



# REGION 7

## Emergency Medical Services Systems

Advocate Christ Medical Center EMS System

Amita Saint Mary's-Kankakee EMS System

Morris EMS System

Riverside EMS System

Silver Cross EMS System

South Cook County EMS System

**BLS / ILS / ALS**

**Standing Medical Orders**

**REVISED: March 1<sup>st</sup>, 2022**

Effective: May 1<sup>st</sup>, 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.



Sean Atchison, DO  
Medical Director  
Morris EMS System



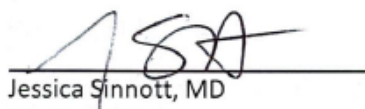
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<b>PROTOCOL SYMBOL KEY</b>													
<ul style="list-style-type: none"> <li>&gt; greater than</li> <li>≥ greater than or equal to</li> <li>&lt; less than</li> <li>≤ less than or equal to</li> <li>◆ enter from or exit to another protocol</li> </ul>	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="background-color: #cccccc; width: 20px; text-align: center;"><b>B</b></td> <td style="width: 60px; text-align: center;">EMT</td> <td style="background-color: #cccccc; width: 20px; text-align: center;"><b>B</b></td> </tr> <tr> <td style="background-color: #ffff00; text-align: center;"><b>I</b></td> <td style="text-align: center;">EMT-I</td> <td style="background-color: #ffff00; text-align: center;"><b>I</b></td> </tr> <tr> <td style="background-color: #0000ff; color: white; text-align: center;"><b>P</b></td> <td style="text-align: center;">Paramedic</td> <td style="background-color: #0000ff; color: white; text-align: center;"><b>P</b></td> </tr> <tr> <td style="background-color: #ff0000; color: white; text-align: center;"><b>M</b></td> <td style="text-align: center;">Medical Control</td> <td style="background-color: #ff0000; color: white; text-align: center;"><b>M</b></td> </tr> </table>	<b>B</b>	EMT	<b>B</b>	<b>I</b>	EMT-I	<b>I</b>	<b>P</b>	Paramedic	<b>P</b>	<b>M</b>	Medical Control	<b>M</b>
<b>B</b>	EMT	<b>B</b>											
<b>I</b>	EMT-I	<b>I</b>											
<b>P</b>	Paramedic	<b>P</b>											
<b>M</b>	Medical Control	<b>M</b>											

# Protocol 1

## INITIAL MEDICAL CARE / ROUTINE CARDIAC CARE GENERAL PATIENT ASSESSMENT

- 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

B	EMT	B
I	EMT-I	I
P	Paramedic	P

### 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, GCS parameters
2. Systematic head-to-toe detailed assessment
3. History of present illness/injury
4. Advanced Directives, if available
5. Medication List, if available

#### Eye opening:

- (4 points) SPONTANEOUS  
(3 points) VOICE  
(2 points) PRESSURE  
(1 point) NONE

#### Best Verbal Response:

- (5 points) ORIENTED  
(4 points) CONFUSED  
(3 points) INAPPROPRIATE WORDS  
(2 points) INCOMPREHENSIBLE SOUNDS  
(1 point) NO VERBAL RESPONSE

#### Best Motor Response:

- (6 points) OBEYS SIMPLE COMMANDS  
(5 points) LOCALIZES PRESSURE  
(4 points) FLEXION WITHDRAWAL  
(3 points) ABNORMAL FLEXION  
(2 points) ABNORMAL EXTENSION  
(1 point) NO MOTOR RESPONSE

### 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, if appropriate, 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  $\geq 4$  years old experiencing nausea, consider Zofran 4mg ODT/IV x1 dose.  
BLS: For adult and pediatrics  $\geq 4$  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  $\blacklozenge$  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.

# Protocol 2

## RADIO REPORT AND ABBREVIATED RADIO REPORT

### 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

B	EMT	B
I	EMT-I	I
P	Paramedic	P

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 PROTOCOL #1**. ♦

### 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

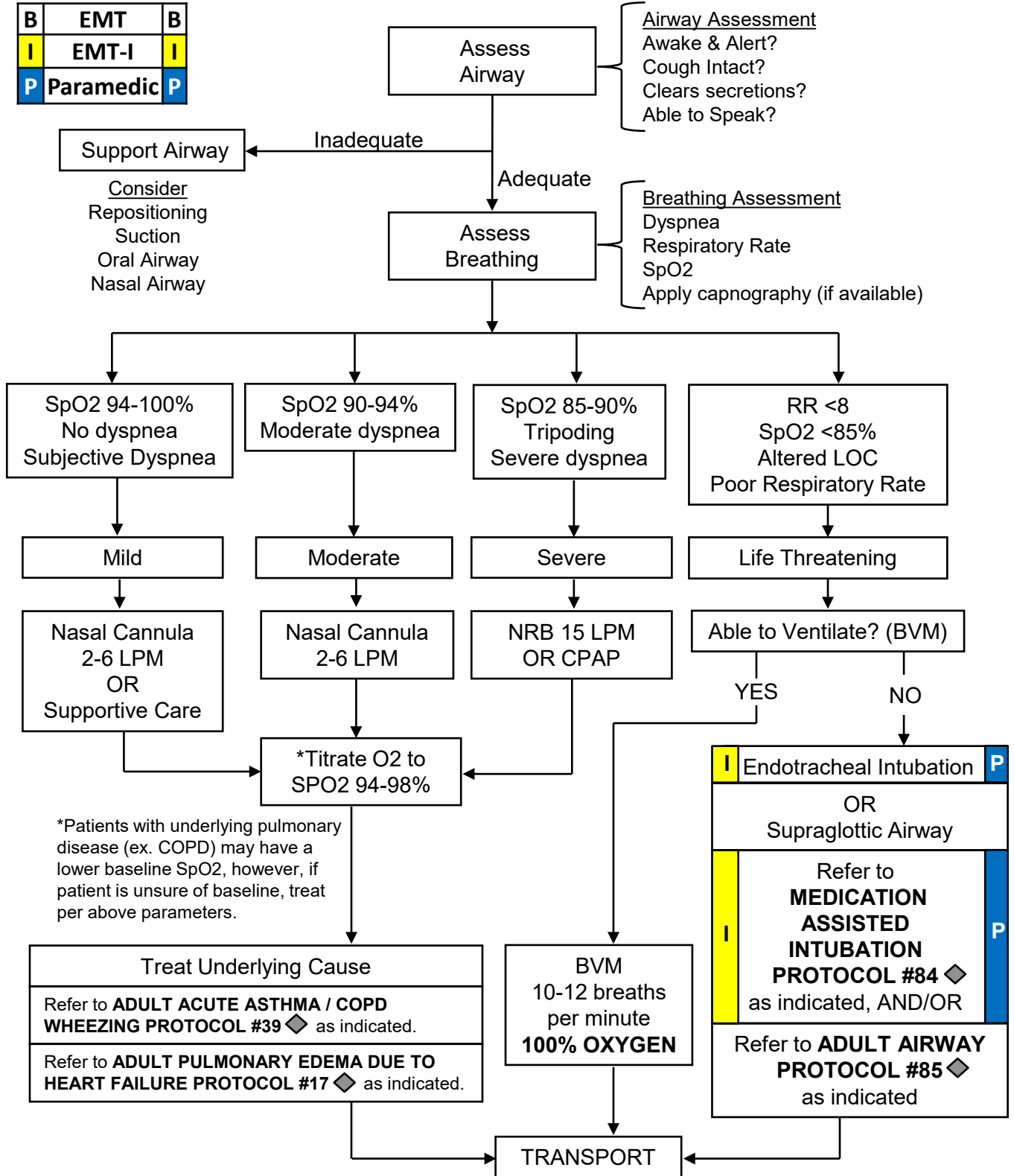
**NOTE: When contacting the receiving hospital with a CODE STEMI or CODE STROKE it is acceptable to use an abbreviated radio format announcing CODE STEMI or CODE STROKE when the patient's condition and attention warrants.**



# Protocol 3

## ADULT RESPIRATORY DISTRESS

B	EMT	B
I	EMT-I	I
P	Paramedic	P

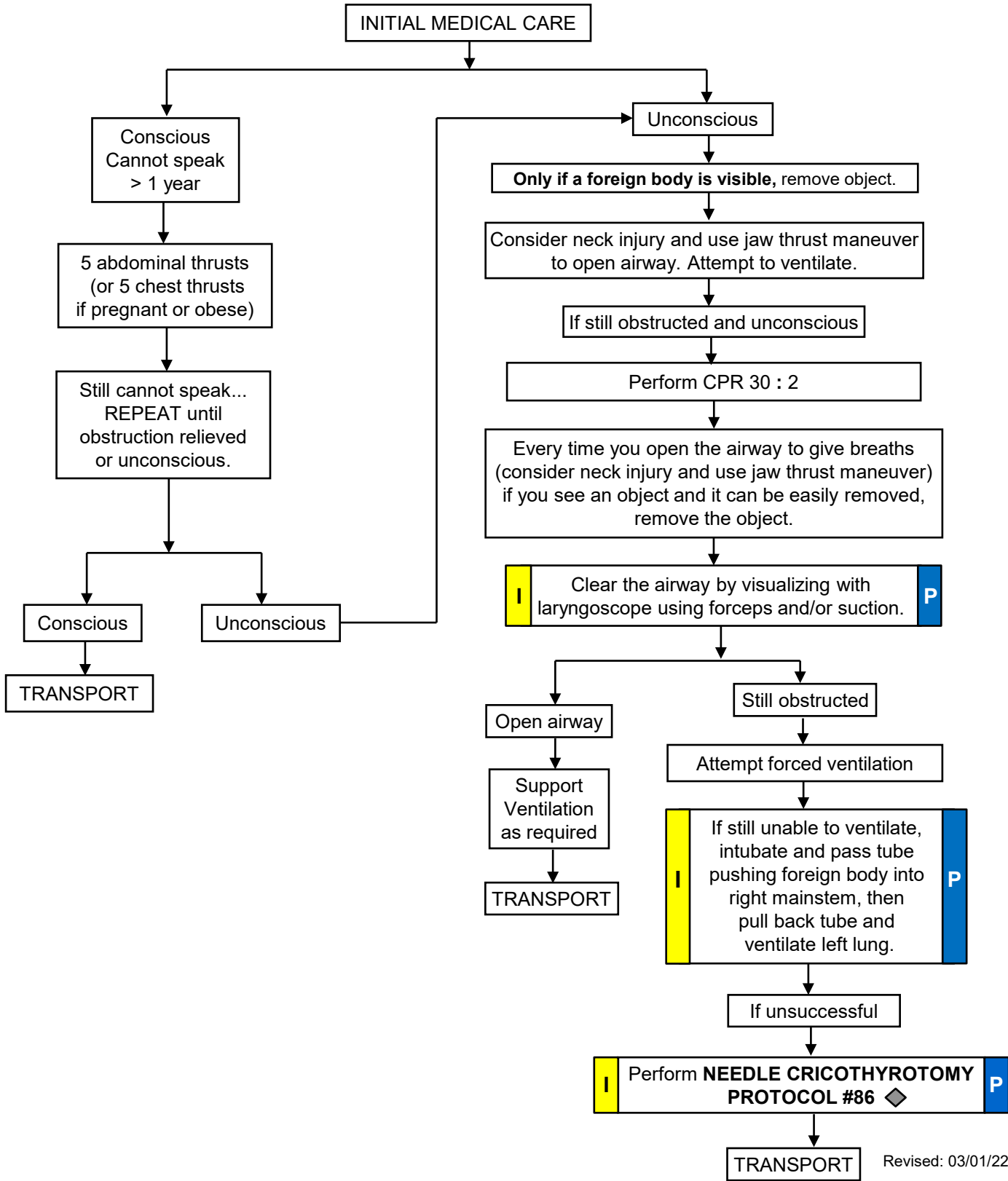


For a pediatric patient refer to **PEDIATRIC RESPIRATORY DISTRESS PROTOCOL #66** ◆

# Protocol 4

## AIRWAY OBSTRUCTION

B	EMT	B
I	EMT-I	I
P	Paramedic	P



# 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

B	EMT	B
I	EMT-I	I
P	Paramedic	P

Mild Pain  
(Scale 0-6 out of 10)

Moderate to Severe Pain  
(Scale >6)

I	Consider IV	P
Monitor and Reassess		

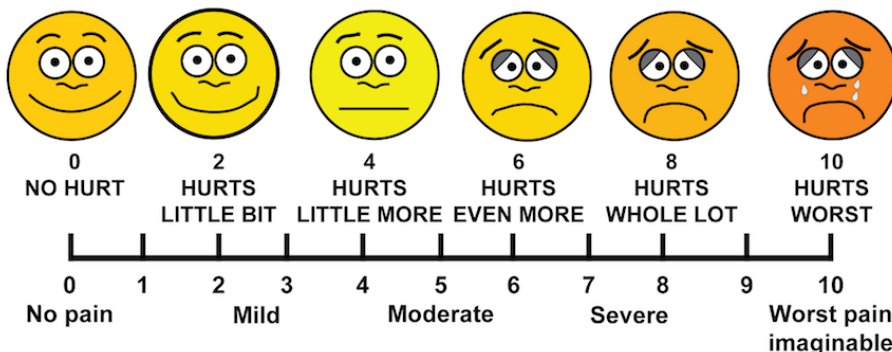
TRANSPORT

Allow for position of maximum comfort unless contraindicated

I	Establish IV/IO	P
Cardiac Monitor		
P	Consider <b>FENTANYL 50mcg IV/IO/IM/IN</b> May repeat every 5 minutes as needed until improvement. Max total dose 200mcg OR <b>MORPHINE SULFATE (if available) in 2mg increments IV/IO/IM</b> May repeat every 5 minutes as needed until improvement. Max total dose 10mg AND/OR Consider <b>NITROUS OXIDE 50/50</b> (if available)	P
Monitor and Reassess every 5 minutes following narcotic dose. Hold further doses of opioids if any respiratory depression or AMS. Apply capnography (if available).		

TRANSPORT

## PAIN MEASUREMENT SCALE



For a pediatric patient refer to **PEDIATRIC PAIN CONTROL PROTOCOL #61** ◆

# Protocol 6

## ADULT CARDIAC ARREST

B	EMT	B
I	EMT-I	I
P	Paramedic	P

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 #78**

CABs  
 Begin Continuous CPR Compressions  
 Push Hard ( $\geq 2$  inches) Push Fast (100-120/min)  
 Change Compressors every 2 minutes  
 (Limit changes/pulse checks  $\leq 5$  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 #85** as indicated

**I** Cardiac Monitor **P**

Shockable Rhythm

NO  
 Follow **ADULT PEA/ASYSTOLE PROTOCOL #14** as indicated

YES  
 Follow **ADULT VF / PULSELESS VT PROTOCOL #11** as indicated

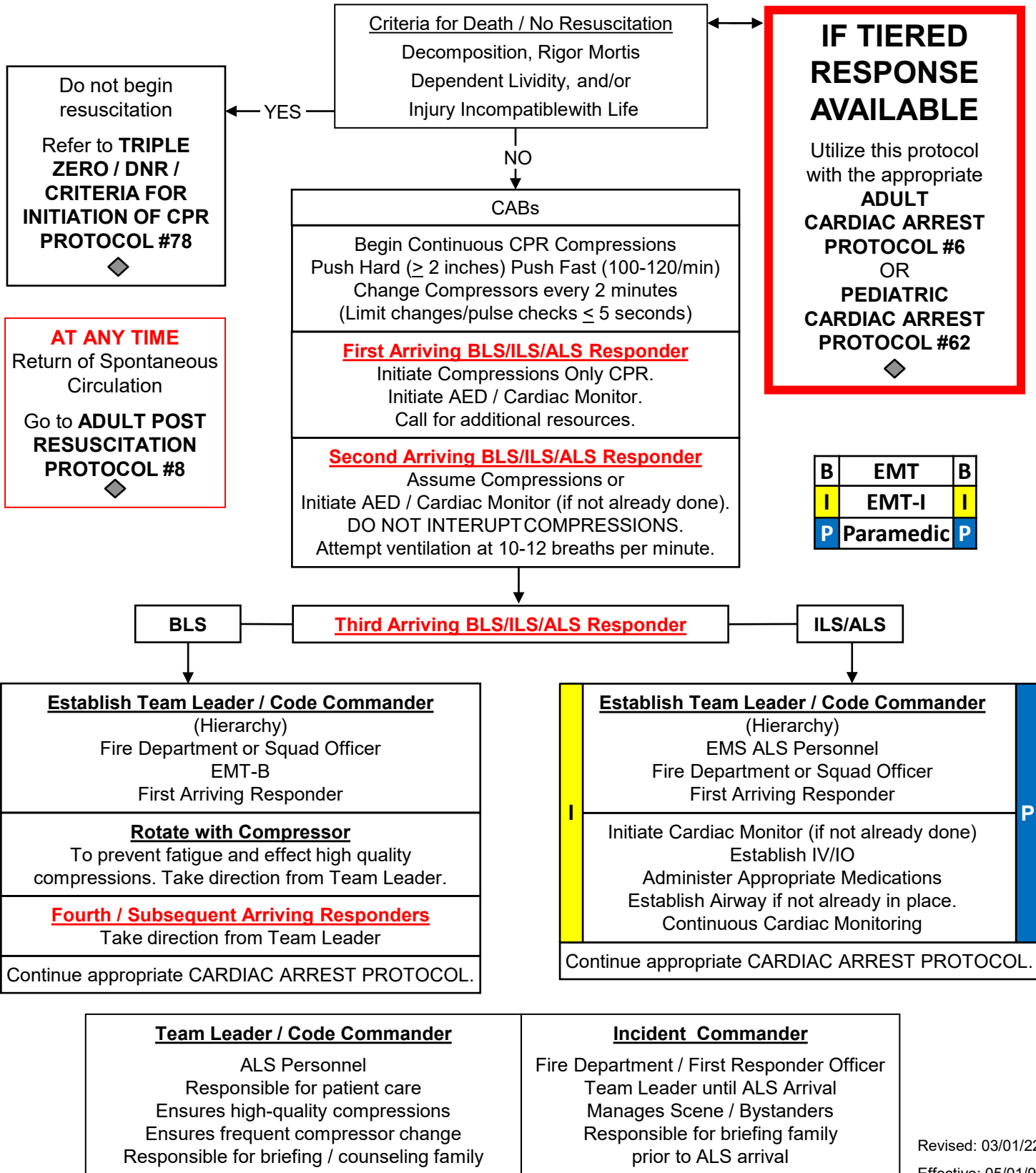
TRANSPORT

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

For a pediatric patient refer to **PEDIATRIC CARDIAC ARREST PROTOCOL #62**

# Protocol 7

## CARDIAC ARREST CALL MANAGEMENT



# Protocol 8

## ADULT POST RESUSCITATION

B	EMT	B
I	EMT-I	I
P	Paramedic	P

Repeat Primary Assessment	
Optimize Ventilation and Oxygenation	
<ul style="list-style-type: none"> <li>• Maintain SpO2 = 90-99%</li> <li>• Advanced airway if indicated</li> <li>• Respiratory Rate 6-12/minute for ETCO2 (if available) 35-45mmHg</li> <li>• Remove Impedance Threshold Device (if used)</li> <li>• <b>DO NOT HYPERVENTILATE</b></li> </ul>	
I	<ul style="list-style-type: none"> <li>• Establish IV/IO</li> </ul>
	P
	<ul style="list-style-type: none"> <li>• Cardiac Monitor 12 Lead ECG</li> </ul>
	P
	<ul style="list-style-type: none"> <li>• Monitor Vital Signs / Reassess</li> </ul>

