
Assess CABs
Administer 100% OXYGEN
Immobile cervical spine as indicated
Complete initial assessment, including *Pediatric Trauma Score
Keep warm

Jaw thrust
Relieve upper airway obstruction as indicated
Assist ventilation with BVM as indicated
Secure airway as appropriate

Establish IV/IO NS at TKO
Fluid bolus at 20ml/kg until SBP >80
IV is to be attempted enroute after transportation has begun as long as it does not delay transportation to the nearest Trauma Center.

Pulse oximetry
Reassess perfusion

Ventilation, respiratory effort adequate

Inadequate ventilation, respiratory effort

Control hemorrhage

Repeat IV fluid bolus as indicated to a maximum of 60ml/kg or until SBP >80

Normal perfusion
Splint/immobilize fracture(s) as indicated

Hypoperfusion

NOTE TO PREHOSPITAL PROVIDERS:
* Refer to PEDIATRIC ASSESSMENT AND TRAUMA SCORE PROTOCOL #35
Routine Trauma Care

1. Circulation
   1. Note variation of normal values
   2. IV access more difficult
      - Antecubital fossa ideal
      - May attempt external jugular
      - Intraosseous access if patient unconscious and not able to begin peripheral line
      - Do not delay transport to start IV
   3. Shock resuscitation at **20ml/kg NS bolus**

2. Airway
   - Keep suction available
   - Cervical spine immobilization

3. Breathing
   1. Note changes in ventilation rates by age
   2. **100% OXYGEN**
   3. Assist ventilations as needed
      (Refer to **MEDICATION ASSISTED INTUBATION PROTOCOL #82** as indicated)

Treatment of Suspected Battered or Abused Child:
(Refer to **SUSPECTED CHILD ABUSE AND NEGLECT PROTOCOL #74**)

1. Treat obvious injuries

2. If parents refuse to let you transport the child after treatment:
   1. Remain at the scene
   2. Call for police assistance
   3. Request that the officer place the child under protective custody
   4. Assist with transport

3. You are required by law to report your suspicions to the Department of Children and Family Services (DCFS). Also, document and report your suspicions to the ED physician and/or charge nurse.

4. Carefully document history, physical findings and environmental surroundings on patient care report.
Indicators of hypoperfusion:

- Respiratory difficulty
- Cyanosis despite oxygen administration
- Truncal pallor/cyanosis and coolness
- Hypotension (ominous sign)
- Bradycardia (late sign)
- Weak, thready, or absent peripheral pulses
- Decreasing consciousness
- No palpable blood pressure

Pediatric vital signs:

<table>
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<th></th>
<th>Newborn</th>
<th>1 year</th>
<th>3 years</th>
<th>6 years</th>
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<td>Pulse</td>
<td>100-160</td>
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<td>70 - 110</td>
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<td>18 - 25</td>
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<td>80 - 110</td>
<td>80 - 110</td>
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<td>100 - 130</td>
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Pediatric Trauma Score*:

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<th>+1</th>
<th>-1</th>
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<tbody>
<tr>
<td>Weight</td>
<td>&gt;20 kg</td>
<td>10-20 kg</td>
<td>&lt;10 kg</td>
</tr>
<tr>
<td>Airway</td>
<td>Normal</td>
<td>Maintainable</td>
<td>Unmaintainable</td>
</tr>
<tr>
<td>CNS</td>
<td>Awake</td>
<td>Obtunded</td>
<td>Coma</td>
</tr>
<tr>
<td>Systolic BP or **Pulse Palpable</td>
<td>&gt;90mmHg At Wrist</td>
<td>90-50mm Hg At Groin</td>
<td>&lt;50 mmHg or No Pulse Palpable</td>
</tr>
<tr>
<td>Open Wound</td>
<td>None</td>
<td>Minor</td>
<td>Major</td>
</tr>
<tr>
<td>Skeletal Injury</td>
<td>None</td>
<td>Closed Fx</td>
<td>Open/Multiple Fx</td>
</tr>
</tbody>
</table>

**If proper size BP cuff is unavailable, BP may alternatively be assigned by determining pulse palpable point.

TOTAL POINTS

(Total points range from -6 to +12)
Protocol 36

**PEDIATRIC BURNS: THERMAL, ELECTRICAL, CHEMICAL**

- Assess scene safety, wear BSI, remove patient to safety
- Assess CABs
- Administer 100% OXYGEN
- Complete initial assessment assessing for:
  - wheezing
  - retractions
  - stridor
  - diminished respirations or apnea
  - tachypnea
  - grunting
  - decreasing consciousness
- Refer to INITIAL MANAGEMENT OF THE PEDIATRIC TRAUMA PATIENT PROTOCOL #33
- Assess percentage/depth of burn
- Remove constricting jewelry and clothes.

**THERMAL BURNS**
- Superficial (1st degree)
  - Cover burn wound with dry sterile dressing.
- Partial or Full thickness (2nd or 3rd degree)
  - Wear sterile gloves/mask while burn areas are exposed
  - Cover burn wound with DRY sterile dressings
  - Place patient on clean sheet on stretcher and cover patient with dry clean sheets and blanket to maintain body temperature.
- Refer to PEDIATRIC SHOCK PROTOCOL #66 as indicated

**ELECTRICAL BURNS**
- Immobilize as indicated
- Assess cardiac monitor for dysrhythmias and treat per appropriate protocol
- Establish IV/IO NS at TKO as indicated
- Identify and document any entrance and exit wounds
- Assess neurovascular status of the affected part
- Cover wounds with dry sterile dressings
- Support CABs
- Observe
- Keep warm
- TRANSPORT

**CHEMICAL BURNS**
- Refer to PEDIATRIC TOXIC EXPOSURE/INGESTIONS PROTOCOL #70
- If powdered chemical, brush away excess
- Remove clothing if possible
- Rapid visual acuity
- If eye involvement, irrigate with saline or sterile water continuously.
- DO NOT CONTAMINATE THE UNINJURED EYE WITH IRRIGATION
- Irrigate area with copious amounts of sterile water or saline ASAP and during transport
- Establish IV/IO NS at TKO as indicated

**ESTIMATING % OF BODY SURFACE AREA**

<table>
<thead>
<tr>
<th>Body Area</th>
<th>0-1</th>
<th>1-4</th>
<th>4-9</th>
<th>10-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head</td>
<td>19%</td>
<td>17%</td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>Neck</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Chest or Back</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Buttock (each)</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Genitalia</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Upper Arm (each)</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Lower Arm (each)</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Hand (each)</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Thigh (each)</td>
<td>5.5%</td>
<td>6.5%</td>
<td>8.5%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Lower leg (each)</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Foot (each)</td>
<td>3.5%</td>
<td>3.5%</td>
<td>3.5%</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

**SPECIAL CONSIDERATIONS:**
- Assess for potential child abuse and follow appropriate reporting mechanism
- Keep the child warm and protect from hypothermia
- Pulse oximetry
- Consider Pain Medication per PEDIATRIC PAIN CONTROL PROTOCOL #59 or as directed by Medical Control
- Consider NITROUS OXIDE. Refer to NITROUS PROTOCOL #79

---

**TRAUMA**

**Revised:** 05/01/16

**Effective:** 05/01/98
INITIAL MEDICAL CARE*

TRANSPORT IMMEDIATELY
DO ALL TREATMENT ENROUTE

ALBUTEROL (Ventolin) 2.5mg and IPRATROPIUM (Atrovent) 0.5mg
via nebulizer OVER 15 minutes
(may repeat x1)

CPAP (if available)

May administer patient’s
EPINEPHRINE AUTO-INJECTOR PEN,
(if available)

Continue TRANSPORT

AT DISCRETION OF PHYSICIAN/ECRN:
1. Administer EPINEPHRINE (1mg/ml) 0.3mg IM
2. MAGNESIUM SULFATE (if available) 2gm IVPB over 20 minutes

NOTE TO PREHOSPITAL PROVIDERS:
1. *OXYGEN at 2 - 6L/min. If severe respiratory distress or cyanosis, 15L NRB
2. IV optional unless patient is in severe respiratory distress or pending failure
3. If intubation required, may give ALBUTEROL (Ventolin) and IPRATROPIUM (Atrovent) in-line via ET tube.
4. For prolonged geographical transport, consider METHYLPREDNISOLONE (Solu-Medrol) 125mg IV.

For a pediatric patient refer to PEDIATRIC RESPIRATORY DISTRESS PROTOCOL #64

Revised: 05/01/16
Effective: 05/01/98
**INITIAL MEDICAL CARE**

If swelling is increasing rapidly, apply a tourniquet proximal to injection site or insect bite.

- **SBP >90**
  - Alert, skin warm and dry
  - (Local reaction)
  - In presence of facial swelling, wheezing or tongue swelling
  - **EPINEPHRINE AUTO-INJECTOR PEN (if available) OR**
  - **DIPHENHYDRAMINE (Benadryl) 50mg IV**
  - slowly over 2-3 minutes
  - If no IV, 50mg IM
  - Improved? **YES**
  - If wheezing is present,
  - **ALBUTEROL (Ventolin) 2.5mg / IPRATROPIUM (Atrovent) 0.5mg**
  - Nebulizer Treatment
  - Refer to **ADULT ACUTE ASTHMA / COPD PROTOCOL #37**
  - **TRANSPORT**

- **SBP <90**
  - Altered level of consciousness, signs of hypoperfusion (Systemic Reaction)
  - Maintain airway
  - **OXYGEN 100%**
  - If obstructed due to edema, attempt ET.
  - If unsuccessful, perform **NEEDLE CRICOTHYROTOMY PROTOCOL #84**
  - **EPINEPHRINE AUTO-INJECTOR PEN (if available) OR**
  - **EPINEPHRINE (1mg/ml) 0.3mg IM**
  - May repeat x1 in 5 minutes
  - **DIPHENHYDRAMINE (Benadryl) 50mg IV**
  - slowly over 2-3 minutes
  - If no IV, 50mg IM
  - If respiratory distress,
  - **ALBUTEROL (Ventolin) 2.5mg / IPRATROPIUM (Atrovent) 0.5mg**
  - Nebulizer Treatment
  - Refer to **ADULT ACUTE ASTHMA / COPD PROTOCOL #37**
  - **TRANSPORT**

**NOTE TO PREHOSPITAL PROVIDERS:**

1. IV lines should not be started in same extremity as a bite or injection of allergen.
2. For prolonged geographical transport, consider **METHYLprednisolone (Solu-Medrol) 125mg IV**

---

For a pediatric patient refer to **PEDIATRIC ALLERGIC REACTION/ANAPHYLAXIS PROTOCOL #67**

Revised: 05/01/16
Effective: 05/01/98
Obtain blood glucose level reading, (if available)

If patient is awake and gag reflex intact, administer small amounts of ORAL GLUCOSE PO if unable to establish IV.

Blood sugar level <60 or signs & symptoms of Insulin Shock or Hypoglycemia

GLUCAGON (if available) 1mg IN

50% DEXTROSE 50ml IV/IO OR GLUCAGON 1mg IM/IN (if IV not able to be established)

If none or limited response: may repeat DEXTROSE IV/IO

TRANSPORT

Blood sugar level >180 or signs & symptoms of Ketoacidosis

IV NS – 200ml bolus May repeat at discretion of Medical Control (if lungs remain clear)

TRANSPORT

For a pediatric patient refer to PEDIATRIC ALTERED LEVEL OF CONSCIOUSNESS PROTOCOL #69
**MEDICAL**

Protocol 40

**ADULT DRUG OVERDOSE**

**ALCOHOL RELATED EMERGENCIES**

**POISONING**

---

**INITIAL MEDICAL CARE**

- Obtain Blood Glucose Reading, (if available)

- If suspected narcotic or synthetic narcotic overdose and respiratory rate <12
  Consider NALOXONE (Narcan) (if available) 2mg IN

- Administer NALOXONE (Narcan) 2mg IV/IO/IM/IN
  (Consider restraints prior to administration.)
  May be repeated every 5 minutes as necessary, up to 6mg.

- If altered level of consciousness and cause unknown
  **OR** if blood sugar level <60:
  Administer small amounts of ORAL GLUCOSE PO
  (if patient’s gag reflex is intact)
  **OR**
  Consider GLUCAGON (if available) 1mg IN

- If blood sugar level <60:
  50% DEXTROSE 50ml IV/IO
  **OR**
  GLUCAGON 1mg IM/IN
  (If IV not able to be established)

---

**TRANSPORT**

Revised: 05/01/16
Effective: 05/01/98
Assess level of consciousness using Glasgow Coma Scale

Obtain Blood Glucose Reading
If blood sugar level <60

Administer small amounts of ORAL GLUCOSE PO
(if patient’s gag reflex is intact)
OR
Consider GLUCAGON (if available) 1mg IN

50% DEXTROSE 50ml IV/IO
OR
GLUCAGON 1mg IM/IN
(If IV not able to be established)

If respiratory rate <12
Consider NALOXONE (Narcan) (if available) 2mg IN

Administer NALOXONE (Narcan) 2mg IV/IO/IM/IN
(Consider restraints prior to administration)
May be repeated every 5 minutes as necessary, up to 6mg.

Monitor neuro status, vital signs, ECG and transport patient secured to backboard.
Protect airway - be prepared to suction and/or intubate if no gag reflex present.

TRANSPORT
INITIAL MEDICAL CARE

Protect patient from injury
Protect patient airway

Obtain Blood Glucose Reading
If blood sugar level <60

Administer small amounts of ORAL GLUCOSE PO
if patient’s gag reflex is intact
OR
Consider GLUCAGON (if available) 1mg IN
OR signs and symptoms of Insulin Shock or Hypoglycemia:

50% DEXTROSE 50ml IV
OR
GLUCAGON 1mg IM/IN
(If IV not able to be established)

BLS and ILS consider ALS Mutual Aid

MIDAZOLAM HYDROCHLORIDE (Versed) 5mg
IV/IO/IM/IN (may repeat X 1 in 5 minutes)

TRANSPORT

For a pediatric patient refer to PEDIATRIC SEIZURES PROTOCOL #68

Revised: 05/01/16
Effective: 05/01/98
INITIAL MEDICAL CARE

HEAT CRAMPS OR TETANY
- (IV may not be necessary)
- Allow for oral intake of water or electrolyte replacement fluids

Move patient to a cool environment, do not massage cramped muscles

TRANSPORT

HEAT STROKE
- B/P <90
- IV NS fluid bolus in 200ml increments up to 1000ml (if lungs remain clear)
- OR until SBP >90
- B/P >90
- IV NS at TKO

Move patient to a cool environment

Place patient in semi-reclining position with head elevated. Take seizure precautions.

Increase OXYGEN to 100%.
- When indicated, intubate and use positive pressure ventilations.

Initiate rapid cooling:
1. Remove as much clothing as possible.
2. Cool packs to lateral chest wall, groin, axilla, carotid arteries, temples, and behind knees and/or sponge with cool water or cover with wet sheet and fan the body.

TRANSPORT

HEAT EXHAUSTION OR SYNCOPE
- IV NS rapid rate
- If B/P <90, IV wide open, establish second IV.

Move patient to a cool environment

Place in supine position with feet elevated

Remove as much clothing as possible to facilitate cooling

TRANSPORT

For a pediatric patient refer to PEDIATRIC HEAT EMERGENCIES PROTOCOL #71

Revised: 05/01/16
Effective: 05/01/98
Protocol 44
ADULT COLD EMERGENCIES

Frostbite
Move patient to a warm environment as soon as possible
• Handle skin like a burn
• Protect with light sterile dressings.
• Do not let skin rub on skin (between fingers or toes).
Cover patient and prevent re-exposure.
TRANSPORT

Systemic Hypothermia
Mild/Moderate 93.2 - 86 F (34-30 C)
Conscious
OR
Altered sensorium with shivering
OXYGEN 12-15 L/mask
IV NS at TKO
Attempt to warm IV bag and tubing with hot packs
Rewarm patient:
• Place patient in a warm environment.
• Remove wet clothing.
• Apply hot packs wrapped in towels to axilla, groin, neck, thorax.
• Wrap patient in blankets.

Severe Hypothermia
86 F or less (<30 C):
• HANDLE PATIENT VERY GENTLY TO AVOID PRECIPITATING V-FIB.
• Patient may appear uncoordinated with poor muscle control, or stiff simulating rigor mortis.
• There will be NO SHIVERING.
• Level of consciousness may be confused, lethargic and/or withdrawn
• Coma
TRANSPORT

Mild/Moderate 93.2 - 86 F (34-30 C)
Conscious
OR
Altered sensorium with shivering
OXYGEN 12-15 L/mask
IV NS at TKO
Attempt to warm IV bag and tubing with hot packs
Rewarm patient:
• Place patient in a warm environment.
• Remove wet clothing.
• Apply hot packs wrapped in towels to axilla, groin, neck, thorax.
• Wrap patient in blankets.

OXYGEN 100%
Do not hyperventilate
TRANSPORT

AT DISCRETION OF PHYSICIAN/ECRN:
Refer to ADULT PAIN CONTROL PROTOCOL #5 as necessary for severe pain.
FENTANYL 50mcg IV/IO/IM/IN May repeat every 10 minutes as needed until improvement. Max total dose 200mcg
OR MORPHINE SULFATE (if available) in 5mg increments IV/IO/IM May repeat every 5 minutes as needed until improvement. Max total dose 10mg.
Do not administer until shock has been controlled.
AND/OR NITROUS OXIDE Inhalation (if available)

NOTE TO PREHOSPITAL PROVIDERS:
Assess pulse for 30-45 seconds before beginning CPR.
DO NOT GIVE ANY DRUGS!
May attempt defibrillation X 1 at maximum setting

For a pediatric patient refer to PEDIATRIC COLD EMERGENCIES PROTOCOL #72

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Effective: 05/01/98

For a pediatric patient refer to PEDIATRIC COLD EMERGENCIES PROTOCOL #72

Revised: 05/01/16
Effective: 05/01/98
MEDICAL

Protocol 45

ADULT SUSPECTED STROKE

INITIAL MEDICAL CARE

Perform Cincinnati Prehospital Stroke Scale*
Identify patients last “known normal”
and DOCUMENT BOTH

For any abnormal Stroke Scale finding, transport to the nearest most appropriate facility.
Do not delay scene time. Initiate rapid transport.

Blood Glucose

< 60 or > 400

12 Lead EKG, (if available)

Refer to
ADULT DIABETIC/GLUCOSE PROTOCOL #39

Refer to other PROTOCOL as indicated:
ADULT COMA OF UNKNOWN ORIGIN PROTOCOL #41
ADULT SEIZURES/STATUS EPILEPTICUS PROTOCOL #42

*Cincinnati Prehospital Stroke Scale
Facial Droop (Have the patient show teeth or smile)
• Normal – Both sides of face move equally well
• Abnormal – One side of face does not move as well as the other side
Arm Drift (Patient closes eyes and holds both arms straight out for 10 seconds)
• Normal – Both arms move the same or both arms do not move at all
(other findings, such as pronator grip, may be helpful)
• Abnormal – One arm does not move or one arm drifts down compared with the other
Speech (Have the patient say, “You can’t teach an old dog new tricks.”)
• Normal – Patient uses correct words with no slurring
• Abnormal – Patient slurs words, uses inappropriate words, or is unable to speak

Revised: 05/01/16
Effective: 05/01/98
PROTECT YOURSELF FIRST:
ALL PERSONNEL SHOULD BE APPROPRIATELY TRAINED AND
HAVE PROTECTIVE CLOTHING AS INDICATED

Identify substance, if possible
Contact local HazMat unit*

Isolate

Brush off solid substances, remove contaminated clothing and decontaminate as indicated
The decontaminate should be contained if possible.

Maintain Airway. Administer OXYGEN 12-15L/min. by mask, or consider intubation, if indicated, using 100% OXYGEN.

Cardiac monitor

IV NS TKO

Treat per appropriate protocol:
SHOCK
CARDIAC DYSRHYTHMIAS
PULMONARY EDEMA
SEIZURES
BURNS (CHEMICAL)
UNCONSCIOUSNESS
ASTHMA/COPD WITH WHEEZING
FROSTBITE

Refer to HAZARDOUS MATERIALS EYE PROTOCOL #47 for eye exposures

Treat specific poisons with antidotes per Medical Control

TRANSPORT

NOTE TO PREHOSPITAL PROVIDERS:
*Consult Hazardous Materials Injuries, A Handbook for Prehospital Care,
The North American ERG, MSDS sheet or similar text.
**Indication:** Suspected or actual HazMat eye exposure
(Refer to [HAZARDOUS MATERIALS GENERAL PROTOCOL #46](#) as needed)

1. **Identify substance**
2. **Decontamination**
3. **Initial Medical Care**

**Confirm that contact lenses are not present, or remove if present.**

- **Instill TETRACAINE HCL 0.5% 1-2 drops to the eye(s) to provide local anesthesia.**
  (May repeat as needed.)
  **CAUTION:** Eye anesthesia prevents the patient from being able to sense further eye injury by eliminating discomfort. Patient should be advised to avoid rubbing eyes.

- **Establish Medical Control** contact ASAP
- **Eye irrigation with NORMAL SALINE** may be instituted prior to contact. Irrigate at “wide-open” rate, using IV tubing attached to **1000ml NORMAL SALINE**

**Volume to be used is 1000ml NORMAL SALINE per eye, minimum. For suspected or actual alkali exposure, continue irrigation until advised by Medical Control to stop.**

**TRANSPORT**
Indications: Poisoning with anticholinesterase agents (e.g., chemicals or pesticides of the organophosphate class)

Signs & Symptoms: Bradycardia leading to heart block
Chest tightness and wheezing due to bronchospasm
Increased salivation, sweating and tearing
Increased urination
Abdominal cramps with nausea and vomiting
Constricted pupils
Weakness, muscle tremors/twitching/cramps
Seizures, coma, shock, respiratory arrest

- Identify substance
- Decontamination
- Initial Medical Care

Establish Medical Control contact ASAP

ATROPINE 2mg IV/IO (0.02mg/kg if pediatric) every 5 minutes until:
Secretions are significantly diminished

Signs and symptoms persist after initial 2mg bolus?