I	<p><b>IV NS fluid bolus in 200ml increments up to 1000ml</b> if lungs remain clear OR until SBP &gt;90</p>	P
---	--	---

Hypotension  
Systolic BP < 90

NO

Follows Commands

YES

I	STEMI/Suspicion of MI	P
---	-----------------------	---

Refer to **ADULT SUSPECTED CARDIAC PATIENT PROTOCOL #16** ♦

NO

I	Symptomatic Bradycardia	P
---	-------------------------	---

Refer to **ADULT BRADYCARDIA PROTOCOL #15** ♦

NO

I	ROSC with Antiarrhythmic given	P
---	--------------------------------	---

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

TRANSPORT

# Protocol 9

## TERMINATION OF RESUSCITATION

### 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.

I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

### 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 Physician**, resuscitation MAY BE stopped under the following circumstances:

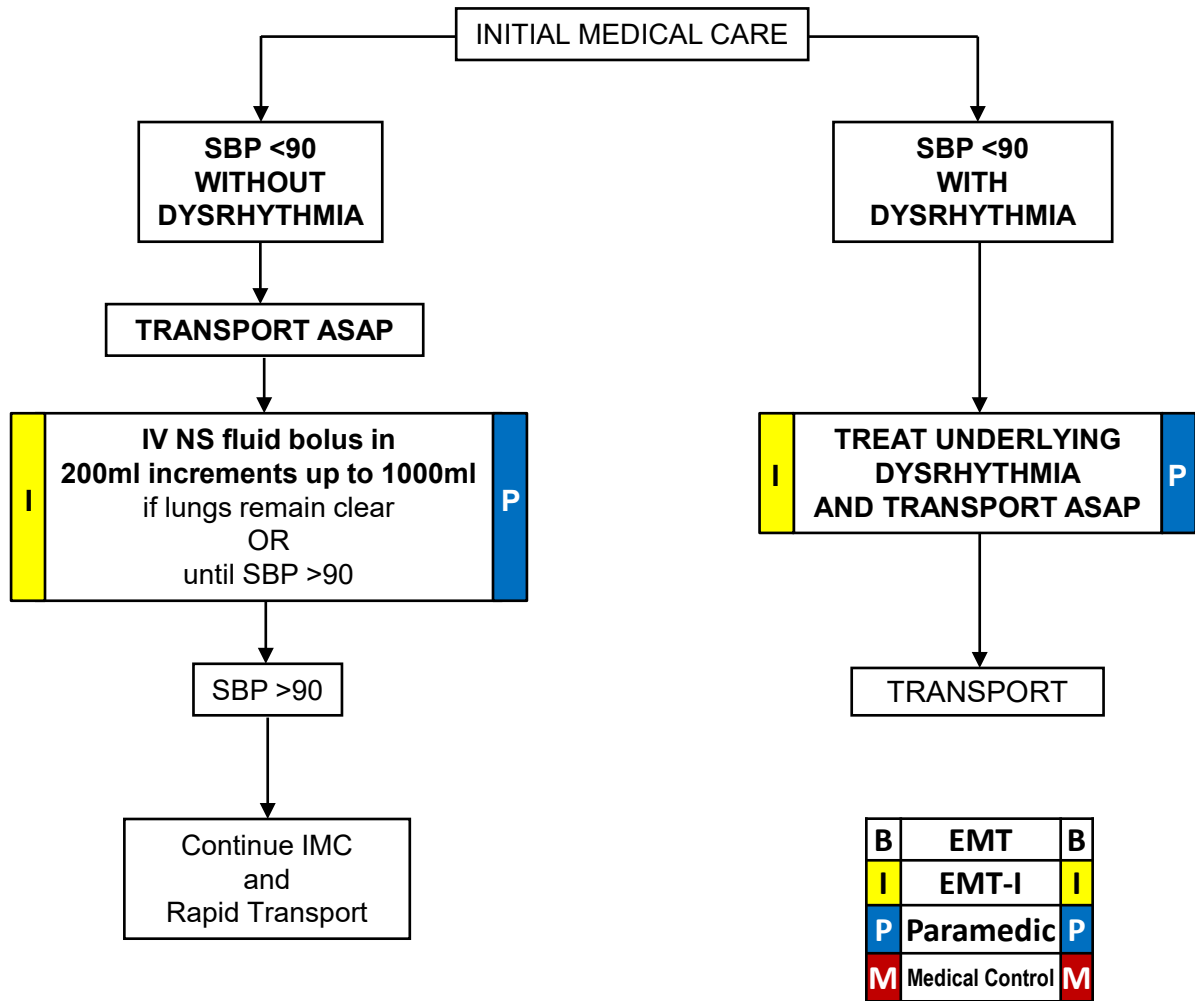
- The physical environment becomes unsafe for EMS providers.
- The exhaustion of EMS providers.
- If after 3 rounds of 2 minutes of CPR the patient's measured ETCO<sub>2</sub> (if available) (via supraglottic airway or ETT) remains below 6mmHg.
- The AED advises "no shock" on 5 sequential analyses during 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 ALS interventions.
- 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 Physician**.
- 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 Physician**. Resuscitation efforts will be continued until orders for termination of resuscitation have been received by **Medical Control Physician**.

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

# Protocol 10

## ADULT CARDIOGENIC SHOCK



**NOTE TO PREHOSPITAL PROVIDERS:**

If patient is in or develops respiratory distress despite treatment, maintain airway and prepare to intubate.

**AT DISCRETION OF MEDICAL CONTROL:**

For prolonged geographical transport consider PUSH DOSE EPINEPHRINE:

Label the syringe as PUSH DOSE EPINEPHRINE (100mcg/10ml).

Mixing Instructions:

Take a 10ml syringe with 9ml of normal saline. Into this syringe, draw up 1 ml of EPINEPHRINE (1mg/10ml) from the cardiac amp.

Administer 0.5ml IV/IO every 2 minutes to maintain SBP > 90 and HR > 60



# Protocol 11

## ADULT VENTRICULAR FIBRILLATION / PULSELESS VENTRICULAR TACHYCARDIA

B	EMT	B
I	EMT-I	I
P	Paramedic	P

Refer to **ADULT CARDIAC ARREST PROTOCOL #6** ◆

CABs  
Perform CPR until defibrillator attached

**I** VF/VT present on monitor: Give 1 shock **P**  
Resume CPR Immediately

**Continue CPR - Minimize any interruptions throughout resuscitation**

Refer to **ADULT AIRWAY PROTOCOL #85** ◆ as indicated

**I** IV/IO NS without interrupting CPR **P**

Perform 2 minutes of CPR at 100-120/min  
Check Rhythm  
Shockable rhythm?

**I** Continue CPR while Defibrillator is charging **P**  
Give 1 shock  
Resume CPR immediately after shock  
**EPINEPHRINE (1mg/10ml) 1mg IV/IO**  
Repeat every 3-5 minutes as long as rhythm persists

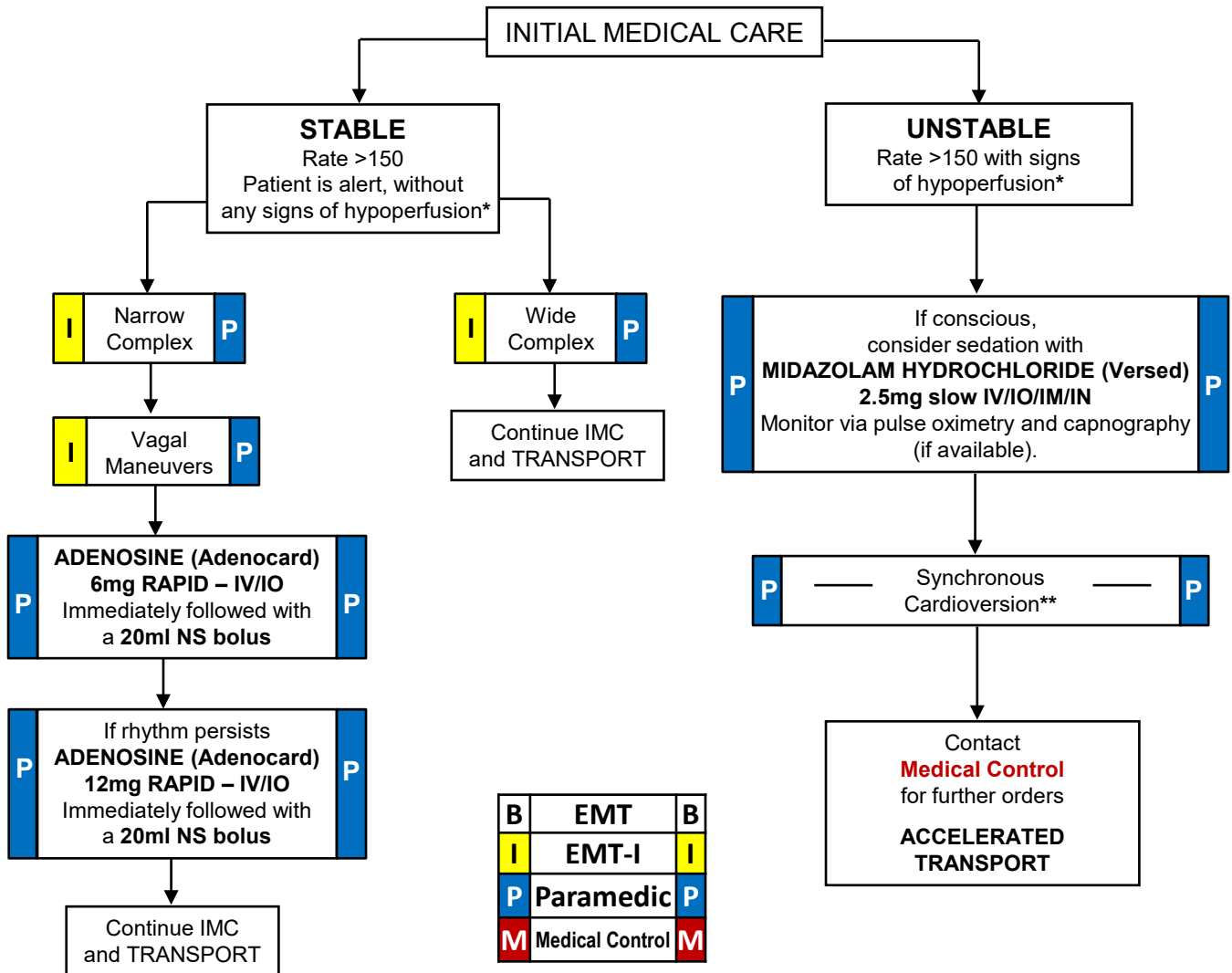
Perform 2 minutes of CPR  
Check rhythm  
Shockable rhythm?

**I** Continue CPR while Defibrillator is charging **P**  
Give 1 shock  
Resume CPR immediately after shock  
**Give antiarrhythmics during CPR**  
**AMIODARONE 300mg IV/IO bolus**  
Second dose (if needed) 150mg IV/IO

TRANSPORT

# Protocol 12

## ADULT TACHYCARDIAS (WITH PULSE)



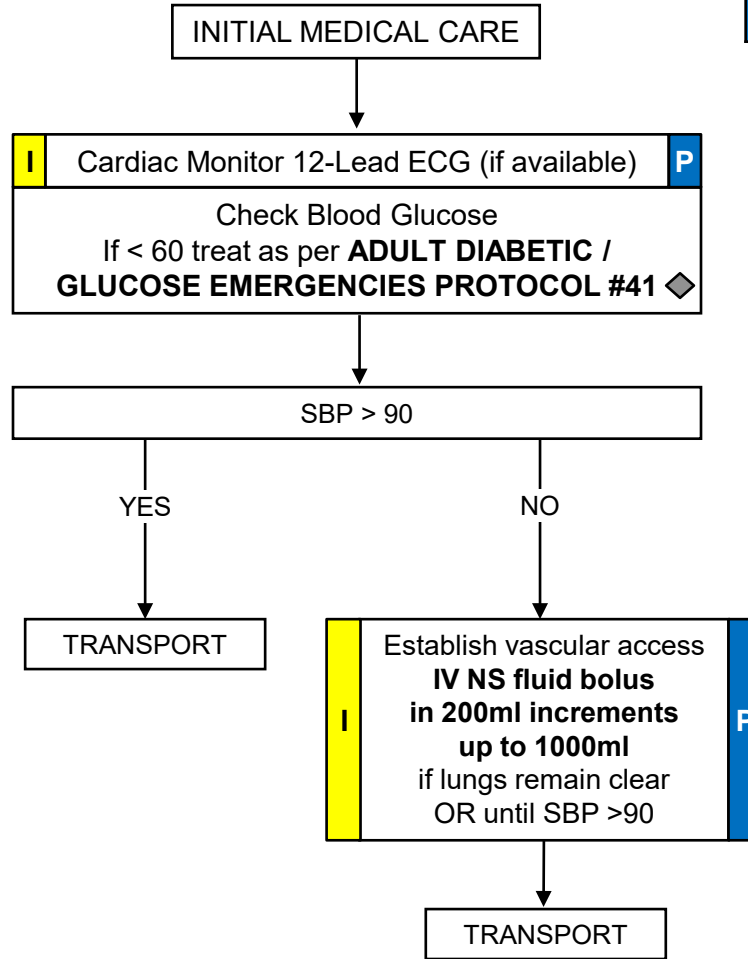
**NOTE TO PREHOSPITAL PROVIDERS:**

- \*Signs of hypoperfusion: severe CP, severe SOB, SBP < 90, diaphoresis, altered mental status.
- ADENOSINE (Adenocard)** should always be administered RAPID IV and immediately followed with a **20ml NS bolus**. Antecubital vein is preferred site to administer **ADENOSINE (Adenocard)**.
- Always record rhythm strip and deliver to physician caring for patient.
- Wide Complex = QRS > 0.12 sec. (3 small boxes)  
Narrow Complex = QRS < 0.12 sec.
- Sinus Tachycardia should be treated appropriately.
- If **MIDAZOLAM HYDROCHLORIDE (Versed)** is administered for sedation, monitor via pulse oximetry and capnography (if available).
- \*\*Do not delay synchronous cardioversion while awaiting IV access.

# Protocol 13

## ADULT SYNCOPED / PRE-SYNCOPE

B	EMT	B
I	EMT-I	I
P	Paramedic	P



# Protocol 14

## ADULT PULSELESS ELECTRICAL ACTIVITY (PEA) /ASYSTOLE

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

Refer to **ADULT CARDIAC ARREST PROTOCOL #6** ♦

PULSELESS ARREST  
CABs

Perform CPR and attach Cardiac Monitor  
PEA/Asystole present on monitor

**Continue CPR - Minimize any interruptions throughout resuscitation**

Refer to **ADULT AIRWAY PROTOCOL #85** ♦ as indicated.

**IV/IO NS** without interrupting CPR

Resume CPR immediately for 2 minutes

Establish IV/IO

**EPINEPHRINE (1mg/10ml) 1mg IV/IO**  
Repeat every 3 to 5 minutes as long as rhythm persists.

**Not Shockable**

Continue CPR

Perform 2 minutes of CPR  
Check rhythm  
Shockable rhythm?

**Shockable**

**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  
Hyperkalemia ----- **200ml IV NS fluid bolus** and  
Consider **CALCIUM GLUCONATE 1g**  
Hypokalemia ----- **200ml IV NS fluid bolus**  
Toxins ----- **200ml IV NS fluid bolus** and consider 2mg  
**NALOXONE** for suspected Opioid overdose  
Tamponade, cardiac ----- **200ml IV NS fluid bolus**  
Tension Pneumothorax ----- Pleural Decompression  
Thrombosis/Pulmonary Embolism -- Rapid **TRANSPORT 100% OXYGEN**  
Trauma ----- Follow appropriate protocol

Go to **ADULT VENTRICULAR FIBRILLATION – PULSELESS VENTRICULAR TACHYCARDIA PROTOCOL #11** ♦

**Consider TERMINATION OF RESUSCITATION PROTOCOL #9** ♦

CRITERIA MET

Contact **Medical Control Physician**

CRITERIA NOT MET

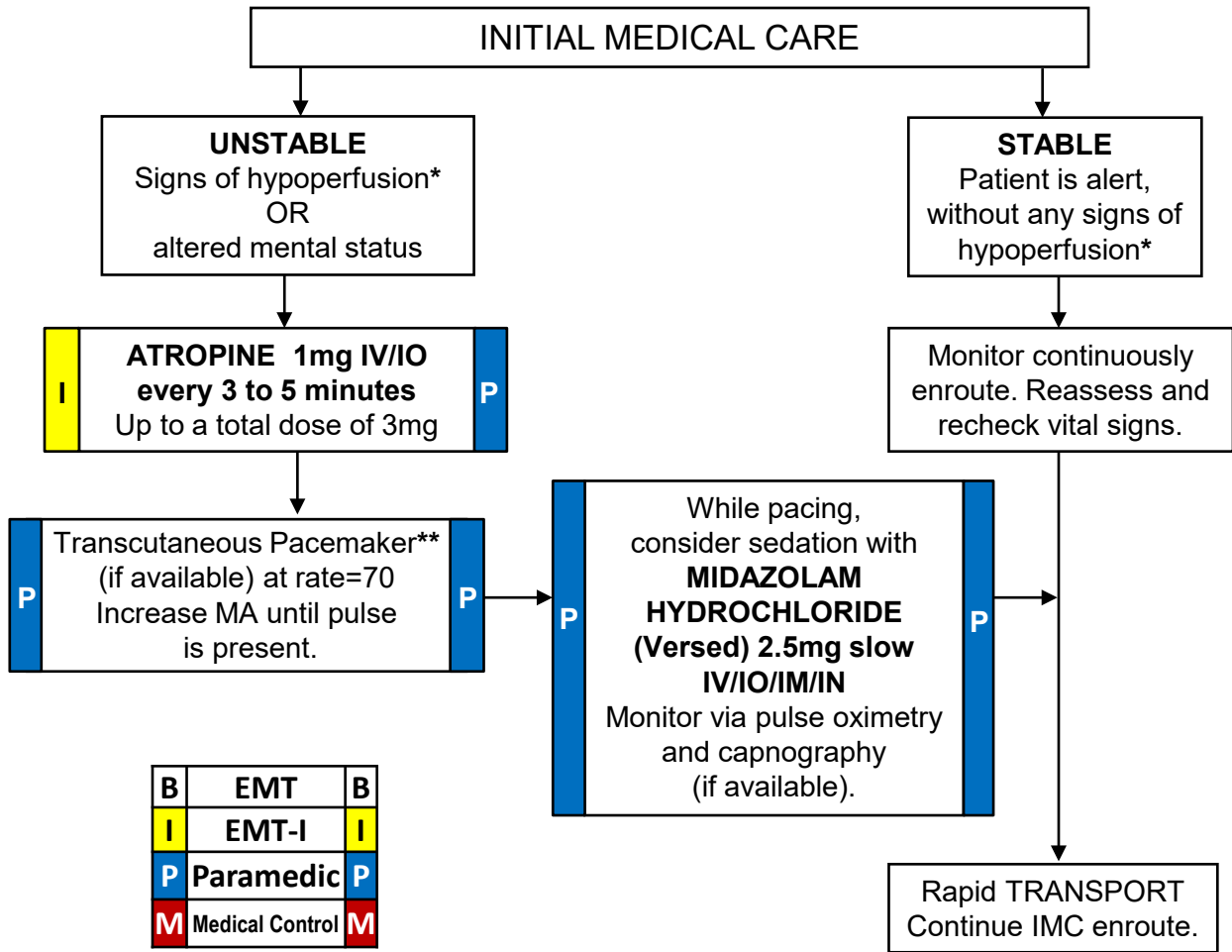
**TRANSPORT**

**M AT DISCRETION OF MEDICAL CONTROL: SODIUM BICARBONATE at 50meq IV/IO**

For a pediatric patient refer to **PEDIATRIC CARDIAC ARREST PROTOCOL #62** ♦

# Protocol 15

## ADULT BRADYCARDIA (PULSE < 60)



B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

**NOTE TO PREHOSPITAL PROVIDERS:**

- \*Signs of hypoperfusion include: severe chest pain, severe SOB, SBP <90, diaphoresis.
- If Transcutaneous Pacer not available, **Medical Control** may order **PUSH DOSE EPINEPHRINE**.
- \*\*Do not delay Transcutaneous Pacer while awaiting IV access OR for **ATROPINE** to take effect if patient is symptomatic.
- If **MIDAZOLAM HYDROCHLORIDE** (Versed) is administered for sedation, monitor via pulse oximetry and capnography (if available).

**AT DISCRETION OF MEDICAL CONTROL:**  
**For prolonged geographical transport consider PUSH DOSE EPINEPHRINE:**  
 Label the syringe as **PUSH DOSE EPINEPHRINE (100mcg/10ml)**  
 Mixing Instructions:  
 Take a 10ml syringe with 9ml of normal saline. Into this syringe, draw up 1 ml of **EPINEPHRINE (1mg/10ml)** from the cardiac amp.  
 Administer **0.5ml IV/IO every 2 minutes to maintain SBP > 90 and HR > 60**

# Protocol 16

## ADULT SUSPECTED CARDIAC PATIENT

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

INITIAL MEDICAL CARE  
**I** Perform 12-Lead ECG and transmit (if available) **P**

**SBP <90mmHg**

**SBP 90-110mmHg**

**SBP >110mmHg**

**ASPIRIN 81mg  
 CHEWABLE TAB PO x 4**  
 unless contraindicated\*  
 Max total dose 324mg

**ASPIRIN 81mg  
 CHEWABLE TAB PO x 4**  
 unless contraindicated\*  
 Max total dose 324mg

**ASPIRIN 81mg  
 CHEWABLE TAB PO x 4**  
 unless contraindicated\*  
 Max total dose 324mg

Refer to appropriate protocol

TRANSPORT

May assist with administration of patient's NITRO  
**I** **NITROGLYCERIN\*\* 0.4mg tab OR spray** **P**  
**SL** May repeat every 5 minutes up to 3 total doses  
 (If no IV, consider contact with **Medical Control** prior to administration)

Repeat vital signs

Consider  
**FENTANYL 50mcg IV/IO/IM/IN**  
 May repeat every 5 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  
**P** Monitor and Reassess every 5 minutes following narcotic dose. Hold further doses of opioids if any respiratory depression or AMS. Apply capnography if available. **P**

Repeat vital signs

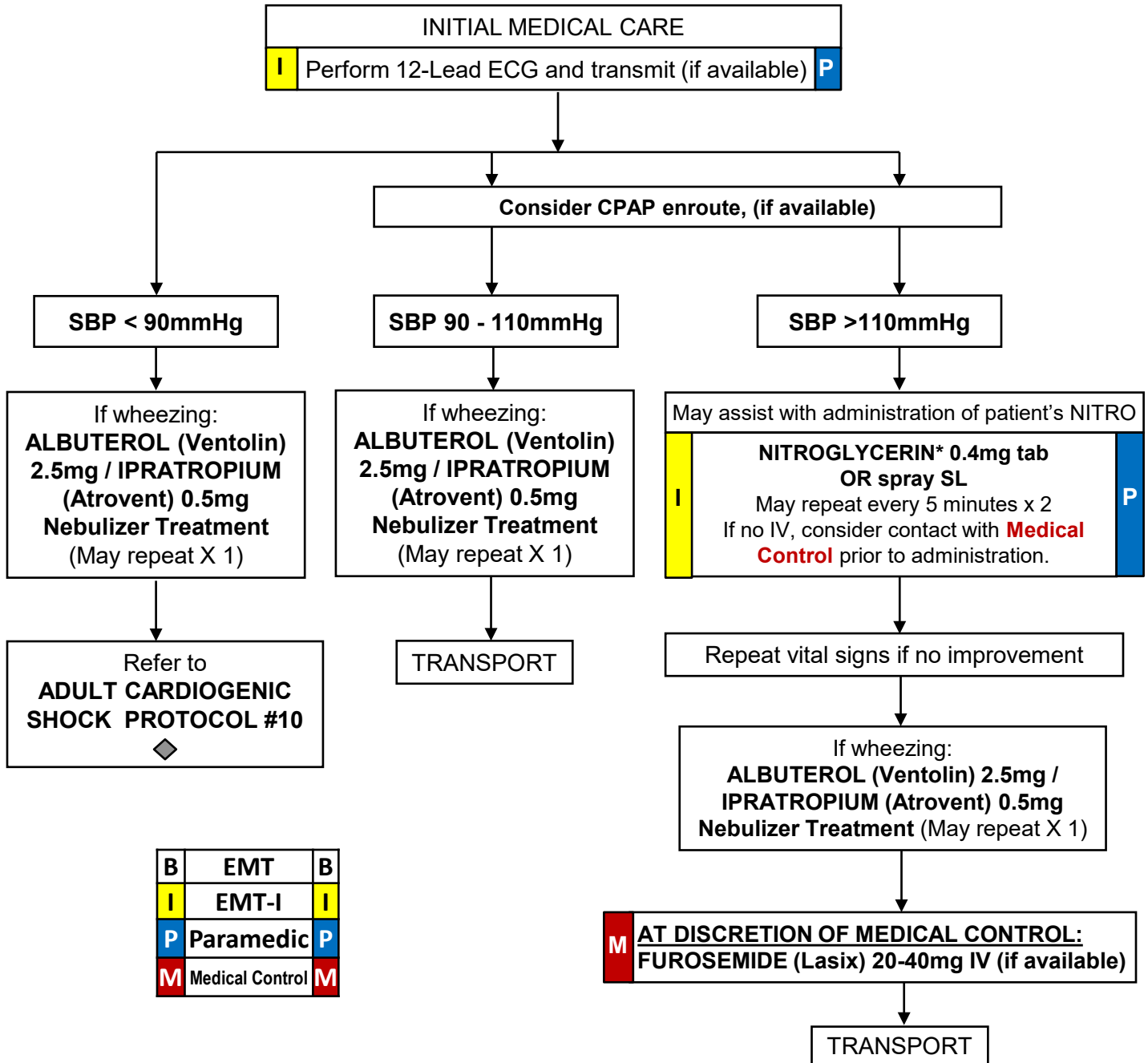
TRANSPORT

- Consider 12-Lead ECG for complaints of:**  
 (may be deferred if patient is unstable)
- Chest pain/Discomfort/Pressure
  - Arm Pain (non-traumatic)
  - Jaw Pain (non-traumatic)
  - Upper back pain (non-traumatic)
  - Unexplained diaphoresis
  - Vomiting without fever or diarrhea
  - Shortness of breath
  - Dizziness/syncope
  - Epigastric pain
  - Fall in the elderly (unexplained)
  - Weakness/Fatigue
  - Bradycardia or Tachycardia

- NOTE TO PREHOSPITAL PROVIDERS:**
1. If adverse response to **MORPHINE SULFATE** consider **NALOXONE** (Narcan).
  2. For prolonged geographical transport, consider Right-side 12-Lead (if available).
  3. \*Contraindications to **ASPIRIN** would include **ASPIRIN** 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, etc.).

# Protocol 17

## ADULT PULMONARY EDEMA DUE TO HEART FAILURE



B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

**NOTE TO PREHOSPITAL PROVIDERS:**  
 \*Contact **Medical Control** prior to administration of **NITRATES** if patient is taking erectile dysfunction medications ( i.e. Viagra, Levitra, Cialis, etc.).

# Protocol 18

## VENTRICULAR ASSIST DEVICES (VAD/LVAD)

B	EMT	B
I	EMT-I	I
P	Paramedic	P

INITIAL MEDICAL CARE

- Treat non-VAD related conditions per usual protocol.
- **TRANSPORT TO HOSPITAL WHERE VAD WAS PLACED IF AT ALL POSSIBLE.**
- Initiate contact with VAD implanting center, but do not delay treatment or transport while awaiting response.

Signs or Symptoms of poor perfusion?

YES

NO

Evaluate device:

- Alarms
- Mechanical pump sound
- Assess connections (batteries and driveline)

Is LVAD functioning?

NO

YES

- Ensure driveline and power source are connected and attempt to make connection if not
- Further guidance per Center that implanted device

Device restarted?

YES

NO

If patient unresponsive, perform chest compressions and refer to **ADULT CARDIAC ARREST PROTOCOL # 6** ♦

- Treat other conditions per appropriate protocol including symptomatic dysrhythmias ♦
- Establish an IV
- Obtain 12 lead ECG
- TRANSPORT

MAP > 50mm Hg  
and/or ETCO2 > 20mm Hg?

NO

YES

- Treat other conditions per appropriate protocol including symptomatic dysrhythmias ♦
- Establish an IV
- Obtain 12 lead ECG
- TRANSPORT

### NOTE TO PREHOSPITAL PROVIDERS:

If **defibrillation or cardioversion** is indicated, place defibrillator pads away from LVAD and AICD/Pacemaker




# Protocol 19

## FIELD TRIAGE PROTOCOLS

- 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  $\leq$  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:  $\leq$  90 systolic  
 Peds: 0 – 5 mos of age: Sys BP < 60 mmHg  
 6 mos – 5 yrs: Sys BP < 70 mmHg, HR < 70  
 $\geq$  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  $\leq$  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  $\geq$  20%TBSA burn.
- 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.
- Older Adults: Risk of injury/death increases after age 55, SBP <110 may represent shock after age 65, Low impact mechanisms (e.g. ground level falls) may result in severe injury
- Anticoagulants and bleeding disorders: Patients with head injury are at a high risk for rapid deterioration

### 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 > 20 weeks.

B	EMT	B
I	EMT-I	I
P	Paramedic	P

# Protocol 20

## REVISED TRAUMA SCORE/GLASGOW COMA SCALE

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.

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

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) PRESSURE
  - 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 examiners 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 PRESSURE
  - 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.

# Protocol 21

## ROUTINE TRAUMA CARE PAGE 1 OF 2

B	EMT	B
I	EMT-I	I
P	Paramedic	P

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 spinal motion restriction as indicated prior to transport (Refer to **SPINE INJURY PROTOCOL #23**) ◆
3. CIRCULATION (Refer to the **ADULT HEMORRHAGIC SHOCK PROTOCOL #22** or the **PEDIATRIC SHOCK PROTOCOL # 68**) ◆
  - Life threatening hemorrhage - STOP THE BLEEDING.  
For uncontrolled hemorrhage, use a tourniquet when needed or consider a hemostatic dressing (if available).
  - 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 # 66**) ◆
  - 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

# Protocol 21

## ROUTINE TRAUMA CARE PAGE 2 OF 2

B	EMT	B
I	EMT-I	I
P	Paramedic	P

### 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, loosen tight clothing, and keep patient warm.
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.