- NO
  - TRANSPORT
- YES
  - Is the patient seizing?
    - NO
      - TRANSPORT
    - YES
      - Refer to ADULT SEIZURES PROTOCOL #42 or PEDIATRIC SEIZURES PROTOCOL #68 as indicated

Transport
**HAZARDOUS MATERIALS RADIATION**

**PROTECT YOURSELF FIRST:**
Keep each rescuer's exposure time to a minimum. (Female paramedics who are pregnant or may be pregnant should stay out of the radiation area).

- Identify universal radiation symbol (if possible)
- Isolate area and contact local Haz Mat unit
- Treat patients per appropriate protocol
- Notify receiving hospital of patient’s condition and exposure.
- TRANSPORT
PROTECT YOURSELF AND OTHER PROVIDERS FIRST

Maintain patent airway and assess the CAB's

INITIAL MEDICAL CARE

Include SpO2*, PETCO2, 12-Lead and continuous EKG monitoring

PATIENT PRESENTING WITH:
- Altered mental status/Coma
- Headache/Confusion/Disorientation
- Dyspnea/Chest tightness/Nausea/Emesis
- Pupil dilation/Seizure
- Abnormal vital signs

YES
- Initiate second IV NS
- CYANO KIT (if available) 5 Grams IVPB over 8-10 minutes
- Continual Patient Assessment

NO
- Apply OXYGEN 10-15 L/min by NRM
- Continual patient assessment
- Transport and contact Medical Control as soon as possible

*Remember Pulse Ox can be incorrect in cases of increased carboxyhemoglobin. Do not rely on SpO2 for guidance of patient care. Apply Rad57 (if available) for CO level and provide OXYGEN 10-15 L/minute to any patient with respiratory symptoms.
If patient is in cardiac arrest, a fistula, graft or other external venous access device can be used to administer life-saving drugs and/or IV fluids.

For all other situations, contact Medical Control.

If indicated, use 21 gauge butterfly or 20 gauge angiocath to puncture fistula/graft. More resistance will be encountered when entering fistula/graft than a normal vein. The higher pressure in the fistula/graft may require that a B/P cuff or pressure bag be applied to the IV bag or that the IV bag must be hung higher to achieve sufficient IV flow.

If accessing a fistula, graft or other external venous access device and the site infiltrates, pressure must be applied for a full 5 minutes to establish hemostasis.

In the event of cardiac arrest, follow the appropriate protocol, including dosage of medications.

DO NOT GIVE EXCESSIVE FLUIDS.
Use enough IV fluid to establish a B/P then maintain a TKO rate.

Consider CALCIUM GLUCONATE under the direction of Medical Control.

Give high flow OXYGEN via a non-rebreather mask if possible. Place patient in upright position.
Refer to ADULT PULMONARY EDEMA DUE TO HEART FAILURE PROTOCOL #17.

May assist patient’s preload and afterload status with NITROGLYCERIN SL and MORPHINE SULFATE (if available) in 1-2mg increments IV/IO/IM every 5 minutes. Max total dose 10mg.
MEDICAL

Protocol 52

ADULT DROWNING

INITIAL TRAUMA CARE
C-spine precautions as indicated
Begin CPR if indicated

OXYGEN to 100%

Remove wet clothing - consider hypothermia

Awake, alert, or semi-conscious
with purposeful response to
pain, normal respirations and
pupil response

Comatose: unresponsive to
verbal stimuli, abnormal
response to pain, abnormal
respirations or pupil response

TRANSPORT

Normothermic

Treat dysrhythmias
refer to appropriate
protocol

TRANSPORT

Hypothermic

Treat dysrhythmias
refer to ADULT
COLD EMERGENCIES
PROTOCOL #44

TRANSPORT

NOTE TO PREHOSPITAL PROVIDERS:

After 90 minutes of documented submersion time, the receiving hospital should be contacted for concurrence
of no resuscitative efforts on recovery of the patient.
The Dive Team will at this time go from rescue to recovery mode.

For a pediatric patient refer to PEDIATRIC DROWNING PROTOCOL #73

Revised: 05/01/16
Effective: 05/01/98
Protocol 53
EMERGENCY CHILDBIRTH
LABOR AND DELIVERY

Obtain history and determine if there is adequate time to transport.
• # of pregnancies
• # of live births
• Due date
• How far apart are contractions
• Duration of contractions
• Length of previous labors - in hours
• Bag of water intact or time since membrane rupture
• High risk concerns - Drug use, multiple births, amniotic fluid color

If mother is hyperventilating encourage slow deep breaths.
Administer OXYGEN 12-15L/mask

PREPARE FOR DELIVERY IF ANY OF THE FOLLOWING ARE PRESENT:
• Bulging perineum
• Crowning

DO NOT ATTEMPT TO RESTRAIN OR DELAY DELIVERY

Place mother in a supine position, put on sterile gloves, open OB pack and drape mother's abdomen and perineum.

Cord around neck
If unable to loosen and remove cord from around infant's neck, clamp x2 and cut between clamps.

Delivery
Normal presentation

• Control delivery of head so it does not emerge too quickly.
• Support infant's head as it emerges and protect perineum with gentle hand pressure.
• Tear amniotic membrane if it is still intact and visible outside vagina. When infant's head delivered, suction and maintain airway.
• As shoulders emerge, guide head and neck downward to deliver anterior shoulder.
• Support and lift head and neck slightly to deliver posterior shoulder. Remainder of infant's delivery should occur with passive participation.
• Maintain a firm hold on the baby.
• Refer to RESUSCITATION AND CARE OF THE NEWBORN PROTOCOL #56

Wrap in blanket and position on side or back with constant airway monitoring

Administer post-partum care - Refer to MATERNAL CARE PROTOCOL #57

TRANSPORT

Revised: 05/01/16
Effective: 05/01/98
THIRD TRIMESTER BLEEDING - 6-9 MONTHS (Placenta Previa, Abruptio Placenta, Trauma)

TRANSPORT IMMEDIATELY

100% OXYGEN, place mother on LEFT side

Note type and amount of bleeding and/or discharge. Do NOT place gloved hand in vagina to check for bleeding. Palpate uterus externally for tonicity

TRANSPORT

PRE-ECLAMPSIA OR TOXEMIA

TRANSPORT IMMEDIATELY

OXYGEN 12-15 L/mask

INITIAL MEDICAL CARE:
Gentle handling

Place mother on LEFT side

Minimal CNS stimulation - do not check pupillary light reflex

Seizure precautions

If seizures occur: Increase OXYGEN to 100% and Refer to ADULT SEIZURES/STATUS EPILEPTICUS PROTOCOL #42

AT DISCRETION OF PHYSICIAN/ECRN:
For prolonged geographical transport, consider MAGNESIUM SULFATE (if available) 4gm IVPB.
INITIAL MEDICAL CARE:
Increase OXYGEN to 100%
Elevate mother’s hips
Place gloved hand in vagina between pubic bone and presenting part with cord between fingers and exert counter pressure against presenting part
Keep exposed cord moist and warm
Keep hand in position while enroute

TRANSPORT IMMEDIATELY

PROLAPSED CORD

BREECH BIRTH

1. Accelerated transport indicated with care enroute.
2. NEVER ATTEMPT TO PULL THE BABY FROM THE VAGINA BY THE LEGS OR TRUNK.
3. As soon as legs are delivered, support baby’s body, wrapped in towel.
4. After shoulders are delivered, gently elevate trunk and legs to aid in delivery of head (if face down).
5. Head should deliver in 30 seconds. IF NOT, reach two gloved fingers into the vagina to locate infant’s mouth.
6. Press vaginal wall away from baby’s mouth to form an airway and apply gentle pressure to mother’s mid upper abdomen.
7. Maintain this position until delivery or arrival at the hospital.

Revised: 05/01/16
Effective: 05/01/98
Infant Care

Begin Infant Prehospital Care Report

Document time of delivery

Is meconium present?

Quickly dry baby & continue airway support. Spontaneous respirations should begin within 15 seconds after stimulating reflexes. If not, begin ventilations at 40-60 breaths per minute. If no brachial pulse or pulse <60, begin CPR at 3 to 1 and accelerated transport. Refer to PEDIATRIC CARDIAC ARREST PROTOCOL #60

Obtain one minute APGAR SCORE

- Wait for cord pulsations to stop.
- Clamp cord 6-8 inches from infant’s body.
- Cut between clamps with sterile knife or scissors.

- Dry baby, wrap in chux or blanket to maintain body heat.
- Utilize an infant hat, (if available).
- If in cold environment, wrap aluminum foil or silver swaddler around blanket to insulate.
- If placenta has delivered, it may be used as a heat source.
- Place placenta in plastic bag and wrap infant and placenta in blanket insulated with foil.

- Place infant on side, preferably head lower than trunk, suction as needed.
- IF INFANT IS CYANOTIC, BUT BREATHING SPONTANEOUSLY, place adult face mask next to infant’s face & administer OXYGEN at 6L/minute.

Obtain five minute APGAR SCORE and document on report form.

Place ID tags on mother and infant.

TRANSPORT

Apgar Score (evaluate at 1 AND 5 minutes postpartum)

<table>
<thead>
<tr>
<th>SIGN</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance (Skin Color)</td>
<td>Blue, pale</td>
<td>Body pink extremities blue</td>
<td>Completely Pink</td>
</tr>
<tr>
<td>Pulse rate (HR)</td>
<td>Absent</td>
<td>Below 100</td>
<td>Above 100</td>
</tr>
<tr>
<td>Grimace</td>
<td>No Response</td>
<td>Grimaces</td>
<td>Cries</td>
</tr>
<tr>
<td>Activity</td>
<td>Limp</td>
<td>Some flexion of extremities</td>
<td>Active Motion</td>
</tr>
<tr>
<td>Respiratory (Effort)</td>
<td>Absent</td>
<td>Slow and Irregular</td>
<td>Strong Cry</td>
</tr>
</tbody>
</table>

Revised: 05/01/16
Effective: 05/01/98
TRANSPORT IMMEDIATELY

Allow the placenta to deliver on its own, but **DO NOT** delay transport waiting for it. (It should deliver within 20 - 30 minutes.)

**DO NOT** pull on cord to facilitate delivery. If delivered, collect placenta in a plastic bag and bring to hospital.

If the perineum is torn and bleeding, apply direct pressure with a sterile dressing or sanitary pad.