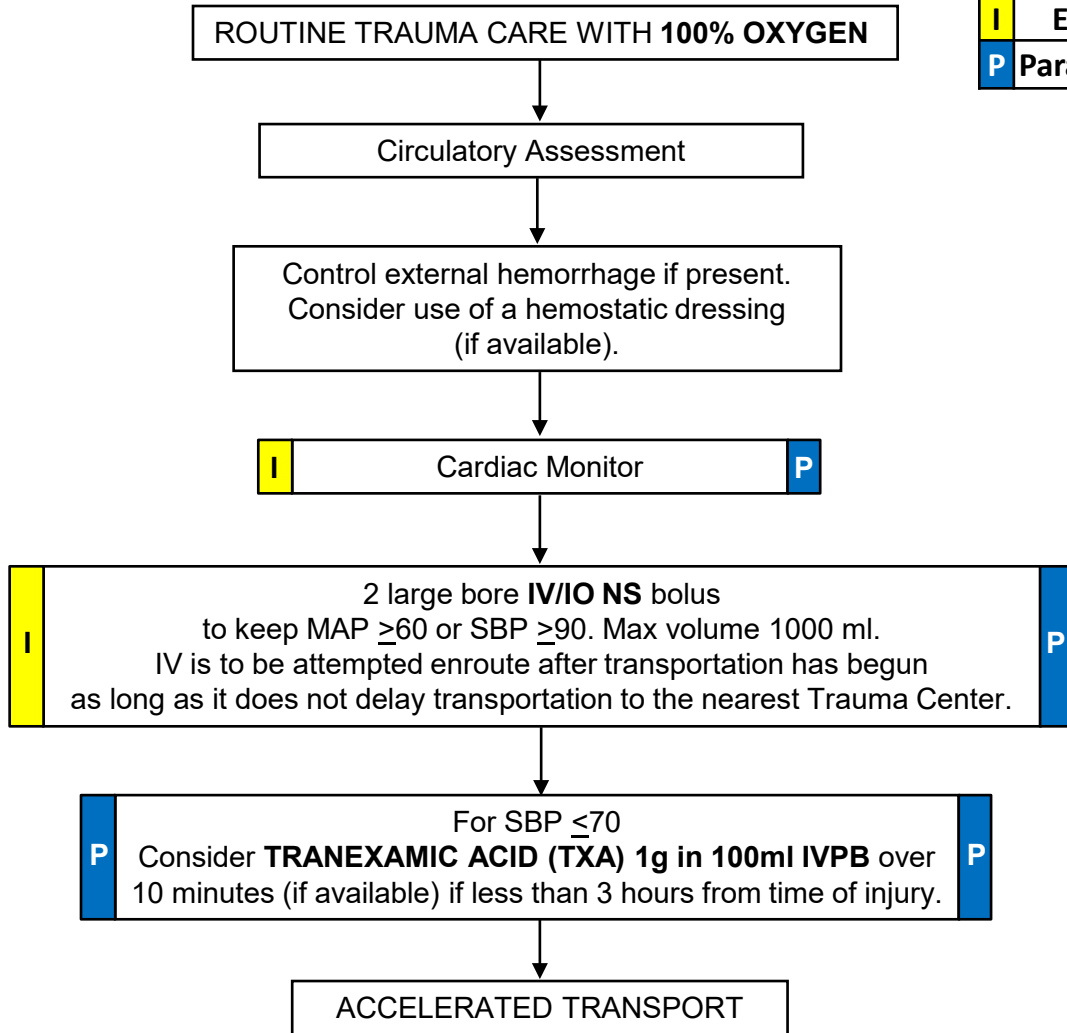
### OUTLINE FOR RADIO REPORT (Transmit using as few words as possible)

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. Name and vehicle number of provider</li> <li>2. Requested destination, closest hospital, and estimated time of arrival</li> <li>3. Age, sex, and approximate weight of patient</li> <li>4. Chief Complaint, to include symptoms and degree of distress</li> <li>5. History of present illness/injury</li> </ol> | <ol style="list-style-type: none"> <li>6. Pertinent Medical History:                     <ul style="list-style-type: none"> <li>- Allergies</li> <li>- Medications</li> <li>- Past History of Current Illness</li> <li>- Last Meal</li> <li>- Events surrounding incident</li> </ul> </li> <li>7. Clinical condition:                     <ul style="list-style-type: none"> <li>- Focused and detailed patient assessment findings</li> </ul> </li> <li>8. Treatment initiated and Response</li> </ol> |
|---|---|

# Protocol 22

## ADULT HEMORRHAGIC SHOCK

B	EMT	B
I	EMT-I	I
P	Paramedic	P

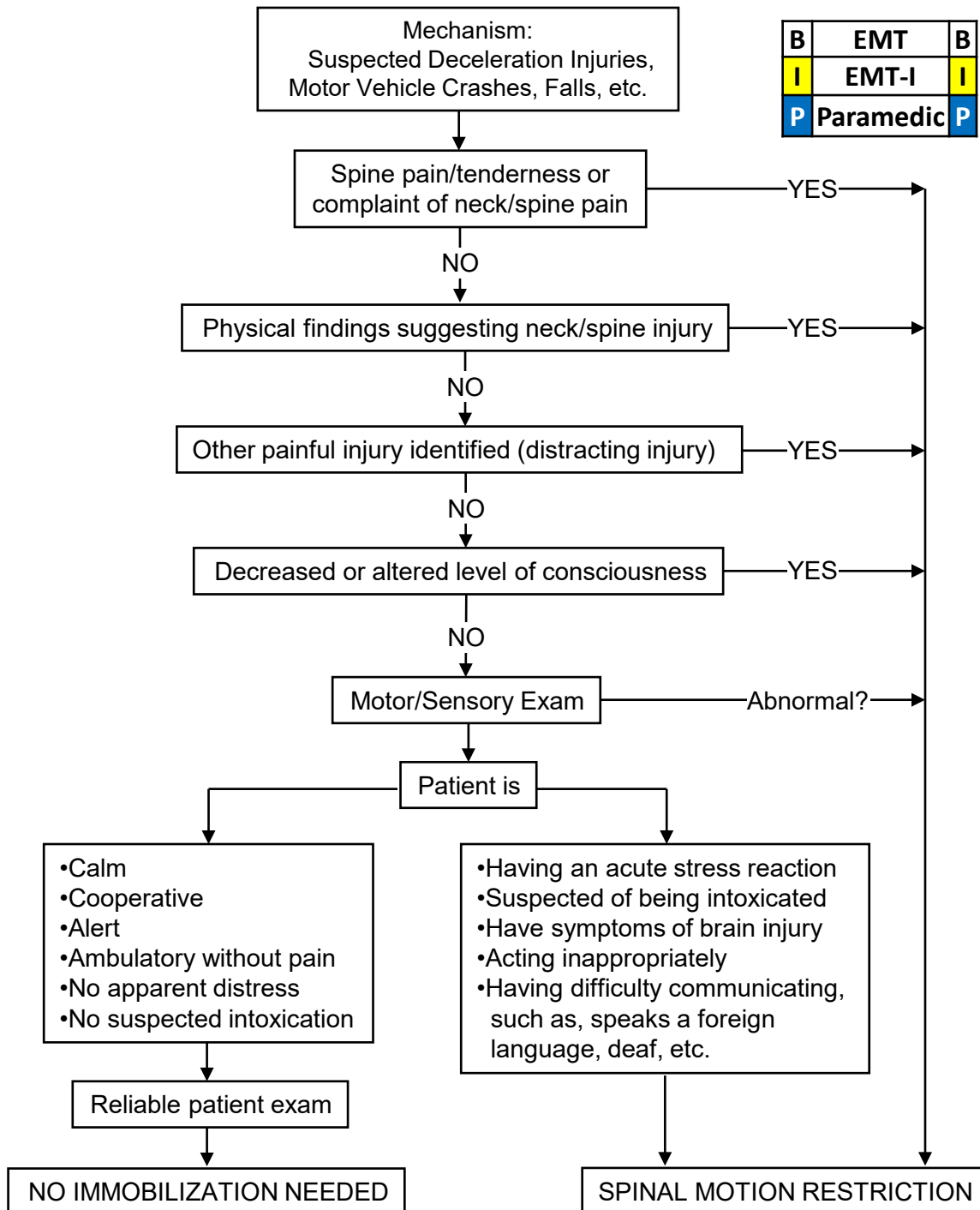


**NOTE TO PREHOSPITAL PROVIDERS:**  
Consider pelvic binding for patients with suspected pelvic fracture and unstable vital signs.

# Protocol 23

## SPINE INJURY

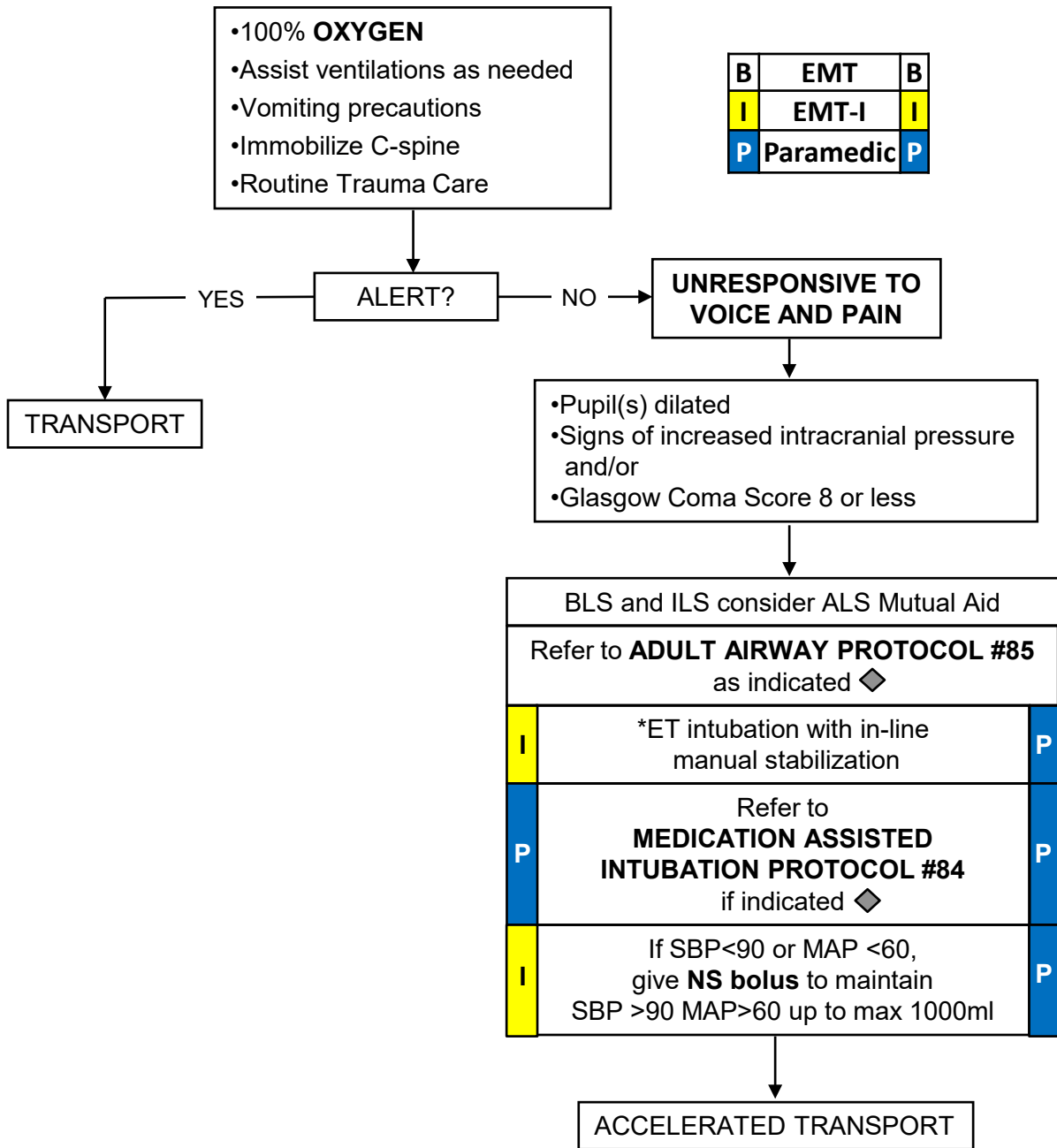
B	EMT	B
I	EMT-I	I
P	Paramedic	P



**NOTE TO PREHOSPITAL PROVIDERS:**  
**SPINAL MOTION RESTRICTION** includes placement of cervical collar and securing patient supine on stretcher. Long board use should be reserved for **patients in whom a reliable exam cannot be obtained**, multiple long bone fractures, or other injury in which transportation would be difficult or delayed without use of long board.

# Protocol 24

## HEAD TRAUMA/UNCONSCIOUS PATIENT



**NOTE TO PREHOSPITAL PROVIDERS:**

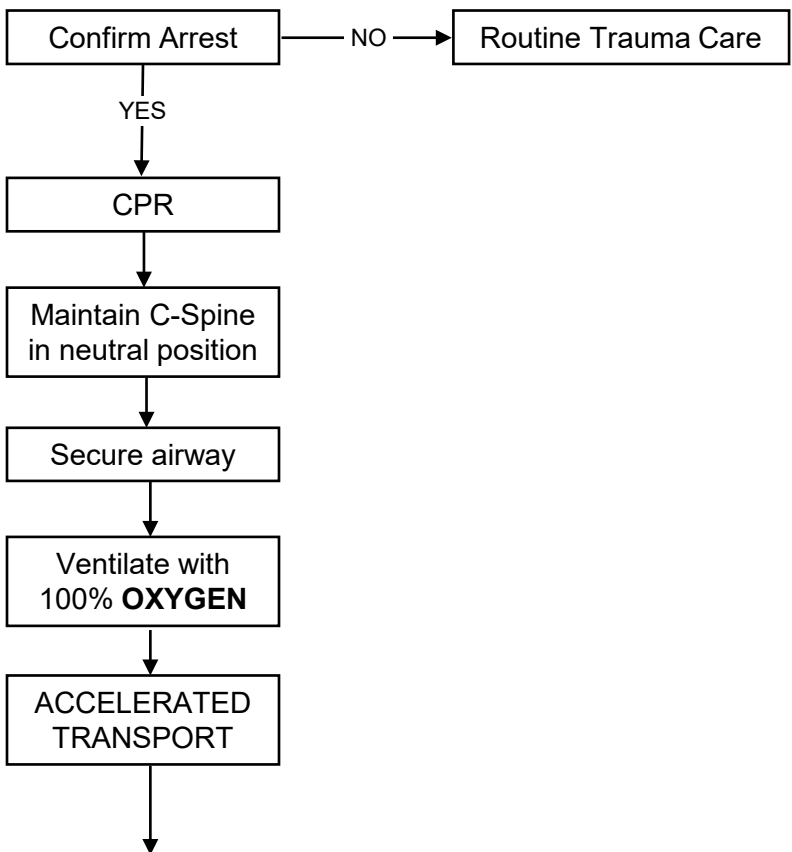
\*Do not delay transport time with multiple intubation attempts

\*\*For signs of increased ICP such as unequal or fixed pupils, posturing, Cushing’s response (hypertension/bradycardia), abnormal respiratory pattern, ventilate to goal ETCO<sub>2</sub> of 30-40 or if not available, 20 breaths per minute.

# Protocol 25

## TRAUMATIC CARDIOPULMONARY ARREST

B	EMT	B
I	EMT-I	I
P	Paramedic	P



I	<p>2 large bore <b>IV/IO NS bolus</b> to keep MAP <math>\geq 60</math> or SBP <math>\geq 90</math>. Max 1000 ml. IV is to be attempted enroute after transportation has begun as long as it does not delay transportation to the nearest Trauma Center.</p>	P
---	---	---

**NOTE TO PREHOSPITAL PROVIDERS:**

- If IV/IO attempt is unsuccessful, refer to **APPROPRIATE DYSRHYTHMIA PROTOCOL.** ♦  
**Reminder: Defibrillation does not require an IV.**
- Consider bilateral chest decompression in Blunt Trauma.



## Protocol 26

# ACCELERATED TRANSPORT “CODE 26”

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

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.

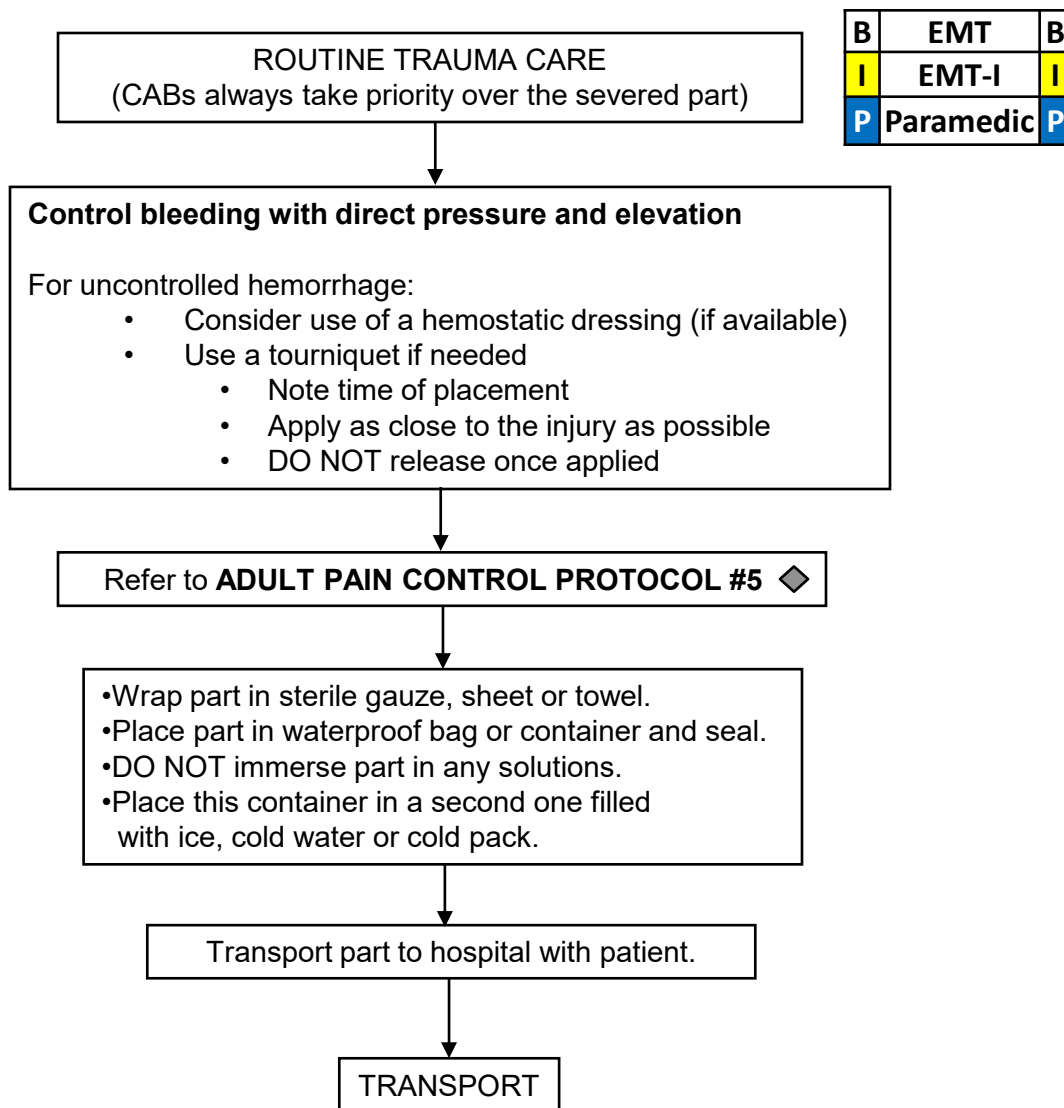
Notify the receiving hospital of the situation so that preparations can be made.

Primary resuscitative measures must be initiated.

Establish contact with **Medical Control** as soon as possible.

# Protocol 27

## ADULT ISOLATED EXTREMITY INJURY AND/OR AMPUTATED AND AVULSED PARTS



**NOTE TO PREHOSPITAL PROVIDER:**

Consider **FENTANYL 50mcg IV/IO/IM/IN** May repeat every 5 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**

**NITROUS OXIDE (if available)**

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

# Protocol 28

## ADULT CRUSH INJURY

B	EMT	B
I	EMT-I	I
P	Paramedic	P

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)**

**I** MAINTAIN AIRWAY AS NEEDED **P**  
 Cardiac Monitor as soon as possible

**P** Consider **FENTANYL 50mcg IV/IO/IM/IN** **P**  
 May repeat every 5 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  
 As needed for pain  
 (May refer to appropriate **ADULT PAIN CONTROL PROTOCOL #5**) ♦  
 (Do not administer if respiratory depression, bradycardia or hypotension SBP <90)  
 Monitor and Reassess every 5 minutes following narcotic dose. Hold further doses of opioids if any respiratory depression or AMS. Apply capnography if available.

**I** PRIOR TO RELEASE OF COMPRESSION, **P**  
 INITIATE **IV NS 1000ml bolus**  
**ALBUTEROL (Ventolin) 5mg** via nebulization

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

YES

NO

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

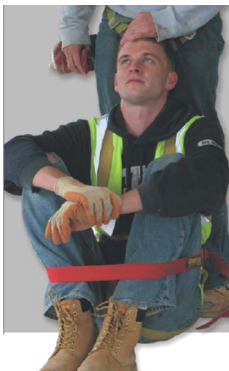
**TRANSPORT**

**I** **NOTE TO PREHOSPITAL PROVIDERS:** **P**  
 Consider hypoglycemia and need for **50% DEXTROSE IV/IO.**

# Protocol 29

## ADULT SUSPENSION TRAUMA

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.



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

B	EMT	B
I	EMT-I	I
P	Paramedic	P

INITIAL MEDICAL CARE

W-position  
 MAINTAIN 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 NS 1000ml bolus  
 ALBUTEROL (Ventolin) 5mg via Nebulization

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

YES

NO

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

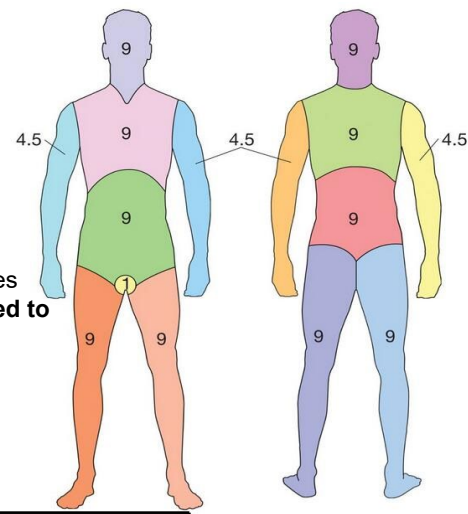
TRANSPORT  
 Transport patient, in sitting position, to nearest hospital unless in arrest

**NOTE TO PREHOSPITAL PROVIDERS:**  
 Consider hypoglycemia and need for 50% DEXTROSE IV/IO.

**TRAUMA**

**Protocol 30**

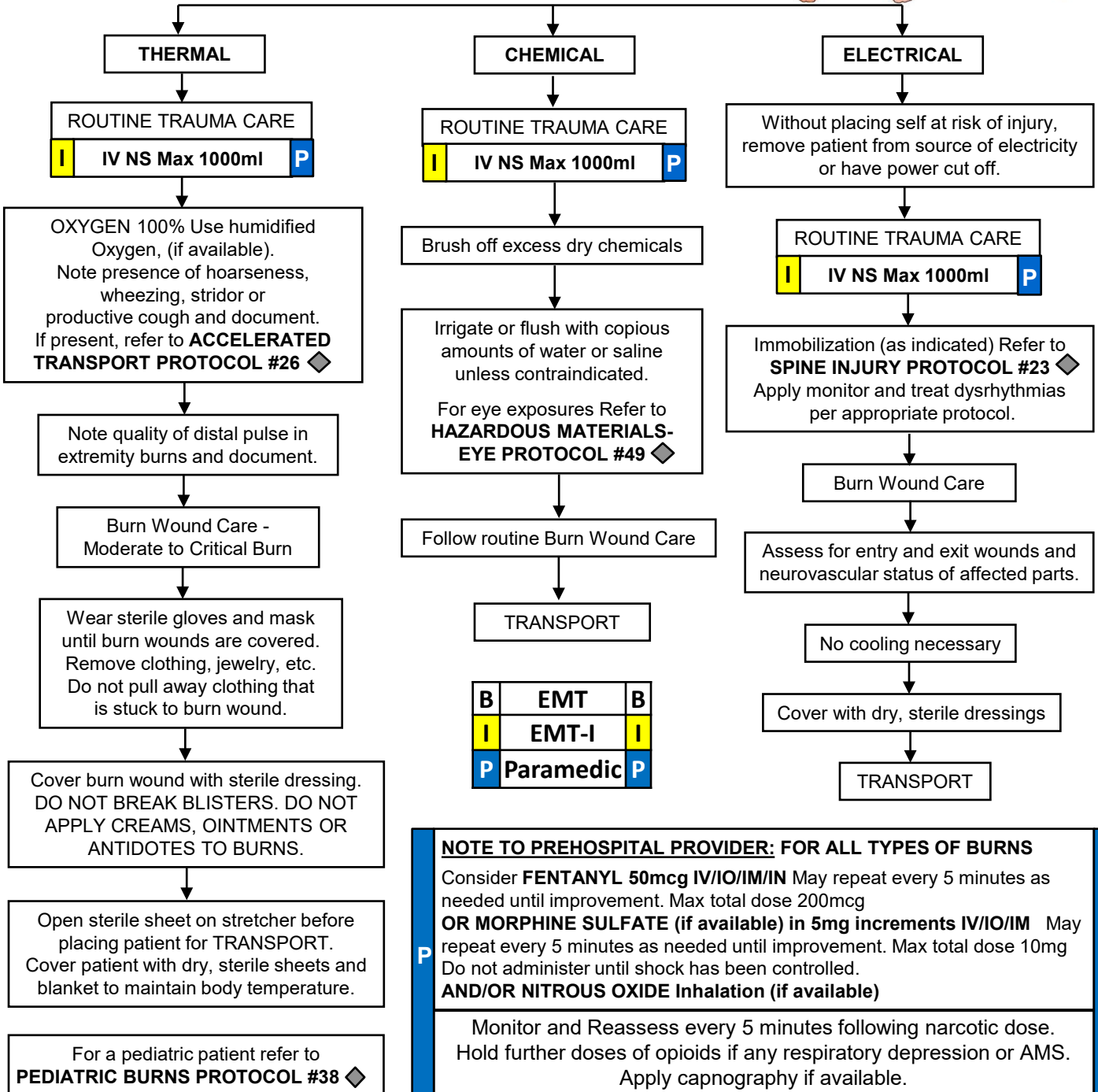
**ADULT BURNS**



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**

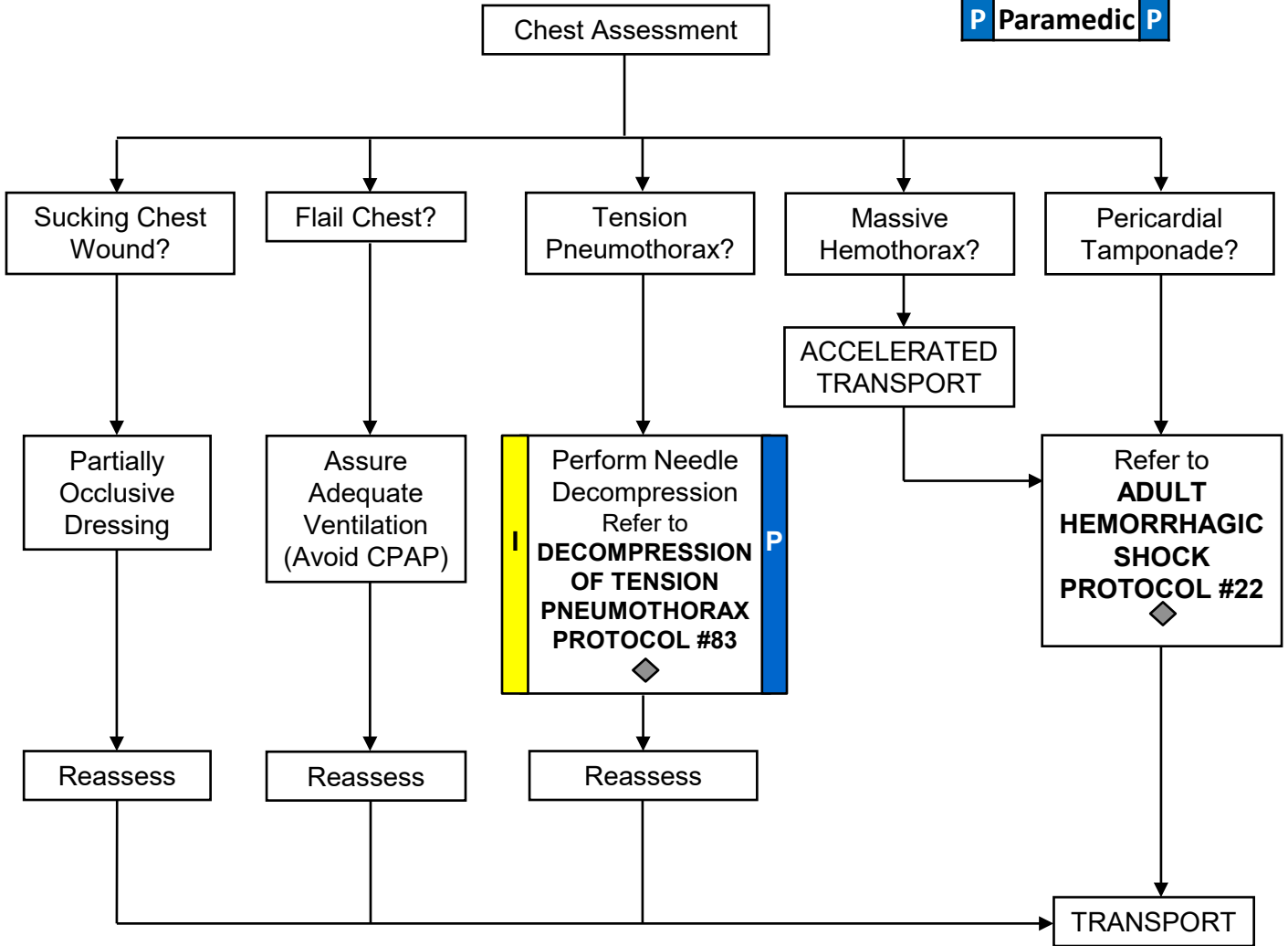
- Total body surface area: use rule of 9s or estimate using patient's palmar surface as 1%
- Depth of burn: partial or full thickness, consider exposure to products of combustion and treat as soon as possible.



# Protocol 31

## CHEST TRAUMA

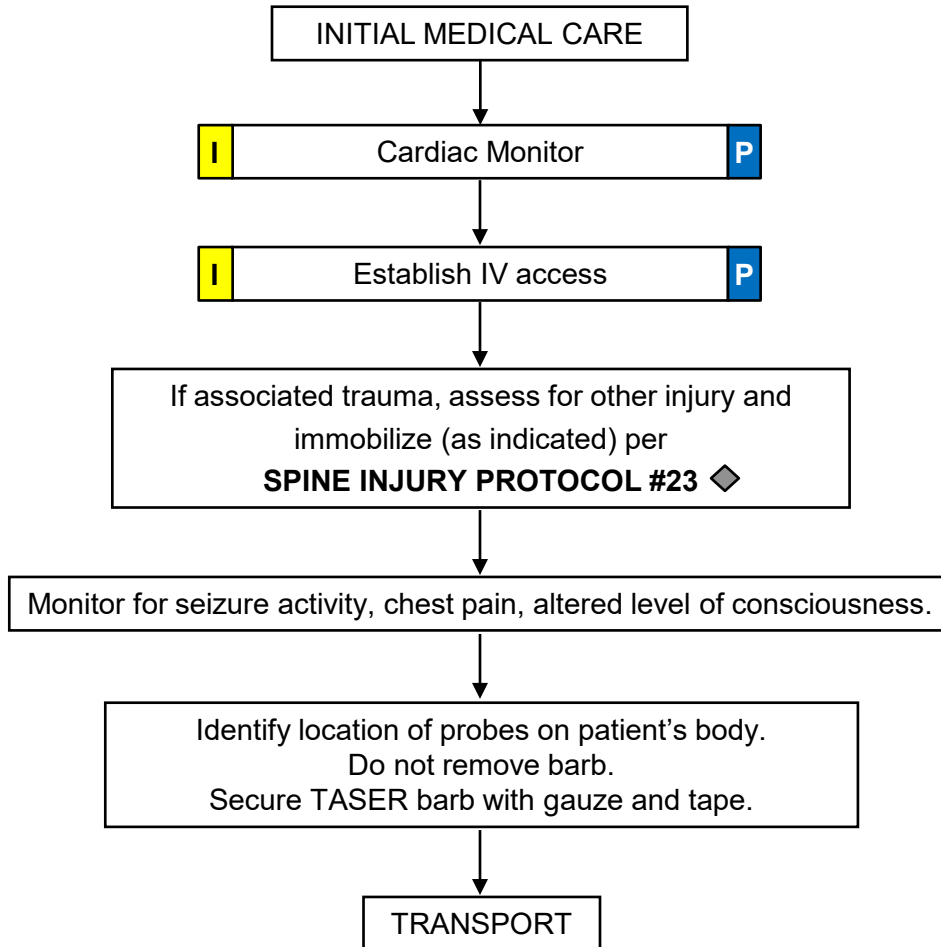
B	EMT	B
I	EMT-I	I
P	Paramedic	P



# Protocol 32

## TASER INJURY

B	EMT	B
I	EMT-I	I
P	Paramedic	P



# Protocol 33

## BLAST INJURIES

B	EMT	B
I	EMT-I	I
P	Paramedic	P

ROUTINE TRAUMA CARE

Injury caused by multiple modalities: Burn, Blunt Penetrating Trauma, Barotrauma, Toxic Exposure

- Identify Nature of Device: Agent/Amount. Industrial Explosion. Improvised Device. Terrorist Incident.
- Identify Method of Delivery: Incendiary, Explosive
- Nature of Environment: Open/Closed

Treat **Burns** per **ADULT BURNS PROTOCOL #30** ◆

Treat **Crush Injury** per **ADULT CRUSH INJURY PROTOCOL #28** ◆

Treat **Head Injury** per **HEAD TRAUMA/UNCONSCIOUS PATIENT PROTOCOL #24** ◆

Treat **Hazardous Material Exposures** per **HAZARDOUS MATERIALS-GENERAL PROTOCOL #48** ◆

I
 If signs or symptoms of tension pneumothorax **Needle Decompression** per **DECOMPRESSION OF TENSION PNEUMOTHORAX PROTOCOL #83** ◆
 P

TRANSPORT

**NOTE TO PREHOSPITAL PROVIDERS:**  
 Note about Blast Lung Injury: Respiratory difficulty and Hypoxia more likely in enclosed space or in close proximity to explosion. Be careful with fluid administration. Avoid hyperventilation.