Observe for profuse bleeding (>500ml). If present, massage uterus and give **1000ml bolus of NS IV**

Mother may be encouraged to breastfeeding to stimulate uterine contraction.
1. SCENE SIZE UP

- Identify possible hazards.
- Assure safety for patient and responder.
- Observe for mechanism of injury/nature of illness.
- Note anything suspicious at the scene, i.e., medications, household chemicals, other ill family members.
- Assess any discrepancies between the history and the patient presentation, i.e. infant fell on hardwood floor - however floor is carpeted.
- Initiate appropriate body substance isolation (BSI) precautions
- Determination of number of patients.

2. GENERAL APPROACH TO THE STABLE/CONSCIOUS PEDIATRIC PATIENT

Assessments and interventions must be tailored to each child in terms of age, size and development.
- Smile if appropriate to the situation.
- Keep voice at even quiet tone, don’t yell.
- Speak slowly, use simple, age appropriate terms.
- Use toys or penlight as distracters; make a game of assessment.
- Keep small children with their caregiver(s);
- Kneel down to the level of the child if possible.
- Be cautious in use of touch. In the stable child, make as many observations as possible before touching (and potentially upsetting) the child.
- Adolescents may need to be interviewed without Their caregivers present if accurate information is to be obtained regarding drug use, alcohol use, last menstrual period, sexual activity, child abuse.

While walking up to the patient, observe/inspect the following:
- General appearance, age appropriate behavior.
- Malnourished appearance? Is child looking around, responding with curiosity or fear, playing, sucking on a pacifier or bottle, quiet, eyes open but not moving much or uninterested in environment?
- Obvious respiratory distress or extreme pain.
- Position of the child. Are the head, neck or arms being held in a position suggestive of spinal injury? Is the patient sitting up or in tripod position?
- Level of consciousness, i.e., awake vs asleep or unresponsive.
- Muscle tone: good vs limp.
- Movement: spontaneous, purposeful, symmetrical.
- Color: pink, pale, flushed, cyanotic, mottled.
- Obvious injuries, bleeding, bruising, impaled objects or gross deformities.
- Determine weight - Use length/weight tape to determine kilos for medication administration.
- A length/weight based tape will be utilized to determine medication dosing.

3. INITIAL ASSESSMENT

Circulation
- Heart rate - compare to normal rate for age and situation.
- Central/truncal pulses (brachial, femoral, carotid) - strong, weak or absent.
- Distal/peripheral pulses - present/absent, thready, weak, strong.
- Color - pink, pale, flushed cyanotic, mottled.
- Skin temperature - hot, warm, cool.
- Blood pressure - compare to normal for age of child. Must use appropriate sized cuff.
- Hydration - anterior fontanel in infants, mucous membranes, skin turgor, crying tears, urine output history.
Airway Access/Maintenance with Cervical Spine Control
- Maintainable with assistance: positioning.
- Maintainable with adjuncts: oral airway, nasal airway.
- Maintainable with endotracheal tube.
- Listen for any audible airway noises, i.e., stridor, snoring, gurgling, wheezing.
- Patency: suction secretions as necessary.

Breathing
- Rate and rhythm of respirations. Compare to normal rate for age and situation.
- Chest expansion - symmetrical.
- Breath sounds - compare both sides and listen for sounds (present, absent, normal, abnormal).
- Positioning - sniffing position, tripod positions.
- Work of breathing - retractions, nasal flaring, accessory muscle use, head bobbing, grunting.

Disability - Brief Neuro Examination
- Assess Responsiveness
  A  Alert
  V  Responds to verbal stimuli
  P  Responds to painful stimuli
  U  Unresponsive
- Assess pupils
- Assess for transient numbness/tingling.

Expose and Examine
- Expose the patient as appropriate based on age and severity of illness.
- Initiate measures to prevent heat loss and keep the child from becoming hypothermic.

4. FOCUSED HISTORY/PHYSICAL ASSESSMENT

Tailor assessment to the needs of the patient. Rapidly examine areas specific to the chief complaint.
- Signs & Symptoms as they relate to the chief complaint.
- Allergies to medications, foods, environmental
- Medications: prescribed, over-the-counter, compliance with prescribed dosing regimen, time, date and amount of last dose
- Past Pertinent Medical History
  ➢ Pertinent medical or surgical problems
  ➢ Preexisting diseases/chronic illness
  ➢ Previous hospitalizations
  ➢ Currently under medical care
  ➢ For infants, obtain a neonatal history (gestation, prematurity, congenital anomalies, was infant discharged home at the same time as the mother)
- Last oral intake of liquid/food ingested.
- Events surrounding current problem
  ➢ Onset, duration and precipitating factors
  ➢ Associated factors such as toxic inhalants, drugs, alcohol
  ➢ Injury scenario and mechanism of injury
  ➢ Treatment given by caregiver

Responsive Medical Patients
- Perform rapid assessment based on chief complaint. A full review of systems may not be necessary. If chief complaint is vague, examine all systems.
Unresponsive Medical Patients
• Perform rapid assessment: CABs, quick head-to-toe exam.
• Emergency care based on signs and symptoms, initial impressions and standard operating procedures.

Trauma patient with NO significant mechanism of injury.
• Focused assessment is based on patient complaint.

Trauma patient WITH significant mechanism of injury.
• Perform rapid assessment of all body systems.

5. DETAILED ASSESSMENT
Performed to detect non-life-threatening conditions and to provide care for those conditions/injuries. Usually performed enroute. May be performed on scene if transport is delayed.
• Inspect and palpate each of the major body systems for the following:
  • Deformities
  • Contusions
  • Abrasions
  • Penetrations/punctures
  • Burns
  • Tenderness
  • Lacerations
  • Swelling/edema
  • Instability
  • Crepitus
• Auscultation of breath and heart sounds as well as blood pressure readings may be required in the field.

6. ONGOING ASSESSMENT
To effectively maintain awareness of changes in patient’s condition, repeated assessments are essential and should be performed at least every 5 minutes on the unstable patient, and at least every 15 minutes on the stable patient.

7. CONSIDERATIONS FOR CHILDREN WITH SPECIAL HEALTHCARE NEEDS (CSHN)
• Be familiar with CSHN in your service community and with both the child as well as their anticipated emergency care needs.
• Refer to child’s emergency care plan formulated by their medical providers, (if available). Understanding the child’s baseline will assist in determining the significance of altered physical findings. Parents/caregivers are the best source of information on: medications, baseline vitals, functional level/normal mentation, likely medical complications, equipment operation and troubleshooting, emergency procedures.
• Regardless of underlying condition, assess in a systematic and thorough manner. Use parents/caregivers/home health nurses as medical resources.
• Be prepared for differences in airway anatomy, physical development, cognitive development and possibly existing surgical alterations or mechanical adjuncts. Common home therapies include: respiratory support (oxygen, apnea monitors, pulse oximeters, tracheostomies, mechanical ventilators), nutrition therapy (nasogastric or gastrostomy feeding tubes), intravenous therapy (central venous catheters), urinary catheterization or dialysis (continuous ambulatory peritoneal dialysis), biotelemetry, ostomy care, orthotic devices, communication or mobility devices, or hospice care.
• Communicate with the child in an age appropriate manner. Maintain communication with and remain sensitive to the parents/caregivers and the child.
• The most common emergency encountered with these patients is respiratory related and so familiarity with respiratory emergency interventions/adjuncts/treatment is appropriate.
PEDIATRIC

Protocol 59

PEDIATRIC PAIN CONTROL

Enter from protocol based on Specific Complaint

Assess Pain Severity
Use combination of Pain Scale, Circumstances, MOI,
Injury or Illness severity
BLS/ILS consider ALS Mutual Aid

Mild Pain
(Scale 0-6 out of 10)

Consider IV
Monitor and Reassess

TRANSPORT

Allow for position of maximum comfort unless contraindicated

Moderate to Severe Pain
(Scale > 6)

Establish IV/IO
Cardiac Monitor

FENTANYL at 2mcg/kg IV/IO/IM/IN
May repeat every 10 minutes as needed until improvement. Max total dose 150mcg
OR
MORPHINE SULFATE (if available) in 0.1mg/kg increments IV/IO/IM
May repeat every 5 minutes as needed until improvement. Max total dose 10mg

Monitor and Reassess every 5 minutes; following narcotic dose. Hold further doses of opioids
if any respiratory depression or AMS

TRANSPORT

PAIN MEASUREMENT SCALE

0 1 2 3 4 5 6 7 8 9 10
No pain  Mild  Moderate  Severe  Worst pain imaginable

Revised: 05/01/16
Effective: 05/01/98
**NOTE TO PREHOSPITAL PROVIDERS:**

1. Acidosis in children is primarily a problem of ventilation and oxygenation.
2. BICARBONATE administration should be reserved for unobserved arrests or prolonged resuscitations >10 minutes.

* To make BICARBONATE 4.2% dilute BICARBONATE 8.4% 1:1 with sterile water or normal saline.

** To make D25% dilute D50% 1:1 with sterile water or normal saline.
3. To make D12.5% from D50% follow steps 1 & 2.

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**VENTRICULAR FIBRILLATION OR PULSELESS VENTRICULAR TACHYCARDIA**
- Defibrillate at 2 J/kg
- Resume CPR immediately
- Give 5 cycles of CPR (15:2)
- During CPR Secure airway and confirm placement

**PULSELESS ELECTRICAL ACTIVITY (PEA) OR ASYSTOLE**
- Resume CPR immediately
- During CPR Secure airway and confirm placement
- Establish IV/IO NS at TKO
- EPINEPHRINE (0.1mg/ml) at 0.01mg/kg IV/IO (0.1ml/kg) Repeat every 3-5 minutes

**Identify and treat possible causes:**
- Hypovolemia --- 20ml/kg IV fluid bolus
- Hypoxia --- Ventilate w/100% OXYGEN (Check tube placement)
- Acidosis/Hypoxemia --- Ventilate w/100% OXYGEN (Check tube placement)
- Hypothermia --- Follow appropriate protocol
- Hypoglycemia --- Follow appropriate protocol
- Hypo/Hyperkalemia --- 20ml/kg IV fluid bolus
- Toxins --- 20ml/kg IV fluid bolus
- Tamponade, cardiac --- 20ml/kg IV fluid bolus
- Tension Pneumo --- Pleural Decompression
- Thrombosis/PE --- Rapid TRANSPORT w/100% OXYGEN
- Trauma --- Follow appropriate protocol

---

**Resume CPR immediately**
- During CPR Secure airway and confirm placement
- Establish IV/IO NS at TKO

**PEDIATRIC CARDIAC ARREST**

**PEDIATRIC REINCARC ARREST**

**Identify and treat possible causes:**
- Hypovolemia --- 20ml/kg IV fluid bolus
- Hypoxia --- Ventilate w/100% OXYGEN
- Acidosis/Hypoxemia --- Ventilate w/100% OXYGEN
- Hypothermia --- Follow appropriate protocol
- Hypoglycemia --- Follow appropriate protocol
- Hypo/Hyperkalemia --- 20ml/kg IV fluid bolus
- Toxins --- 20ml/kg IV fluid bolus
- Tamponade, cardiac --- 20ml/kg IV fluid bolus
- Tension Pneumo --- Pleural Decompression
- Thrombosis/PE --- Rapid TRANSPORT w/100% OXYGEN
- Trauma --- Follow appropriate protocol

---

**FLUID BOLUS AT 20ml/kg, may repeat as indicated. Max 60ml/kg**

**D25% at 2ml/kg IV/IO**

**D12.5% at 4ml/kg IV/IO** infants <2months

NARCAN at 0.1mg/kg IV/IO/IM/IN Max single dose 2mg

**BICARB 8.4%* at 1meq/kg IV/IO OR 1ml/kg**

**BICARB 4.2% at 1meq/kg IV/IO OR 2ml/kg infants <3 months**

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**NOTE TO PREHOSPITAL PROVIDERS:**

1. Acidosis in children is primarily a problem of ventilation and oxygenation.
2. BICARBONATE administration should be reserved for unobserved arrests or prolonged resuscitations >10 minutes.