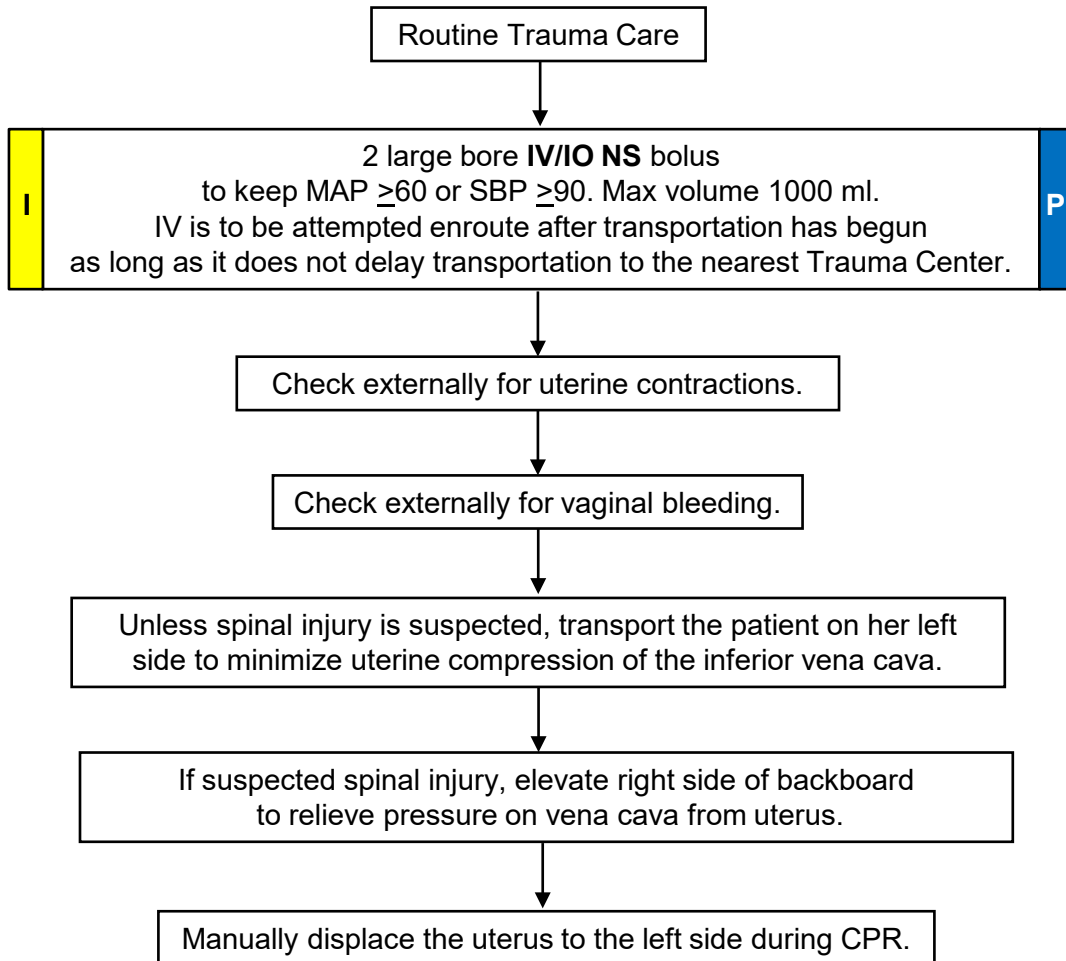


# Protocol 34

## TRAUMA IN PREGNANCY

B	EMT	B
I	EMT-I	I
P	Paramedic	P

### Principles of Management



# Protocol 35

## INITIAL MANAGEMENT OF THE PEDIATRIC TRAUMA PATIENT

- Assess CABs
- Administer 100% **OXYGEN**
- Immobilize (as indicated) Refer to **SPINE INJURY PROTOCOL #23** ♦
- Complete initial assessment, including \**Pediatric Trauma Score*
- Keep warm

**I** •Cardiac Monitor **P**

<b>B</b>	<b>EMT</b>	<b>B</b>
<b>I</b>	<b>EMT-I</b>	<b>I</b>
<b>P</b>	<b>Paramedic</b>	<b>P</b>

Refer to **PEDIATRIC HEAD TRAUMA ADDENDUM PROTOCOL #35a** ♦ as indicated.

Ventilation, respiratory effort adequate

Inadequate ventilation, respiratory effort

Control hemorrhage  
Use tourniquet, if indicated

- Jaw thrust
- Relieve upper airway obstruction as indicated
- Assist ventilation with BVM as indicated
- Secure airway as appropriate
- Monitor via pulse oximetry and capnography (if available)

Establish **IV/IO NS**

**Fluid bolus at 20ml/kg until BP appropriate for age.**  
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

Repeat **IV fluid bolus at 20ml/kg until BP appropriate for age** or max of 60ml/kg

Normal perfusion

Hypoperfusion

Splint/immobilize fracture(s) as indicated

Refer to **PEDIATRIC SHOCK PROTOCOL #68** ♦  
OR  
**PEDIATRIC CARDIAC ARREST PROTOCOL #62** ♦  
as indicated

- Support CABs
- Keep warm
- Observe
- TRANSPORT

**NOTE TO PREHOSPITAL PROVIDERS:**

\* Refer to **PEDIATRIC ASSESSMENT AND TRAUMA SCORE PROTOCOL #37** ♦

# Protocol 35a

## PEDIATRIC HEAD TRAUMA ADDENDUM

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

INITIAL MEDICAL CARE

- Maintain supine position
- Immobilize (as indicated) per **SPINE INJURY PROTOCOL #23** ♦
- Assess Pediatric Glasgow Coma Scale/Glasgow Coma Scale (PGCS/GCS)
- Administer OXYGEN
- Monitor via pulse oximetry and capnography (if available)
- Contact **Medical Control**

PGCS/GCS 13-15 (Mild)

PGCS/GCS 9-12 (Moderate)

PGCS/GCS ≤8 (Severe)

- Control hemorrhage
- Reassess PGCS/GCS
- Observe
- TRANSPORT

- Support ventilation with bag mask as indicated\*
- Control hemorrhage
- Reassess PGCS/GCS
- Observe
- TRANSPORT

- |   |  |   |
|---|--|---|
| I | <ul style="list-style-type: none"> <li>•Support ventilation with bag mask</li> <li>•Provide hyperventilation only for impending herniation (non-reactive/unequal pupils or posturing)*</li> <li>•Intubate orally as indicated</li> </ul> | P |
| P | <ul style="list-style-type: none"> <li>•Control hemorrhage</li> <li>•Reassess PGCS/GCS</li> <li>•Observe</li> <li>•Refer to <b>PEDIATRIC SEIZURES PROTOCOL # 70</b> ♦ as indicated</li> <li>•TRANSPORT</li> </ul>                        | P |

**Special Consideration:**

\*Consider performing hyperventilation **ONLY IF** suspected impending herniation (non-reactive/unequal pupils or posturing) and should be guided by capnography (if available). Aim for PaCO<sub>2</sub> of 35 when there is a perfusing rhythm).

PEDIATRIC GLASGOW COMA SCALE (PGCS)		GLASGOW COMA SCALE (GCS)	
	< 2 Years	> 2 Years	Score
<b>EYE OPENING</b>	Spontaneous	Spontaneous	4
	To speech	To speech	3
	To pain	To pain	2
	No response	No response	1
<b>VERBAL RESPONSE</b>	Coos, babbles, appropriate words	Oriented/appropriate words	5
	Irritable, cries but consolable	Confused	4
	Cries to pain, inconsolable	Inappropriate words/persistent cry	3
	Moans to pain	Incomprehensible sounds	2
	No response	No response	1
<b>MOTOR RESPONSE</b>	Normal spontaneous movements	Obeys commands	6
	Withdraws from touch	Localizes to pain	5
	Withdraws from pain	Withdraws from pain	4
	Abnormal flexion (decorticate)	Abnormal flexion (decorticate)	3
	Abnormal extension (decerebrate)	Abnormal extension (decerebrate)	2
	No response	No response	1
<b>TOTAL PGCS/GCS SCORE:</b>			<b>(3-15)</b>

# Protocol 36

## PEDIATRIC TRAUMA

B	EMT	B
I	EMT-I	I
P	Paramedic	P

**Routine Trauma Care**

1. Circulation
  1. Note variation of normal values

<b>I</b>	2. IV access more difficult <ul style="list-style-type: none"> <li>- Antecubital fossa ideal</li> <li>- May attempt external jugular</li> <li>- Intraosseous access if patient unconscious and not able to begin peripheral line</li> <li>- Do not delay transport to start IV</li> </ul>	<b>P</b>
3. Shock resuscitation <b>NS bolus at 20ml/kg until BP appropriate for age.</b> May repeat up to a max of 60ml/kg or 1000ml <b>NS.</b>		

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 #84** ♦ as indicated.)

**Treatment of Suspected Battered or Abused Child:**  
 (Refer to **SUSPECTED CHILD ABUSE AND NEGLECT PROTOCOL #76**) ♦

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.

# Protocol 37

## PEDIATRIC ASSESSMENT AND TRAUMA SCORE

- 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

B	EMT	B
I	EMT-I	I
P	Paramedic	P

Pediatric Vital Signs						
	Newborn	1 year	3 years	6 years	10 years	15 years
Pulse	100-160	90-120	80-120	70-110	60-90	60-90
Respirations	30-60	20-30	20-30	18-25	15-20	15-18
Systolic BP	50-90	80-100	80-110	80-110	90-120	100-130

Pediatric Trauma Score			
Component	+2	+1	-1
Size	Child/adolescent > 20kg	Toddler 11-20kg	Infant ≤10kg
Airway	Normal	Maintainable	Unmaintained or intubated
Systolic BP	>90mmHg	50-90mmHg	<50mmHg
CNS	Awake	Obtunded/Loss of Consciousness	Coma/Unresponsive
Skeletal Injury	None	Closed Fracture	Open/Multiple Fractures
Open Wounds	None	Minor	Major Penetrating

Score range is from -6 to +12. If a proper sized blood pressure cuff is not available, blood pressure can be rated as: +2 = palpable at wrist, +1 = palpable at groin, -1 = no pulse palpable

# Protocol 38

## PEDIATRIC BURNS: THERMAL, ELECTRICAL, CHEMICAL

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

- 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 #35** ◆
- Assess percentage/depth of burn
- Remove constricting jewelry and clothes.

Body Area	Age in Years			
	0-1	1-4	4-9	10-15
Head	19%	17%	13%	10%
Neck	2%	2%	2%	2%
Chest or Back (each)	13%	13%	13%	13%
Buttock (each)	2.5%	2.5%	2.5%	2.5%
Genitalia	1%	1%	1%	1%
Upper Arm (each)	4%	4%	4%	4%
Lower Arm (each)	3%	3%	3%	3%
Hand (each)	2.5%	2.5%	2.5%	2.5%
Thigh (each)	5.5%	6.5%	8.5%	8.5%
Lower leg (each)	5%	5%	5%	6%
Foot (each)	3.5%	3.5%	3.5%	3.5%

No Respiratory Compromise

Respiratory Compromise

Follow correct burn type path

- Support ventilation with BVM
- Secure airway as appropriate
- Refer to **PEDIATRIC RESPIRATORY DISTRESS PROTOCOL #66** ◆
- ACCELERATED TRANSPORT**

**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.

**I** •Establish IV/IO NS at TKO **P**

•Refer to **PEDIATRIC SHOCK PROTOCOL #68** as indicated ◆

**ELECTRICAL BURNS**

- Immobilize (as indicated) Refer to **SPINE INJURY PROTOCOL #23** ◆

**I** •Assess cardiac monitor for dysrhythmias and treat per appropriate protocol ◆ **P**

- Establish IV/IO NS at TKO

- Identify and document any entrance and exit wounds
- Assess neurovascular status of the affected part
- Cover wounds with dry sterile dressings

**CHEMICAL BURNS**

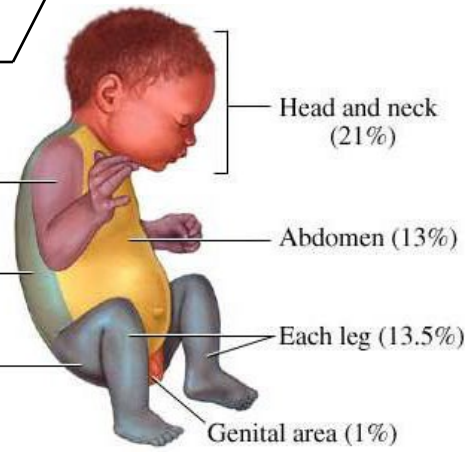
- Refer to **PEDIATRIC TOXIC EXPOSURE/ INGESTIONS PROTOCOL #72** ◆
- If powdered chemical, brush away excess
- Remove clothing if possible
- Rapid visual acuity
- If eye involvement, irrigate with saline or sterile water continuously.

**DO NOT CONTAMINATE THE UNINJURED EYE WITH IRRIGATION.**

- Irrigate area with copious amounts of sterile water or saline ASAP and during transport

**I** •Establish IV/IO NS at TKO **P**

- Support CABs
- Observe
- Keep warm
- TRANSPORT



**SPECIAL CONSIDERATIONS:**

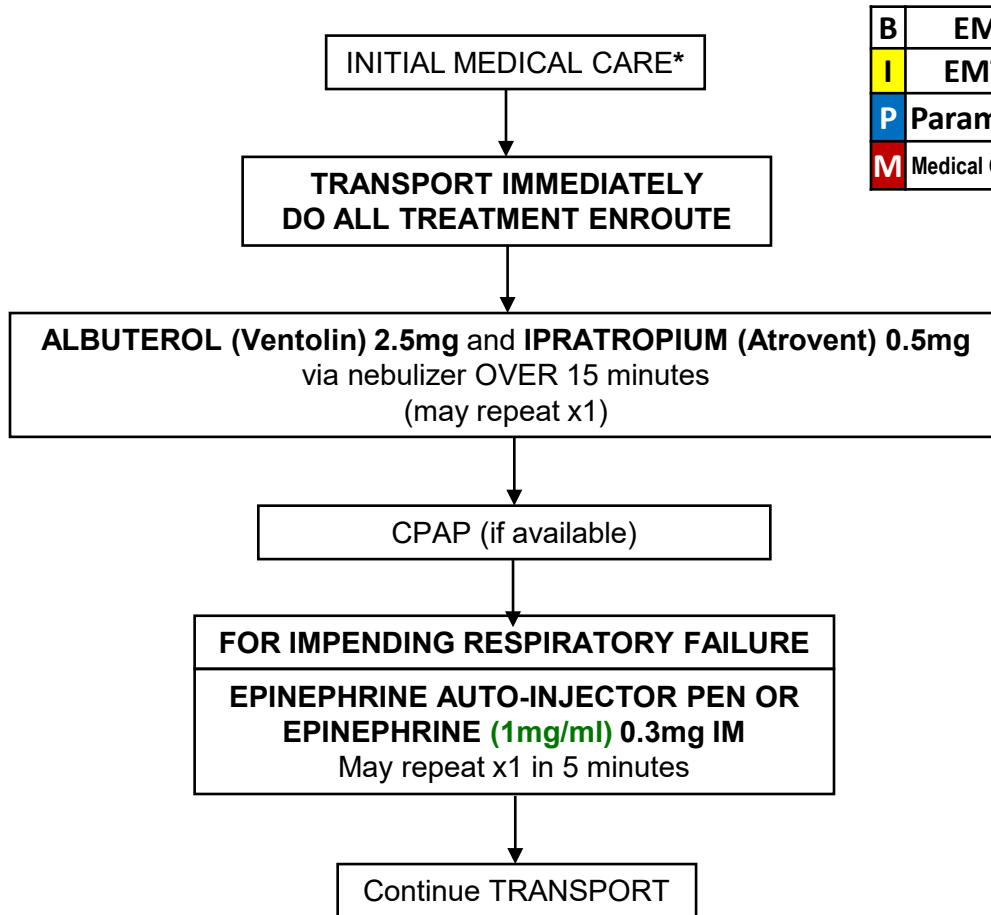
- Assess for potential child abuse and follow appropriate reporting mechanism
- Keep the child warm and protect from hypothermia
- Pulse oximetry

**P** •Consider Pain Medication per **PEDIATRIC PAIN CONTROL PROTOCOL #61** ◆ or as directed by **Medical Control**.

•Consider **NITROUS OXIDE**. Refer to **NITROUS PROTOCOL #81** ◆ **P**

# Protocol 39

## ADULT ACUTE ASTHMA/COPD WITH WHEEZING



B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

**M** AT DISCRETION OF MEDICAL CONTROL:  
MAGNESIUM SULFATE (if available) 2g IVPB mixed with 250ml NS bag over 20 minutes

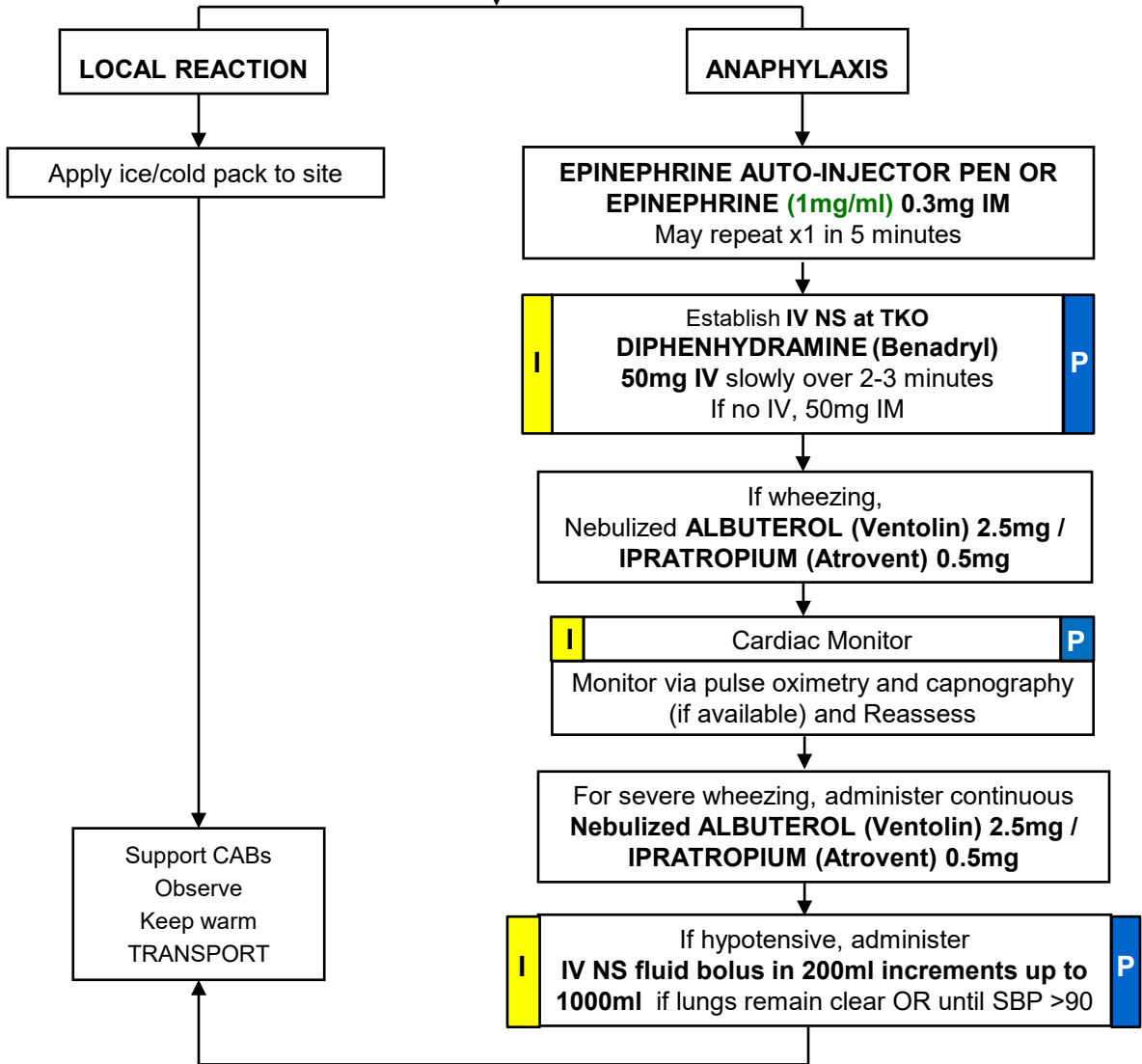
- NOTE TO PREHOSPITAL PROVIDERS:**
1. \*OXYGEN at 2 - 6L/min. If severe respiratory distress or cyanosis, 15L NRB
  2. IV optional unless patient is in severe respiratory distress or pending failure.
  3. If intubation required, may give **ALBUTEROL (Ventolin) and IPRATROPIUM (Atrovent)** in-line via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

# Protocol 40

## ADULT ALLERGIC REACTION / ANAPHYLAXIS

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

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



**M** **AT DISCRETION OF MEDICAL CONTROL:**  
Administer **EPINEPHRINE (1mg/10ml) 0.1mg IV/IO**

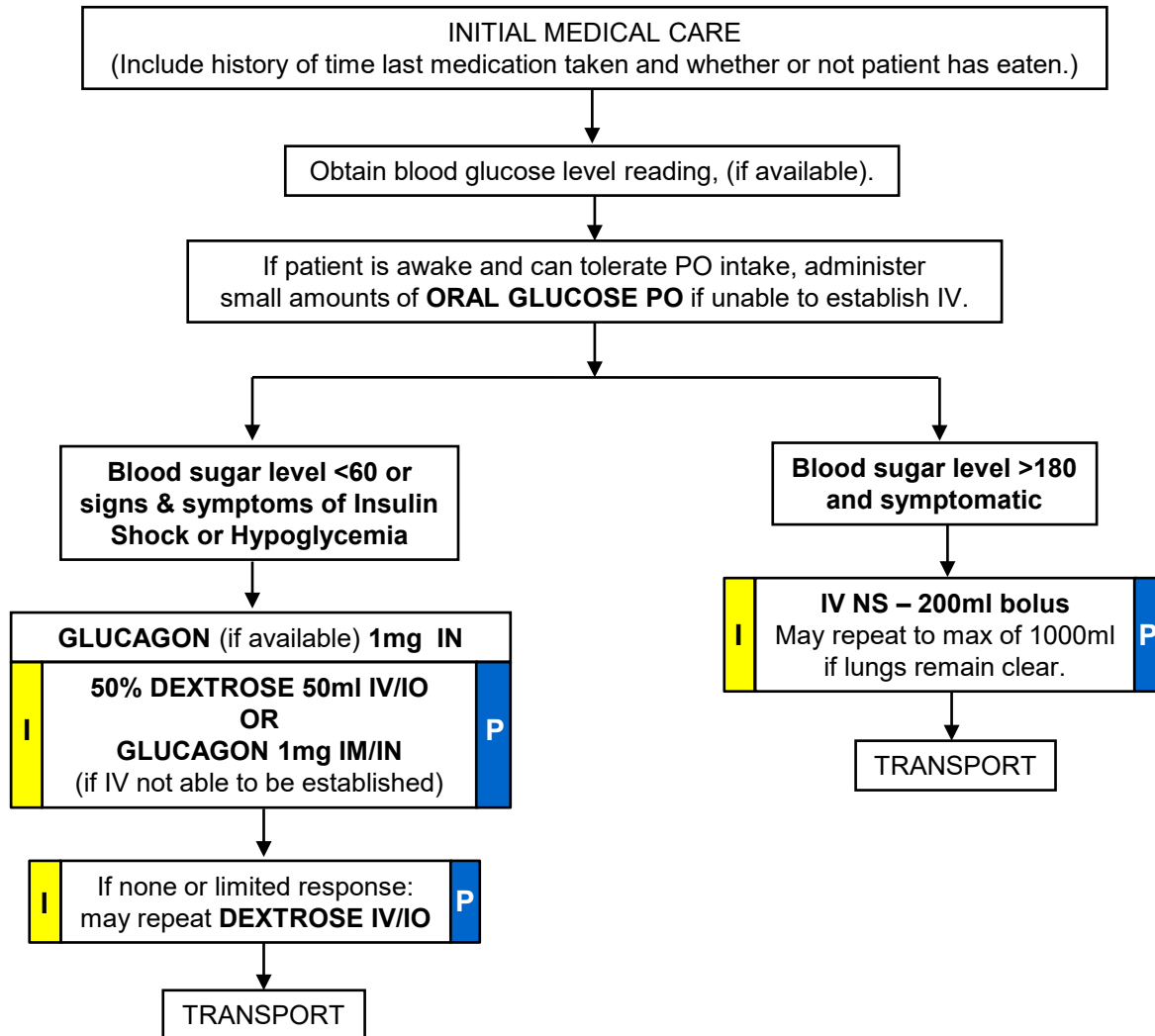
**I** **NOTE TO PREHOSPITAL PROVIDERS:**  
1. IV lines should not be started in same extremity as a bite or injection of allergen.  
2. For prolonged geographical transport, consider **METHYLPREDNISOLONE (Solu-Medrol) 125mg IV.** **P**



# Protocol 41

## ADULT DIABETIC/GLUCOSE EMERGENCIES

B	EMT	B
I	EMT-I	I
P	Paramedic	P



# Protocol 42

## ADULT DRUG OVERDOSE ALCOHOL RELATED EMERGENCIES POISONING

**POISON CONTROL**  
**(800) 222-1222**

B	EMT	B
I	EMT-I	I
P	Paramedic	P

INITIAL MEDICAL CARE

Obtain Blood Glucose Reading  
I Cardiac Monitor 12-Lead ECG (if available) P

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

I Administer **NALOXONE (Narcan) 2mg IV/IO/IM/IN** P  
(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:

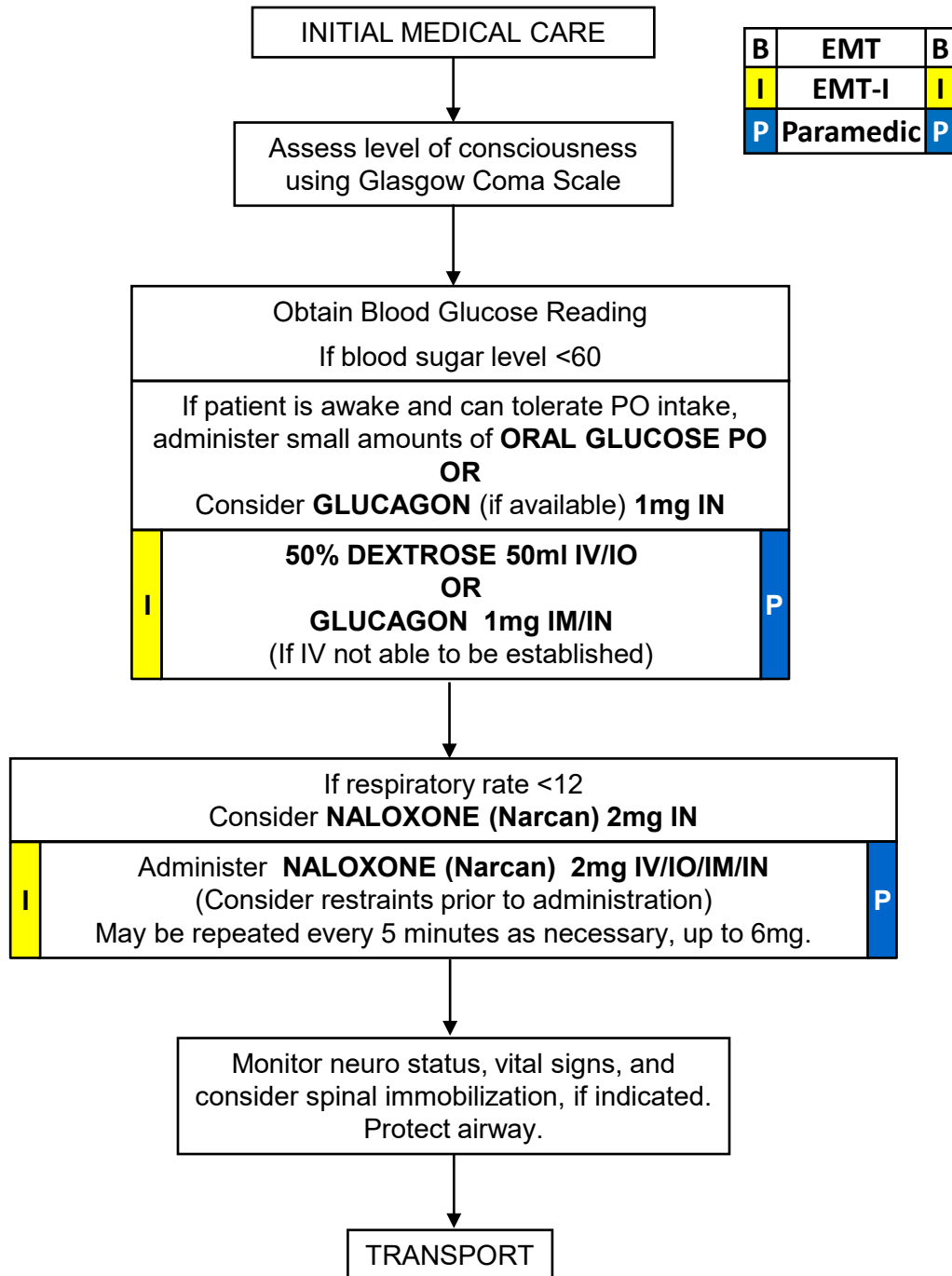
If patient is awake and can tolerate PO intake,  
administer small amounts of **ORAL GLUCOSE PO**  
**OR**  
Consider **GLUCAGON (if available) 1mg IN**

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

TRANSPORT

# Protocol 43

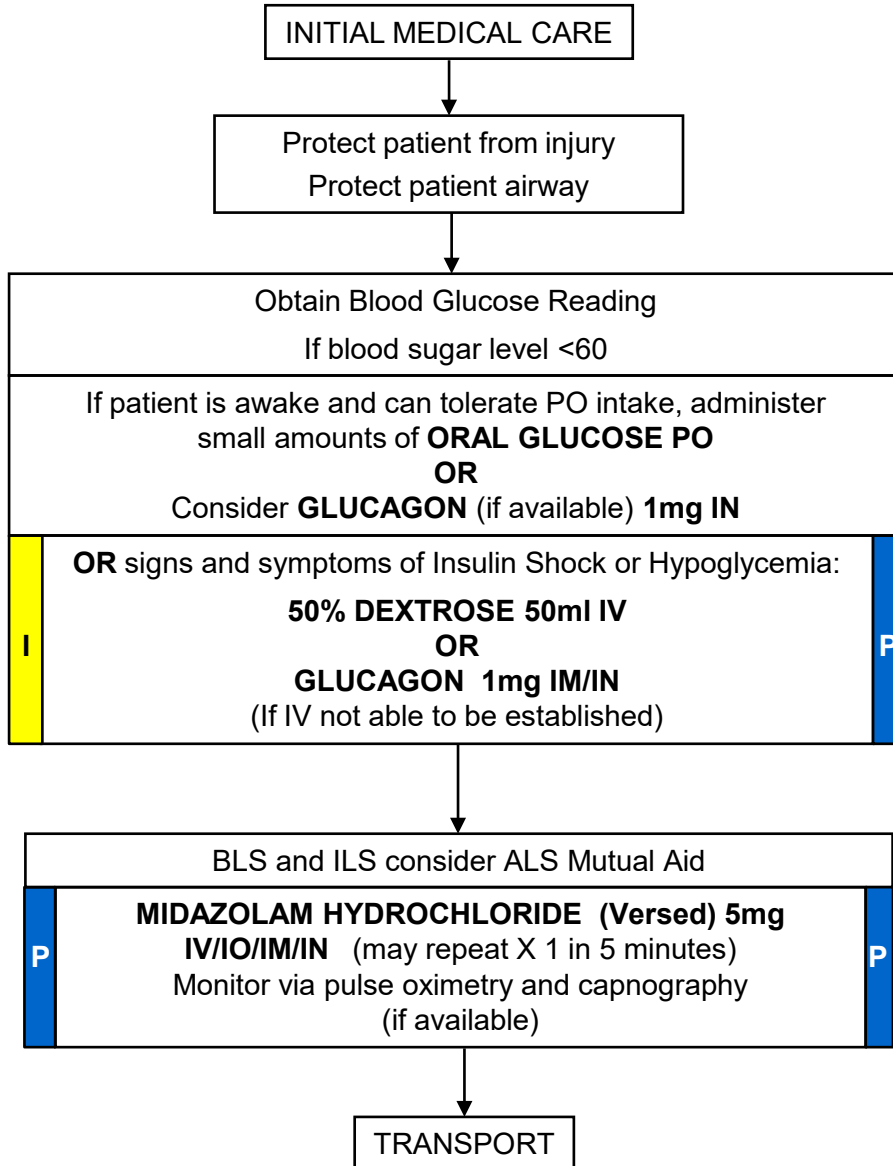
## ADULT COMA OF UNKNOWN ORIGIN (NO HISTORY OF TRAUMA)