* To make BICARBONATE 4.2% dilute BICARBONATE 8.4% 1:1 with sterile water or normal saline.

** To make D25% dilute D50% 1:1 with sterile water or normal saline.
3. To make D12.5% from D50% follow steps 1 & 2.
Perform chest compressions if despite oxygen and ventilation, heart rate <60/min with hypoperfusion. Continue compressions as indicated.

Support CABs
- Observe
- Keep warm
- RAPID TRANSPORT

Severe cardiorespiratory compromise
- Secure airway as appropriate
- Support ventilation with BVM as indicated
- Pulse oximetry
- Perform chest compressions if despite oxygen and ventilation, heart rate <60/min with hypoperfusion. Continue compressions as indicated.
- Establish IV/IO NS at TKO
- ATROPINE at 0.02mg/kg IV/IO
  - (Minimum dose: 0.1mg)
  - Max single dose 0.5mg
  - May be repeated once in 5 minutes
- EPINEPHRINE (0.1mg/ml) at 0.01mg/kg IV/IO
  - (0.1ml/kg)
  - May repeat every 3-5 minutes
- Improved cardiac status
- Continued severe cardiac compromise
  - Per Medical Control, consider external pacing*

NOTE TO PREHOSPITAL PROVIDERS:
1. Hypoglycemia has been known to cause bradycardia in infants.
2. Refer to PEDIATRIC ALTERED LEVEL OF CONSCIOUSNESS PROTOCOL #69
3. Special conditions may apply in the presence of severe hypothermia.
4. Refer to PEDIATRIC COLD EMERGENCIES PROTOCOL #72 as needed.

*Limited pediatric data on efficacy of external pacing.
PEDIATRIC TACHYCARDIA WITH POOR PERFUSION

**Initiate CPR and Refer to APPROPRIATE PEDIATRIC PROTOCOL**

- NO
- YES

**Evaluate Rhythm**

- **Narrow Complex Tachycardia** (QRS duration ≤ 0.08 sec)
  - **Probable Sinus Tachycardia**
    - 
P waves present and normal
    - Infant rate usually <220 bpm
    - Child rate usually <180 bpm
  - **Probable Supraventricular Tachycardia**
    - 
P waves absent or abnormal
    - Abrupt rate change to and from normal
    - Infant rate usually >220 bpm
    - Child rate usually >180 bpm

- **Wide Complex Tachycardia** (QRS duration > 0.08 sec)
  - **Treat as presumptive Ventricular Tachycardia**
    - 

**Identify and treat possible causes:**

- Hypovolemia
  - 20ml/kg IV fluid bolus
- Hypoxia
- Acidosis/Hypoxemia
- Hypothermia
- Hypoglycemia
- Hypo/Hyperkalemia
- Toxins
- Tamponade/cardiac
- Tension Pneumo
- Thrombosis/PE
- Trauma

**Support CABs**

- Observe
- Keep warm
- TRANSPORT

**ADENOSINE at 0.1mg/kg IV/IO** followed by RAPID flush with 2-5ml NS
- May double ADENOSINE dose and repeat once if needed.
- Max initial dose 6mg
- Max subsequent dose 12mg

**Synchronized Cardioversion 1st Dose at 0.5 J/kg**
- Repeat immediately as necessary at 1J/kg followed by 2 J/kg if no response

**If conscious,** consider sedation with MIDAZOLAM HYDROCHLORIDE (Versed) at 0.05mg/kg
- IV/IO/IM/IN
- DO NOT DELAY CARDIOVERSION

**Refer to PEDIATRIC SHOCK PROTOCOL #66**

NOTE TO PREHOSPITAL PROVIDERS: Vagal maneuvers may precipitate asystole and therefore should be employed with caution and only when authorized by Medical Control in a cardiac monitored child with IV access.
Narrow Complex Tachycardia (QRS duration \(\leq 0.08\) sec)

Wide Complex Tachycardia (QRS duration > 0.08 sec)

Treat as presumptive Ventricular Tachycardia

Support CABs
Observe
Keep warm
TRANSPORT

Identify and treat possible causes:
- Hypovolemia: 20ml /kg IV fluid bolus
- Hypoxia: Ventilate w/100% OXYGEN (Check tube placement)
- Acidosis/Hypoxemia: Ventilate w/100% OXYGEN (Check tube placement)
- Hypothermia: Follow appropriate protocol
- Hypoglycemia: Follow appropriate protocol
- Hypo/Hyperkalemia: 20ml /kg IV fluid bolus
- Toxins: 20ml /kg IV fluid bolus
- Tamponade/cardiac: 20ml /kg IV fluid bolus
- Tension Pneumo: Pleural Decompression
- Thrombosis/PE: Rapid TX 100% OXYGEN
- Trauma: Follow appropriate protocol

NOTE TO PREHOSPITAL PROVIDERS:
• Vagal maneuvers may precipitate asystole and therefore should be employed with caution and only when authorized by Medical Control in a cardiac monitored child with IV access

Probable Sinus Tachycardia
• P waves present and normal
• Infant rate usually <220 bpm
• Child rate usually <180 bpm

Probable Supraventricular Tachycardia
• P waves absent or abnormal
• Abrupt rate change to and from normal
• Infant rate usually >220 bpm
• Child rate usually >180 bpm

Evaluate Rhythm

Establish IV/IO

ADENOSINE at 0.1mg/kg IV/IO
followed by RAPID flush with 2-5ml NS
May double ADENOSINE dose and repeat once if needed
Max initial dose 6mg
Max subsequent dose 12mg

Support CABs
Observe
Keep warm
TRANSPORT
Assess CABs
Administer 100% OXYGEN
Complete initial assessment
Assess for:

**Reactive Airway Disease**
- wheezing
- grunting
- retractions
- tachypnea
- diminished respirations
- decreased breath sounds
- tachycardia/bradycardia
- decreasing consciousness

**Partial Airway Obstruction**
- suspected foreign body, obstruction or epiglottitis
- stridor
- choking
- drooling
- hoarseness
- retractions
- tripod position

**Partial (Upper) Airway Obstruction**
- Avoid any agitation
- Position of comfort
- Assess tolerance of OXYGEN administration
- Per Medical Control, consider nebulized ALBUTEROL (Ventolin) 2.5mg and IPRATROPIUM (Atrovent) 0.5mg
- Pulse oximetry

**Obstruction Relieved**
- Support CABs
- Observe
- Keep warm
- TRANSPORT

**Obstruction Unrelieved**
- Do not attempt intubation, glottic visualization, or IV access
- Refer to PEDIATRIC RESPIRATORY ARREST PROTOCOL #65 as indicated

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**Revised:** 05/01/16
**Effective:** 05/01/98
Consider NEEDLE CRICOTHYROTOMY PROTOCOL #84

- Assess Airway
  - Perform airway maneuver, maintaining in-line C-spine stabilization.
    - jaw thrust or chin lift/head tilt
    - suction
    - oropharyngeal airway
    - C-spine immobilization as indicated

Breathing resumed

- Administer 100% OXYGEN
- Support ventilation with BVM as indicated
- Secure airway as appropriate

BLS: Per Medical Control, consider blood glucose test and administration of: ORAL GLUCOSE PO (if patient’s gag reflex is intact) AND NALOXONE (Narcan) at 0.1mg/kg IN for suspected narcotic exposure.

- Establish IV/IO NS at TKO
- Consider NALOXONE (Narcan) at 0.1mg/kg IV/IO/IM/IN if respiratory rate <12, Max single dose 2mg
- Consider blood glucose test and administration of:
  - D25% at 2ml/kg IV/IO OR
  - D12.5% at 4ml/kg IV/IO infants <2 months

Not Breathing

- Administer 100% OXYGEN
- Support ventilation with BVM
- Age appropriate rate

Chest Rise Adequate

- Recline airway
- Consider back slaps, chest/abdominal thrusts (age dependent)
- Direct laryngoscopy, foreign body removal with Magill forceps if indicated
- Secure airway as appropriate

Chest Rise Inadequate

Relieve Upper Airway Obstruction

- Recline airway
- Consider back slaps, chest/abdominal thrusts (age dependent)
- Direct laryngoscopy, foreign body removal with Magill forceps if indicated
- Secure airway as appropriate

NOTE TO PREHOSPITAL PROVIDERS:
Respiratory arrest may be a presenting sign of a toxic ingestion or metabolic disorder.

**Refer to PEDIATRIC ASSESSMENT AND TRAUMA SCORE PROTOCOL #35

1. To make D25% dilute D50% 1:1 with sterile water or normal saline.
2. To make D12.5% dilute D25% 1:1 with sterile water or normal saline.
3. To make D12.5% from D50% follow steps 1 & 2
• Assess CABs
• Secure airway as appropriate
• Administer 100% OXYGEN
• Complete initial assessment
• Supine position

Cardiac Monitor

Determine Etiology of Shock

Cardiogenic Shock *
(History congenital heart disease / cardiac surgery / rhythm disturbance / post-cardiac arrest)

- Establish IV/IO NS at TKO
- Identify any cardiac rhythm disturbance and refer to appropriate DYSRHYTHMIA PROTOCOL

Distributive Shock
(Suspected sepsis/anaphylaxis)

- Establish IV/IO NS at TKO
- Administer fluid bolus at 20ml/kg
- If suspected allergic reaction, refer to PEDIATRIC ALLERGIC REACTION / ANAPHYLAXIS PROTOCOL #67
- If no response to initial fluid bolus and history of fever/infection, repeat fluid boluses of 20ml/kg as indicated to a max of 60ml/kg.

Support CABs
Pulse oximetry
Observe
Keep warm
TRANSPORT

Hydrovolemic Shock
(Suspected dehydration/volume loss/hemorrhagic shock)

- Establish IV/IO NS at TKO
- Administer fluid bolus at 20ml/kg
- If no response to initial fluid bolus, repeat at 20ml/kg as indicated to max of 60ml/kg.

Pediatric Shock Vital Signs:
0 – 5 mos of age: Sys BP < 60 mmHg
6 mos – 5 yrs: Sys BP < 70 mmHg, HR < 70
> 6 yrs: Sys BP < 80 mmHg, HR < 60

At discretion of physician/ECRN:
*Caution - Fluids may need to be restricted in Cardiogenic Shock.
For prolonged geographical transport consider additional fluid boluses or DOPAMINE Drip (if available)
**PEDIATRIC ALLERGIC REACTION**

**ANAPHYLAXIS**

**Protocol 67**

- **Assess CABs**
- **Secure airway as indicated**
- **Support ventilation with BVM as indicated**
- **Administer 100% OXYGEN**
- **Complete initial assessment**

**Local Reaction**
- *Apply ice/cold pack to site*

**Mild Respiratory Distress**
- **EPI-PEN JUNIOR** (if available)
- **EPINEPHRINE (1mg/ml) at 0.01mg/kg IM** Do not exceed 0.3mg (or 0.3ml)
- **Establish IV NS at TKO**
- **DIPHENHYDRAMINE (Benadryl) at 1mg/kg IV** slowly over 2-3 minutes
  Max total dose 50mg
- **Nebulized ALBUTEROL (Ventolin) 2.5mg / IPRATROPIUM (Atrovent) 0.5mg**
- **Cardiac Monitor**
  Pulse oximetry
  Reassess
- **Support CABs**
  Observe
  Keep warm
  TRANSPORT

**Severe Cardiorespiratory Compromise**
- **EPI-PEN JUNIOR** (if available)
- **EPINEPHRINE (1mg/ml) at 0.01mg/kg IM** Do not exceed 0.3mg (or 0.3ml)
- **Establish IV NS at TKO**
- **DIPHENHYDRAMINE (Benadryl) at 1mg/kg IV** slowly over 2-3 minutes
  Max total dose 50mg
- **Administer fluid bolus at 20ml/kg**
  Repeat as indicated to a max of 60ml/kg
- **Cardiac Monitor**
- **Pulse oximetry**
  Reassess
- **Administer continuous nebulized ALBUTEROL (Ventolin) 2.5mg / IPRATROPIUM (Atrovent) 0.5mg**
  for severe wheezing

**AT DISCRETION OF PHYSICIAN/ECRN:**
- Administer **EPINEPHRINE (0.1mg/ml) at 0.01mg/kg IV/IO** Max total dose 0.1mg IV/IO

**NOTE TO PREHOSPITAL PROVIDERS:**
- *Simple hives do not require any additional field treatment.*
- **Avoid IV initiation or medication administration into same extremity as bite or allergen site.**
- For prolonged geographical transport, consider **METHYLPREDNISOLONE (Solu-Medrol) at 2mg/kg IV**
Support CABs
Observe
Keep warm
TRANSPORT

MIDAZOLAM HYDROCHLORIDE (Versed) at 0.2mg/kg IV/IO/IM/IN
D25% at 2ml/kg IV/IO
D12.5% at 4ml/kg IV/IO infants < 2 months*

OR
GLUCAGON at 0.03mg/kg/dose IM/IN
Max total dose 1mg

Test blood glucose
Pulse oximetry
Protect from injury
Vomiting and aspiration precautions

Seizure Activity

Glucose >60
Support CABs
Observe
Keep warm
TRANSPORT

Glucose ≤60 or unknown
Consider ORAL GLUCOSE to gums if venous access unavailable and gag reflex intact
OR
D25% at 2ml/kg IV/IO
D12.5% at 4ml/kg IV/IO infants < 2 months*
OR
GLUCAGON at 0.03mg/kg/dose IM/IN
Max total dose 1mg

AT DISCRETION OF PHYSICIAN/ECRN:
For prolonged transport, may consider additional doses of MIDAZOLAM HYDROCHLORIDE (Versed)

NOTE TO PREHOSPITAL PROVIDERS:
Anticipate respiratory depression if MIDAZOLAM HYDROCHLORIDE (VERSED) is administered.
Refer to PEDIATRIC RESPIRATORY ARREST PROTOCOL #65 as indicated
NALOXONE (Narcan) should be used only for suspected ACUTE narcotic exposure.

* 1. To make D25% dilute D50% 1:1 with sterile water or normal saline.
   2. To make D12.5% dilute D25% 1:1 with sterile water or normal saline.
   3. To make D12.5% from D50% follow steps 1 & 2
PEDIATRIC ALTERED LEVEL OF CONSCIOUSNESS

- Assess CABs
- Immobilize spine as indicated
- Administer 100% OXYGEN
- Support ventilation with BVM as indicated
- Complete initial assessment
- Test blood glucose
- Consider other causes of altered mentation and refer to indicated protocol(s).
- Pulse Oximetry
- Seizure Precautions

Cardiac Monitor

Glucose >60 mg/dl

- Reassess Respiratory Effort

Inadequate Respiratory Effort

- Secure airway as appropriate
  - **NALOXONE (Narcan) at 0.1mg/kg IV/IO/IM/IN** if respiratory rate <12
  - Max single dose 2mg

Adequate Respiratory Effort

- Support CABs
- Observe
- Keep warm
- TRANSPORT

Glucose ≤60mg/dl or unknown

- Consider **ORAL GLUCOSE** to gums if venous access unavailable and gag reflex intact
  - OR
  - GLUCAGON at 0.03mg/kg/dose IM/IN
  - Max total dose 1mg

Altered level of consciousness

Improved level of consciousness

NOTE TO PREHOSPITAL PROVIDERS:

**NALOXONE (Narcan)** should be used only for suspected ACUTE narcotic exposure.

* 1. To make D25% dilute D50% 1:1 with sterile water or normal saline.
* 2. To make D12.5% dilute D25% 1:1 with sterile water or normal saline.
* 3. To make D12.5% from D50% follow steps 1 & 2

REVISED: 05/01/16
EFFECTIVE: 05/01/98
Assess scene safety as indicated:
  Appropriate body substance isolation
  Refer to appropriate HAZMAT PROTOCOL #46-50
  Stop exposure
Assess CABs
Secure airway as appropriate
Support ventilation with BVM as indicated
Administer 100% **OXYGEN**
Pulse oximetry
Complete initial assessment

Cardiac Monitor
Establish IV/IO NS at TKO

Initial interventions per **Medical Control** as indicated for identified exposure
  Support CABs
  Observe
  Bring container(s) of drug or substance to the ED
  TRANSPORT

**EXPOSURE TO OR INGESTION OF NARCOTICS OR UNKNOWN SUBSTANCES**
For altered level of consciousness consider:
  • **NALOXONE** (Narcan) at 0.1mg/kg IV/IO/IM/IN if respiratory rate <12. Max single dose 2 mg
  • If seizures occur, refer to **PEDIATRIC SEIZURES PROTOCOL #68** as indicated
  • **GLUCOSE**
  • **DO NOT INDUCE VOMITING.**

**POTENTIAL EXPOSURES**
• Burning overstuffed furniture = Cyanide
• Old burning buildings = Lead fumes and Carbon monoxide
• Pepto-Bismol = Aspirin
• Pesticides = Organophosphates & Carbamates
• Common poisonous plants: Dieffenbachia, Foxglove, Holly leaves and berries, Lilly of the Valley, Nightshade, Philodendron, Rhubarb leaves, and Tobacco
• Smells: Almond = Cyanide
  Fruit = Alcohol
  Garlic = Arsenic, parathion, DMSO
  Mothballs = Camphor
  Natural gas = Carbon monoxide
  Rotten eggs = Hydrogen sulfide
  Silver polish = Cyanide
  Stove gas = Think CO (CO and methane are odorless)
  Wintergreen = Methyl salicylate

**NOTE TO PREHOSPITAL PROVIDERS:**
1. Anticipate vomiting, respiratory arrest, seizure, dysrhythmias and refer to indicated protocol(s).
2. Do not induce vomiting.
**Cooling Techniques**
1. Apply cool pack to head, neck, armpits, groin, behind knees and to lateral chest.
2. Tepid water per sponge/spray
3. Manually fan body to evaporate and cool
4. Stop cooling if shivering occurs.

*Refer to PEDIATRIC ASSESSMENT AND TRAUMA SCORE PROTOCOL #35*
Systemic Hypothermia

**Frostbite**

- Move patient to a warm environment as soon as possible

- Handle skin like a burn
- Protect with light sterile dressings.
- Do not let skin rub on skin (between fingers or toes).

- Cover patient and prevent re-exposure.

- TRANSPORT

**Severe Hypothermia**

- 86 F or less (<30 C):
  - Handle patient very gently to avoid precipitating V-Fib.
  - Patient may appear uncoordinated with poor muscle control, or stiff simulating rigor mortis.
  - There will be no shivering.
  - Level of consciousness may be confused, lethargic and/or withdrawn
  - Coma

**Mild/Moderate 86-93.2 F (30-34 C):**

- Conscious OR altered sensorium with shivering

- OXYGEN 12-15 L/mask

- IV NS at TKO: Attempt to warm IV bag and tubing with hot packs

- Rewarm patient:
  - Place patient in a warm environment.
  - Remove wet clothing.
  - Apply hot packs wrapped in towels to axilla, groin, neck, thorax.
  - Wrap patient in blankets.

- TRANSPORT

**PEDIATRIC COLD EMERGENCIES Protocol 72**

**AT DISCRETION OF PHYSICIAN/ECRN:**

- Refer to PEDIATRIC PAIN CONTROL PROTOCOL #59 as necessary for severe pain
- FENTANYL at 2mcg/kg IV/IO/IM/IN or MORPHINE SULFATE (if available) at 0.1mg/kg IV/IO/IM

**NOTE TO PREHOSPITAL PROVIDERS:**

- Assess pulse for 30-45 seconds before beginning CPR.

- DO NOT GIVE ANY DRUGS!
  - May attempt defibrillation ONE TIME at 2 Joules/kg if V-Fib

- Refer to PEDIATRIC CARDIAC ARREST PROTOCOL #60

**TRANSPORT**

**EMT**

**EMT-I**

**Paramedic**

**Medical Control**

**Effective:** 05/01/98
• Assess airway, ventilation, and respiratory effort

• Assess for hypothermia:
  Refer to PEDIATRIC COLD EMERGENCIES PROTOCOL #72

Adequate ventilation and respiratory effort

• Administer 100% OXYGEN
• Immobilize spine as indicated

Inadequate ventilation and respiratory effort

• Perform airway maneuver, maintaining in-line Cervical spine stabilization:
  • Jaw thrust
  • Suction
  • Relieve upper airway obstruction as indicated
  • Support ventilation with BVM and 100% OXYGEN
  • Spinal immobilization if indicated

Reassess airway patency

Pulse Oximetry

Establish IV/IO NS at TKO
Cardiac Monitor

Refer to
PEDIATRIC SEIZURES PROTOCOL #68
OR APPROPRIATE
PEDIATRIC DYSRHYTHMIA PROTOCOLS #61-63

Support CABs
Observe
Keep warm
TRANSPORT
Regardless of extent of injuries.

Treat obvious injuries.

Refer to
PEDiatric TRAUMA PROTOCOL #34

Note:
• Environmental surroundings
• Child’s interaction with parents
• Physical assessment findings
• Discrepancies in child and parent history and injuries

TRANSPORT
Regardless of extent of injuries.

Transport agreed upon by parent/caregiver

Support CABs
Observe
TRANSPORT
Document all findings

Transport refused by parent/caregiver

• Assess scene safety
• If possible, remain at site
• Call police/\textit{Medical Control} and request protective custody
• Do not confront caregivers

Report Suspicions to ED physician, ED charge nurse AND DCFS (1-800-25-ABUSE)
(1-800-252-2873)
NOTE TO PREHOSPITAL PERSONNEL:

1. You are required by law to report your suspicions.

2. Suspect battered or abused child if any of the following is found:
   • A discrepancy exists between history of injury and physical exam.
   • Caregiver provides a changing or inconsistent history.
   • There is a prolonged interval between injury and the seeking of medical help.
   • Child has a history of repeated trauma.
   • Caregiver responds inappropriately or does not comply with medical advice.
   • Suspicious injuries are present, such as:
     ➢ Injuries of soft tissue areas, including the face, neck and abdomen
     ➢ Injuries of body areas that are normally shielded, including the back and chest
     ➢ Fractures of long bones in children under 3 years of age
     ➢ Old scars, or injuries in different stages of healing
     ➢ Bizarre injuries, such as bites, cigarette burns, rope marks, imprint of belt or other object
     ➢ Trauma of genital or perianal areas
     ➢ Sharply demarcated burns in unusual areas
     ➢ Scalds that suggest child was dipped into hot water

3. The following are some common forms of neglect:
   • Environment is dangerous to the child (e.g. weapons within reach, playing near open windows without screen/guards, perilously unsanitary conditions, etc.).
   • Caretaker has not provided, or refuses to permit medical treatment of child’s acute or chronic life-threatening illness, or of chronic illness, or fails to seek necessary and timely medical care for child.
   • Abandonment
   • Caretaker appears to be incapacitated (e.g. extreme drug/alcohol intoxication, disabling psychiatric symptoms, prostrating illness) and cannot meet child’s care requirements.
   • Child appears inadequately fed (e.g. seriously underweight, emaciated, or dehydrated) inadequately clothed, or inadequately sheltered.
   • Child is found to be intoxicated or under the influence of an illicit substance(s).
1. PURPOSE/DEFINITION
Given the magnitude of the problems of abuse and violence in our society, early detection of domestic violence victims, appropriate legal and social service referrals and the delivery of timely medical care are essential. Domestic violence is a pattern of coercive behavior engaged in by someone who is or who was in an intimate or family relationship with the recipient. These behaviors may include: repeated battering, psychological abuse, sexual assault or social isolation such as restricted access to money, friends, transportation, health care or employment. Typically, the victims are female, but it must be recognized that males can be victims of abuses as well.

2. DOMESTIC VIOLENCE INDICATORS
While sometimes the specific history of abuse is offered, many times the victim of abuse, (either out of fear or because of the coercive nature of the relationship or out of desire to protect the abuser) will not volunteer a true history but instead ascribe injuries to another cause. Therefore, an appropriate review must be undertaken with respect to patients presenting with injuries:
• That do not seem to correspond with the explanation offered.
• That are of varying ages.
• That have the contour of objects commonly used to inflict injury (hand, belt, rope, chain, teeth, cigarette).
• During pregnancy.
Other factors include:
• Partner accompanies patient and answers all questions directed to patient.
• Patient reluctant to speak in front of partner.
• Denial or minimalization of injury by partner or patient.
• Intensive, irrational jealousy or possessiveness expressed by partner.
Physical injuries commonly associated with domestic violence:
• Central injuries, specifically to the face, head, neck, chest, breasts, abdomen, or genital areas.
• Contusions, lacerations, abrasions, stab wounds, burns, human bites, fractures (particularly of the nose and orbits) and spiral wrist fractures
• Complaints of acute or chronic pain without tissue injury
• Signs of sexual assault
• Injuries of vaginal bleeding during pregnancy, spontaneous or threatened miscarriage
• Direct impact of domestic violence on pregnancy may include:
  ➢ Abdominal trauma leading to abruption, pre-term labor, and delivery
  ➢ Fetal fracture
  ➢ Ruptured maternal liver, spleen, uterus
  ➢ Antepartum hemorrhage
  ➢ Exacerbation of chronic illness
• Multiple injuries in different stages of healing
3. APPROACHES FOR INTERVIEWING THE PATIENT

The goals of the physical examination are to identify injuries requiring further medical intervention and to make observations and collect evidence that may corroborate the patient’s report of abuse. A thorough physical examination is essential to uncover hidden injuries or compensated trauma. If the patient reports sexual assault, the DOMESTIC VIOLENCE/SPOUSAL ABUSE/GERIATRIC ABUSE/SEXUAL ASSAULT PROTOCOL #75 should be followed:

- Always interview the patient in a private place, away from anyone accompanying them to the ED. Questioning the patient in front of the batterer may place the patient and any children in danger.
- You may be the first person or professional to acknowledge the abuse. It is important that you convey your concerns about what has happened to the patient to the Emergency Physician and Nurse.
- When interviewing, do not ask the patients if they were battered or abused (many battered persons do not consider themselves in this light). Instead you can ask the patient:
  - “Have you had a fight with someone?”
  - “Did anyone hurt you?”
  - “Many times we have seen these types of injuries in patients who are hurt by someone else, did someone hurt you?”
  - “I am concerned that someone may be hurting you or scaring you, can you tell me what happened?”
- Most battered persons feel very shamed and humiliated about what has happened to them. It is important to acknowledge that you understand how difficult it is to talk about what has happened.
- Many battered persons will minimize the abuse or blame themselves for what happened. It is important that you repeatedly reinforce that no one deserves to be hurt no matter what they may or may not have done.
- Questions/attitude **Not** to Ask/Express:
  - What keeps you with a person like that?
  - Do you get something out of the violence?
  - What did you do at the moment that caused them to hit you?
  - What could you have done to avoid or defuse the situation?

4. PRACTICE

- Treat obvious injuries; transport.
- Report your suspicion and supporting findings to the Emergency Department Physician and on the prehospital report form.
- Document the name of the physician and/or nurse to whom you reported your suspicion on the prehospital report form.
- If the patient refuses transport, make appropriate referral and document on run sheet.
- Document your findings on the prehospital report form:
  - Presenting condition
  - Any suspicious indicators
  - Any suspicious commentary made by the patient on interviewing the patient.
  - Physical exam including any evidence of abuse.
  - Treatment rendered

**Report Suspicions of Geriatric (Elder) Abuse or Neglect to ED physician, ED charge nurse AND the 24-hour Adult Protective Services Hotline 1-866-800-1409**
Personnel, whether operating at a Basic, Intermediate, or Advance Life Support levels, are required to immediately initiate CPR whenever clinical signs of death exist.

THERE ARE ONLY TWO (2) EXCEPTIONS TO THIS REQUIREMENT:

1. Triple Zero: Signs of Explicit Biological Death Exists

   The use of the term "Triple Zero" helps to alleviate the possibility of hysteria from family and/or bystanders due to any radio communications they may overhear and clearly alerts the hospital telemetry personnel to the likelihood of the patient arriving DOA.

   A. The field unit will notify the hospital over telemetry, “We have a TRIPLE ZERO.” This indicates that they have a patient who is pulseless, non-breathing, and exhibits one or more of the following long-term indications of death:
      • Profound dependent lividity
      • Rigor mortis without profound hypothermia
      • Patient who has suffered decapitation
      • Skin deterioration or decomposition
      • Mummification or dehydration, especially in infants
      • Putrefaction

   B. Transmit a rhythm strip via telemetry, and give the appropriate hospital the known patient history. (Rhythm strip may be omitted for b through f.)

   C. The hospital will confirm the Triple Zero and will give orders to transport providing it is not a county medical examiner’s case.

   D. The confirmation of a Triple Zero is not to be construed as a pronouncement of death.

   E. Transport of Triple Zero - Situations may arise where prolonged delays resulting from dispensations of obviously dead patients would tie up an ALS vehicle for unreasonable lengths of time. If the paramedics encounter a patient whom they confirm to be a Triple Zero over telemetry, they may transfer responsibility for transportation of that patient to another ambulance service, either BLS, ILS or ALS, the appropriate police department, or an agency who is reasonably appropriate for the circumstance, who may transport the patient to a hospital to have death pronounced by an individual legally authorized to do so.

2. DNR (Do Not Resuscitate) - See System Policy

   ⚫ Except in the conditions listed above, CPR is to be initiated immediately and continued until one (1) of the following occurs:
      1. Effective spontaneous circulation and ventilation have been restored.
      2. Resuscitation efforts have been transferred to other persons of at least equal skill, training and experience.
      3. The rescuers are exhausted and physically unable to continue resuscitation.
      4. A direct order from on-line Medical Control is given to discontinue CPR.

   ⚫ A system hospital is to be contacted over telemetry in ALL cases of cardiac arrest, whether or not the patient has signs of clinical death, meets the criteria for Triple Zero (Biological Death) or has a “Do Not Resuscitate” order.

   In cases where the patient’s status is unclear and the appropriateness of CONTINUED CPR is questioned, paramedics should call the appropriate system hospital AFTER initiation of CPR.

Revised: 05/01/16
Effective: 05/01/98
Maintain situational awareness and scene safety. Introduce yourself to the patient, and attempt to gain their confidence in a non-threatening manner. If the patient refuses assistance, attempt to determine their mental status. This includes determining their orientation and the presence of anything that could produce an altered mental status, such as drug/alcohol intoxication or withdrawal, trauma (head injury), hypoxia, hypotension, hypoglycemia, stroke, infections, psychological emergencies (i.e. homicidal, suicidal, psychosis, etc.) or dementia (i.e. acute or chronic organic brain syndromes).

If the mental status is judged to be abnormal, prehospital personnel must carry out treatment and transport in the patient's best interest.

In any form of intervention, prehospital personnel must ALWAYS CONSIDER THEIR OWN SAFETY FIRST!

1. Again attempt to verbally reassure the patient and seek their willing cooperation.
2. If it is necessary to physically restrain a patient, perform all the following:
   A. Prepare all the necessary equipment.
   B. Use police and/or fire personnel if needed. Have one person assigned to each extremity and one to equipment (if available).
   C. Apply the restraints as loosely as possible to maintain a safe situation, but prevent neurovascular compromise and undue patient discomfort. Apply restraints over clothing when possible.
   D. Never place restraints over a patient's chest or on the abdomen of a pregnant patient.
   E. Perform routine and specific medical care as indicated by the patient's condition. Routinely document the neurovascular status of the patient's extremities distal to the restraints.
   F. Notify the receiving hospital of the situation, and request security assistance upon arrival.
   G. Continue to attempt to verbally reassure the patient and seek their cooperation. Inform the patient's family of the reasons for the use of restraints.
   H. Thoroughly document the situation including the reasons for using restraints and how they were applied.
   I. At no time will towels, washcloths or other devices be placed over the mouth and/or nose of a restrained patient for any reason.
   J. Never restrain a patient in the prone position.
   K. For reasons of medical safety, any patient who is under police hold and requires handcuffs, must have a police officer accompany the patient in the back of the ambulance while enroute to the hospital or provide the transporting EMS personnel with keys to the handcuffs.

AT DISCRETION OF PHYSICIAN/ECRN:
For the patient exhibiting Excited Delirium, may consider KETAMINE (if available) 2mg/kg IM

NOTE TO PREHOSPITAL PROVIDERS:
Once restrained, continue to be conscious of the patient's airway and other medical needs.
Begin evaluation and care

The patient refuses care

Altered Mental Status?
(Drugs, Alcohol, Head Trauma, Mental Retardation, etc.)

YES

DENY REFUSAL
Refer to APPROPRIATE PROTOCOL

NO

Altered medical decision making capacity?
Age <18?
Unless emancipated (married, pregnant, etc.) or parent/guardian present

YES

NO

1. Document situation in all cases of refusal and contact Medical Control as per System Policy.
2. Initiate documentation on a refusal form.
3. If multiple patients, may use Multiple Release Form.
4. The narrative portion of the patient care report for refusals of care must include:
   • Evidence of decision making capacity such as:
     - the patient is alert, oriented and understands and answers questions appropriately
   • A physical assessment
   • The specific potential consequences told to the patient of not receiving medical care/evaluation
   • The alternatives to care (contacting private physician immediately, etc.)
   • Signature of patient, legal guardian or Durable Power of Attorney for Healthcare
     - a spouse is not a legal guardian unless appointed by the Court
5. If a patient wishes to refuse treatment and will not sign the refusal form, document the situation on the prehospital patient care report.
6. All personnel who witness the event should sign the prehospital patient care report.

Contact Medical Control with any questions.
INDICATIONS FOR NITROUS OXIDE ANALGESIA INCLUDE:
- Severe pain due to musculoskeletal trauma
- Non-respiratory burns
- Kidney stones

NITROUS OXIDE is to be administered as a fixed 50/50 concentration with OXYGEN only.
- The monitoring of the patient’s oxygen saturation via pulse oximetry is mandatory.
- The delivery device utilized must be fixed and not adjustable.
- NITROUS OXIDE must be self administered by the patient.
- There must be NO contraindications to the use of NITROUS OXIDE.

CONTRAINDICATIONS INCLUDE:
- Altered mental status that would make the patient unable to self administer
- Shock
- Severe maxillofacial injuries
- Chronic Obstructive Pulmonary Disease
- Abdominal trauma
- Head injury
- Pregnancy
- Fire hazard situations
- Any other situation in which the patient cannot self administer NITROUS OXIDE
**Protocol 80**

**EXTERNAL JUGULAR VEIN CANNULATION**

<table>
<thead>
<tr>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position patient in Trendelenburg position.</td>
</tr>
<tr>
<td>Turn the head away from the side to be cannulated.</td>
</tr>
<tr>
<td>Prep the skin with cleansing prep.</td>
</tr>
<tr>
<td>Apply traction to the skin just above the clavicle.</td>
</tr>
<tr>
<td>Insert the catheter, “bevel up,” at a 30-degree angle, directed toward the shoulder on the same side. The needle should enter midway between the angle of the mandible and the clavicle. There will be a flash of blood as you enter the vein.</td>
</tr>
<tr>
<td>Carefully lower the needle and catheter and advance them about 2mm further into the vein.</td>
</tr>
<tr>
<td>Advance the catheter over the needle into the vein and remove the needle.</td>
</tr>
<tr>
<td>Discard the needle in a sharps container – <strong>do not recap the needle</strong>.</td>
</tr>
<tr>
<td>Attach IV tubing to the hub of the catheter and open the flow regulator to assure fluid flows freely.</td>
</tr>
<tr>
<td>Secure the catheter to the skin.</td>
</tr>
</tbody>
</table>
• Assure the patient is receiving high-flow oxygen.
• Identify the side of the chest needing decompression (this is the side with decreased breath sounds.)
• Prep the site (second intercostal space in the midclavicular line or 4th intercostal space mid axillary line) with a cleansing prep.
• Introduce the needle into the 2nd intercostal space, directing it perpendicularly over the superior aspect of the 3rd rib or 4th intercostal space mid axillary line.
• Insert the needle until a rush of air exits
• Remove the needle, leaving the catheter in place.
• Secure the catheter to the chest wall.
• Reassess breath sounds.
Protocol 82
MEDICATION ASSISTED INTUBATION

Indications that may require Medication Assisted Intubation:
- Glasgow Coma Score <8
- Imminent respiratory arrest
- Imminent tracheal/laryngeal closure due to severe edema secondary to trauma or an allergic process
- Severe flail chest and/or severe open chest wounds with cyanosis and a respiratory rate >30 or <10

Initial Medical Care
- Always have King tube and/or needle cricothyrotomy equipment available.
- Prepare patient and equipment to perform

**Adults**
- Continue to assist ventilations during the procedure
- MIDAZOLAM HYDROCHLORIDE (Versed) in 5mg increments slow IV/IO/IM/IN until sedation is achieved up to a max total dose of 10mg
  - OR if using Ketamine (if available):
    - KETAMINE (if available) 2mg/kg IV/IO/IM/IN (may repeat x 1)
    - MIDAZOLAM HYDROCHLORIDE (Versed) 2.5 mg IV/IO/IM/IN to maintain sedation

**Pediatrics**
- Continue to assist ventilations during the procedure
- MIDAZOLAM HYDROCHLORIDE (Versed) in 0.1mg/kg increments slow IV/IO every 2 minutes up to a max total dose of 5mg
  - If no IV, may administer MIDAZOLAM HYDROCHLORIDE (Versed) at 0.15 mg/kg up to 2.5mg IM/IN (may repeat x 1)
  - OR if using Ketamine (if available):
    - KETAMINE (if available) 2mg/kg IV/IO/IM/IN (may repeat x 1)
    - MIDAZOLAM HYDROCHLORIDE (Versed) 0.1mg/kg IV/IO/IM/IN to maintain sedation

If intubation unsuccessful:
- Continue to assist ventilations with BVM
- Refer to ADULT AIRWAY PROTOCOL #83
- Contact Medical Control
Able to intubate with an ET tube

NO

Able to ventilate with BVM?

NO

Insert a King tube

NO

Perform NEEDLE CRICOTHYROTOMY PROTOCOL #84

Ventilate

Initiate Rapid Transport

Update hospital on airway status
Protocol 84

NEEDLE CRICOPTHYROTOMY

• Attempt to ventilate the patient with BVM
• Attach an empty syringe to a large gauge angiocath
• Locate the thyroid notch, the cricothyroid notch, and the cricoid cartilage.
• Cleanse area with cleansing prep
• Grasp the thyroid cartilage firmly in the nondominant hand.
• While aspirating, puncture the cricoid membrane with the angiocath, directing it caudally, at a 45-degree angle. (The plunger of the syringe will move freely when the needle has entered the trachea.)
• Remove the needle from the catheter and advance the catheter into the trachea.
• Reattach the syringe to the catheter and aspirate again to insure correct placement.
• Attach the plastic adapter from a #3 ET tube to the catheter.
• Attach ambu bag to the adapter and ventilate the patient.
• Ventilate with 2-3 seconds of inspiration followed by passive exhalation.
• Auscultate bilateral axillae and epigastrium.
1. Place pacing electrodes
   A. Anterior/Posterior Electrode Placement
      • Place negative electrode on left anterior chest, halfway between the xiphoid process and the left nipple, with upper edge of the electrode below the nipple line
      • Place positive electrode on the left posterior chest beneath the scapula and lateral to the spine
      • NOTE: If Anterior/posterior position is contraindicated, anterior/anterior position may be used
   B. Anterior/Anterior Electrode Placement
      • Place negative electrode on left chest over the fourth intercostal space in the midaxillary line
      • Place positive electrode on anterior right chest in the subclavicular area
      • NOTE: Anterior/anterior position should only be used if anterior/posterior position cannot be used
2. Apply pacing cables to pacing electrodes
3. Activate "pacing" switch
4. Adjust MA setting
5. Select desired heart rate (usually 70 beats per minute)
6. Activate "start/stop" switch
7. Observe monitor for capture and monitor patient response and pulse
8. Slowly turn up the MA until evidence of electrical and mechanical capture occurs (usually 50-150 MA)
   A. Mechanical capture is indicated by the presence of a palpable pulse
   B. Electrical capture is evidenced by a spike followed by a wide QRS complex and a broad T wave
   C. Skeletal muscle twitching does not indicate capture
9. Conscious patients may require sedation and/or analgesia

NOTE TO PREHOSPITAL PROVIDERS:
If MIDAZOLAM HYDROCHLORIDE (Versed) is administered for sedation, the patient’s oxygen saturation must be monitored via pulse oximetry.
PATIENT CARE

All legal efforts should be utilized to avoid having to transport the weapon to the Emergency Department. However, if the patient’s condition requires immediate transportation, then transportation should not be delayed unless there is an imminent life threat to the providers. If the patient is stable, and law enforcement is in route, transportation may be delayed to relinquish the weapon to the Police Officer.

SAFETY

Scene safety remains the top priority for EMS responders. If the EMS responders feel that there is a valid life threat to themselves, then retreat to a safe zone is indicated. Stage in a safe location to be able to re-enter the scene when secured by law enforcement.

When you must transport the weapon, it must be secured to prevent accidental discharge.

NOTIFICATION TO THE EMERGENCY DEPARTMENT

When transporting the weapon on the Ambulance, the provider will contact the Emergency Department early. The radio report needs to contain the verbiage “I have a firearm on board” to inform the emergency department that there is a secured weapon on the ambulance and will require someone from the hospital to take custody of the weapon upon arrival.

TRANSFERRING THE WEAPON AT THE HOSPITAL

Upon arrival, relinquish the weapon to the Hospital’s designee as soon as possible. Do not leave the weapon unattended at any time.
# Appendix A

## WEIGHT CONVERSION TABLE: POUNDS TO KILOGRAMS

### WEIGHT CONVERSION TABLE: 2.2 lbs = 1 kg

<table>
<thead>
<tr>
<th>lbs</th>
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<th>kg</th>
<th>lbs</th>
<th>kg</th>
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<tbody>
<tr>
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<td>0.5</td>
<td>31</td>
<td>14.1</td>
<td>61</td>
<td>27.7</td>
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<td>55</td>
<td>151</td>
<td>68.6</td>
<td>181</td>
<td>82.3</td>
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<tr>
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<td>123</td>
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Effective: 05/01/98
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