# Protocol 44

## ADULT SEIZURES / STATUS EPILEPTICUS

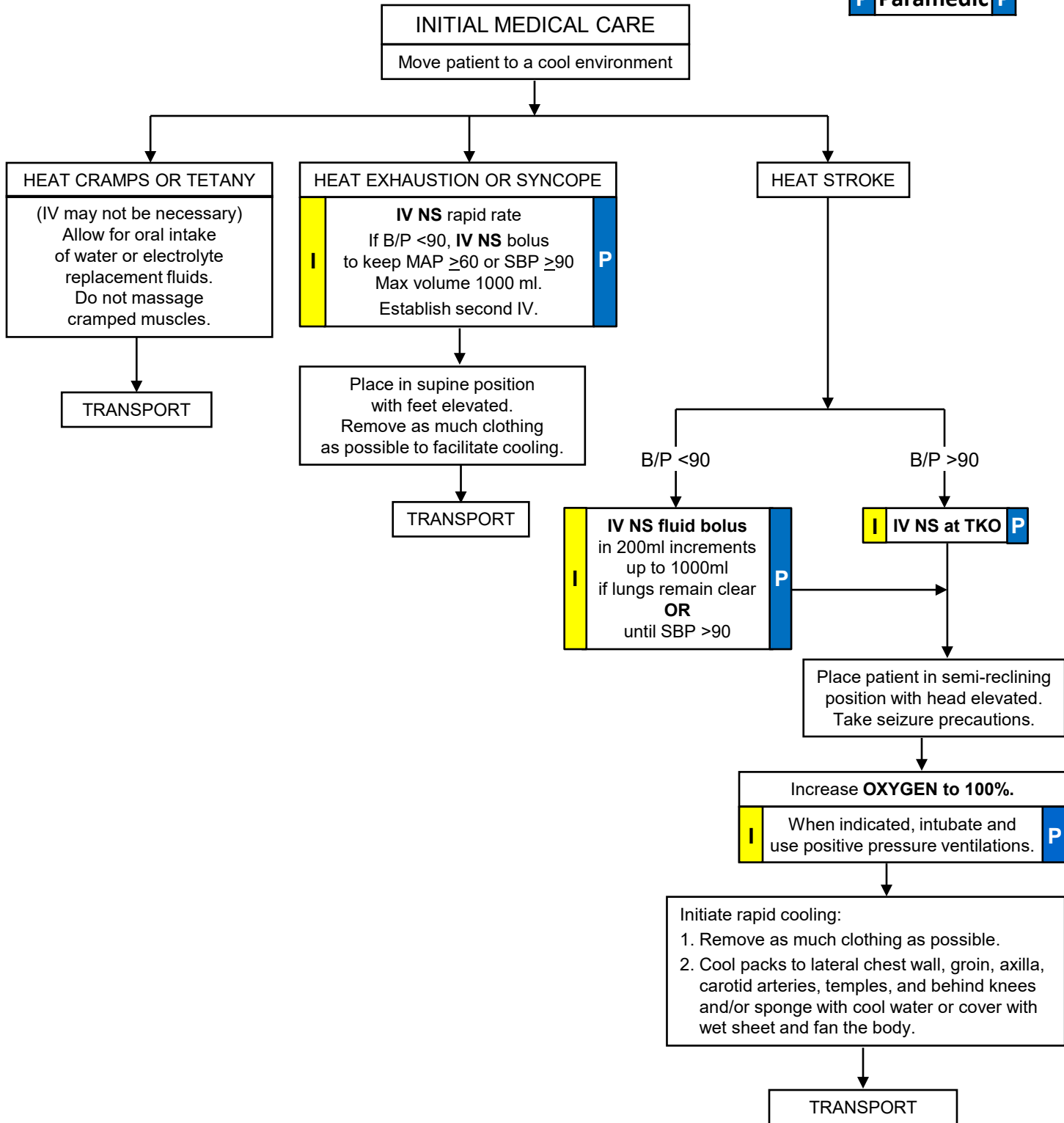
B	EMT	B
I	EMT-I	I
P	Paramedic	P



# Protocol 45

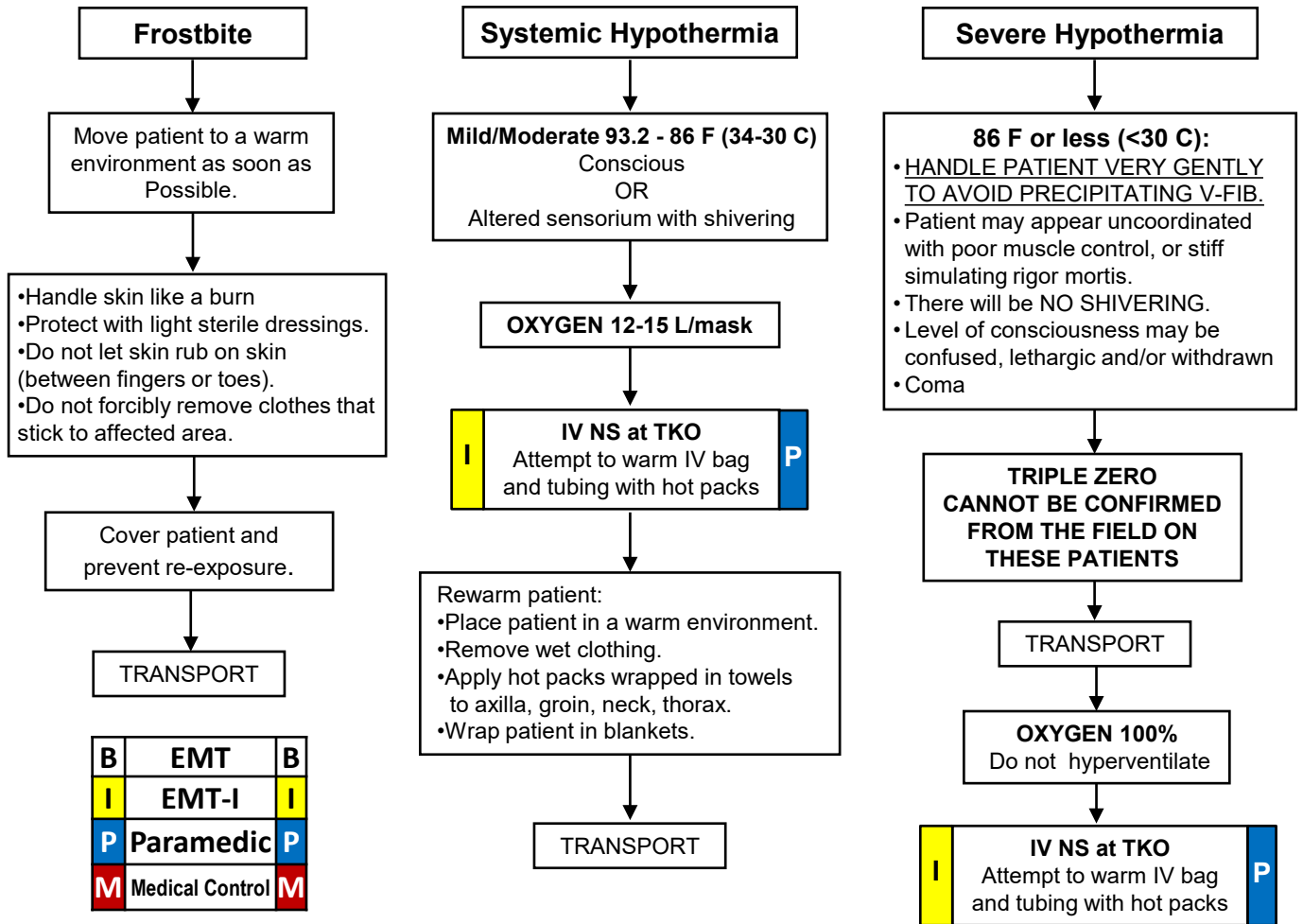
## ADULT HEAT EMERGENCIES

B	EMT	B
I	EMT-I	I
P	Paramedic	P



# Protocol 46

## ADULT COLD EMERGENCIES



B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

**AT DISCRETION OF MEDICAL CONTROL:**

Refer to **ADULT PAIN CONTROL PROTOCOL #5** ♦ as necessary for severe pain.

Consider

**FENTANYL 50mcg IV/IO/IM/IN** May repeat every 5 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)**

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

# Protocol 47

## ADULT SUSPECTED STROKE: PG 1 OF 2

B	EMT	B
I	EMT-I	I
P	Paramedic	P

INITIAL MEDICAL CARE

- Perform Cincinnati Prehospital Stroke Scale\*
  - Perform Rapid Arterial Occlusion Evaluation (RACE) Scale for Large Vessel Occlusion\*\*
  - Identify patients last “known normal”
  - Identify if patient is on anticoagulants
- DOCUMENT ALL FINDINGS ABOVE**
- Do NOT unnecessarily delay transport for procedure. Scene time should be < 10 minutes.**

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

Refer to **ADULT DIABETIC/GLUCOSE PROTOCOL #41** ◆

**I** 12-Lead ECG (if available) **P**

**Refer to other PROTOCOL as indicated:**  
**ADULT COMA OF UNKNOWN ORIGIN PROTOCOL #43** ◆  
**ADULT SEIZURES/STATUS EPILEPTICUS PROTOCOL #44** ◆

**\*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 with palms up for 10 seconds)

- Normal – Both arms move the same or both arms do not move at all (other findings, such as pronator drift, 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

# Protocol 47

## ADULT SUSPECTED STROKE: PG 2 OF 2

B	EMT	B
I	EMT-I	I
P	Paramedic	P

**\*\*Rapid Arterial Occlusion Evaluation (RACE) Scale for Large Vessel Occlusion**

# A STROKE ASSESSMENT TOOL FOR EMS

EMS RACE Stroke Scale - Rapid Arterial Occlusion Evaluation Scale, used to predict large cerebral arterial occlusions.*			
ITEM	INSTRUCTION		RACE Score
<b>FACIAL PALSY</b>	Ask the patient to show their teeth	<b>ABSENT</b> (symmetrical movement) <b>MILD</b> (slightly asymmetrical) <b>MODERATE TO SEVERE</b> (completely asymmetrical)	0 1 2
<b>ARM MOTOR FUNCTION</b>	Extending the arm of the patient 90 degrees (if sitting) of 45 degrees (if supine)	<b>NORMAL TO MILD</b> (limb upheld more than 10 seconds) <b>MODERATE</b> (limb upheld less than 10 seconds) <b>SEVERE</b> (patient unable to raise arm against gravity)	0 1 2
<b>LEG MOTOR FUNCTION</b>	Extending the leg of the patient 30 degrees (if supine)	<b>NORMAL TO MILD</b> (limb upheld more than 5 seconds) <b>MODERATE</b> (limb upheld less than 5 seconds) <b>SEVERE</b> (patient unable to raise leg against gravity)	0 1 2
<b>HEAD AND GAZE DEVIATION</b>	Observe eyes and cephalic deviation to one side	<b>ABSENT</b> (eye movements to both sides were possible and no cephalic deviation was observed) <b>PRESENT</b> (eyes and cephalic deviation to one side was observed)	0 1
<b>APHASIA</b> If right hemiparesis	Ask the patient two verbal orders: - "close your eyes" - "make a fist"	<b>NORMAL</b> (performs both tasks correctly) <b>MODERATE</b> (performs one task correctly) <b>SEVERE</b> (performs neither task)	0 1 2
<b>AGNOSIA</b> If left hemiparesis	- "Who's arm is this?" while showing him/her Asking: <i>the paretic arm (asomatognosia)</i> - "Can you move your arm?" (anosognosia)	<b>NORMAL</b> (no asomatognosia nor anosognosia) <b>MODERATE</b> (asomatognosia or anosognosia) <b>SEVERE</b> (both asomatognosia and anosognosia)	0 1 2
		<b>RACE SCALE TOTAL:</b> Any score above a "0" is a "Stroke Alert"	

\* Chart adapted from Perez de la Ossa N, Carrera D, Gorchs M, et al. Design and validation of a prehospital stroke scale to predict large arterial occlusion: the rapid arterial occlusion evaluation scale. Stroke; a journal of cerebral circulation. Jan 2014;45(1):87-91.



# Protocol 48

## HAZARDOUS MATERIALS GENERAL

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

**CHEMTREC**  
**(800) 262-8200**

PROTECT YOURSELF FIRST:  
ALL PERSONNEL SHOULD BE APPROPRIATELY TRAINED AND  
HAVE PROTECTIVE CLOTHING AS INDICATED

Identify substance, if possible and contact local HazMat unit.\*

Isolate

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

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

**I** Cardiac monitor **P**  
**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 #49** ♦ 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.

# Protocol 49

## HAZARDOUS MATERIALS EYE

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

EYE IRRIGATION

Indication: Suspected or actual HazMat eye exposure  
(Refer to **HAZARDOUS MATERIALS GENERAL PROTOCOL #48** ♦ as needed.)

- Identify substance
- Decontamination
- Initial Medical Care

Establish contact with **Medical Control**  
as soon as possible.

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

**P** Evaluate eye for ruptured globe. If globe is intact instill **TETRACAINE HCL 0.5% 1-2 drops to the eye(s)** to provide local anesthesia. **P**  
(May repeat as needed)

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

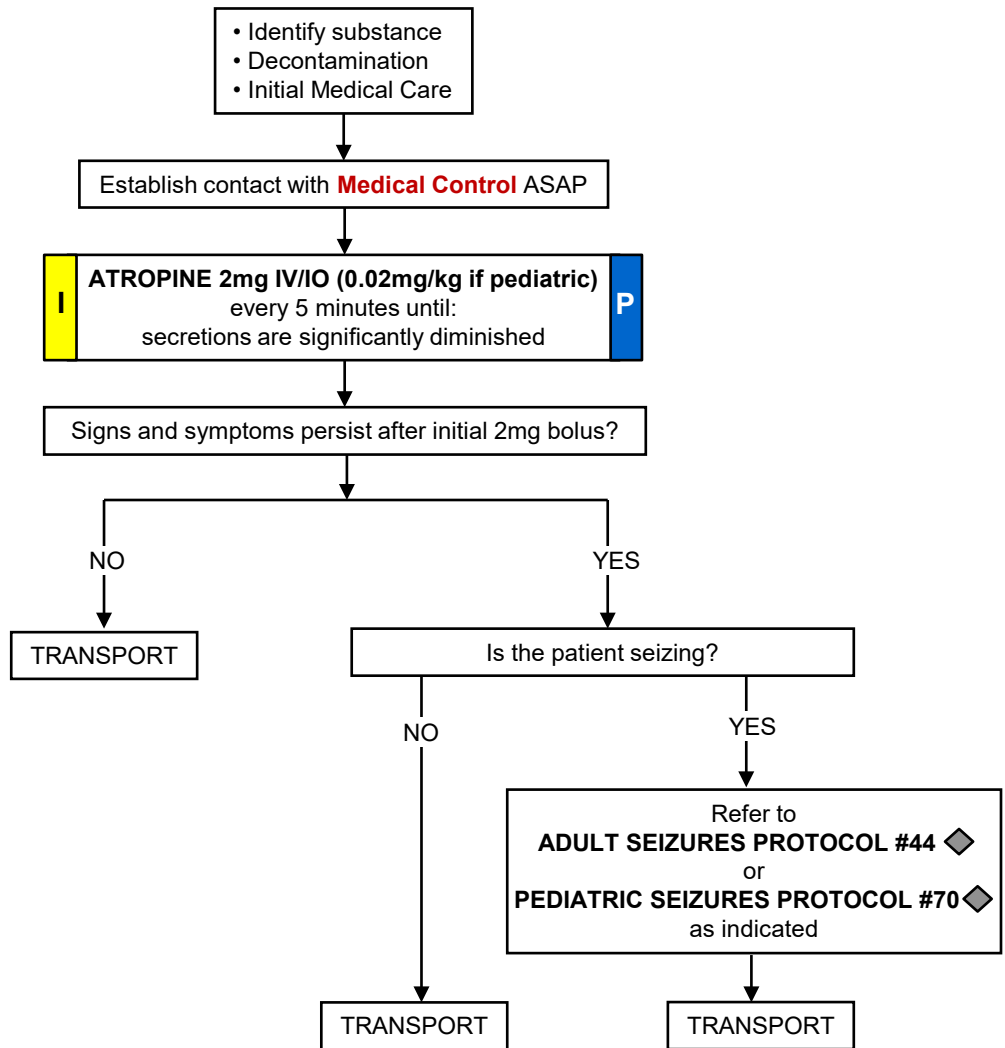
# Protocol 50

## HAZARDOUS MATERIALS PESTICIDE / NERVE AGENT

**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

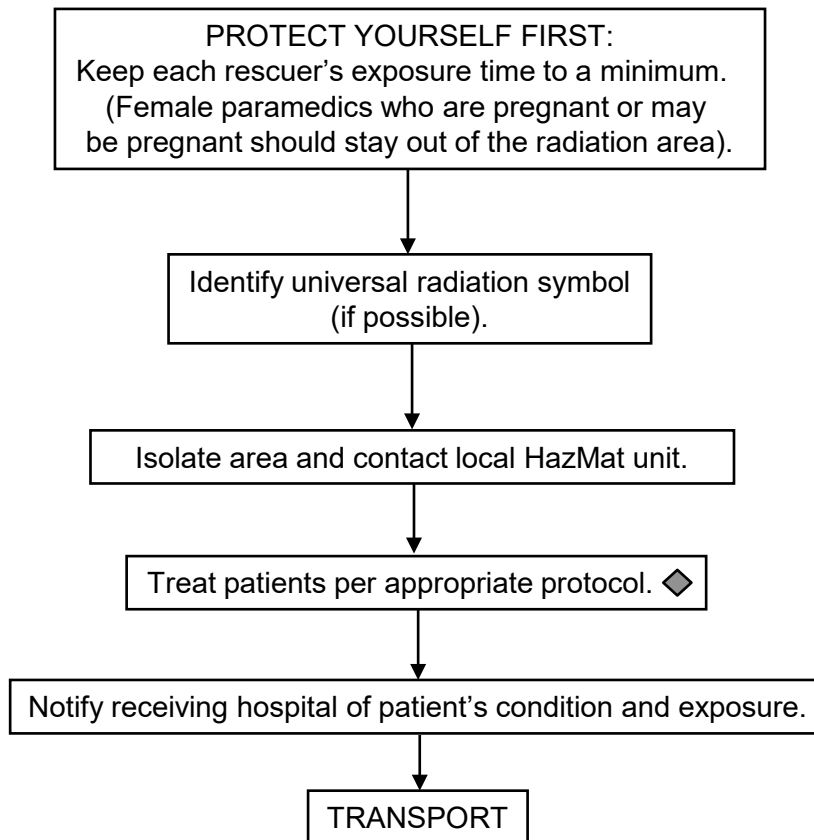
B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M



# Protocol 51

## HAZARDOUS MATERIALS RADIATION

B	EMT	B
I	EMT-I	I
P	Paramedic	P



# Protocol 52

## ADULT HAZARDOUS MATERIALS TOXIC/SMOKE INHALATION CYANIDE POISONING

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

PROTECT YOURSELF AND OTHER PROVIDERS FIRST

Maintain patent airway and assess CABs

INITIAL MEDICAL CARE

I	Cardiac Monitor 12-Lead (if available) and continuous ECG monitoring Monitor via pulse oximetry and capnography (if available)	P
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PATIENT PRESENTING WITH:

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

YES

NO

I	Initiate second IV	P
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Apply **OXYGEN 10-15 L/min** by NRM

I	<b>CYANO KIT (if available) 5g IVPB</b> over 8-10 minutes	P
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Continual patient assessment

Continual Patient Assessment

TRANSPORT  
and contact **Medical Control** ASAP

\*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.

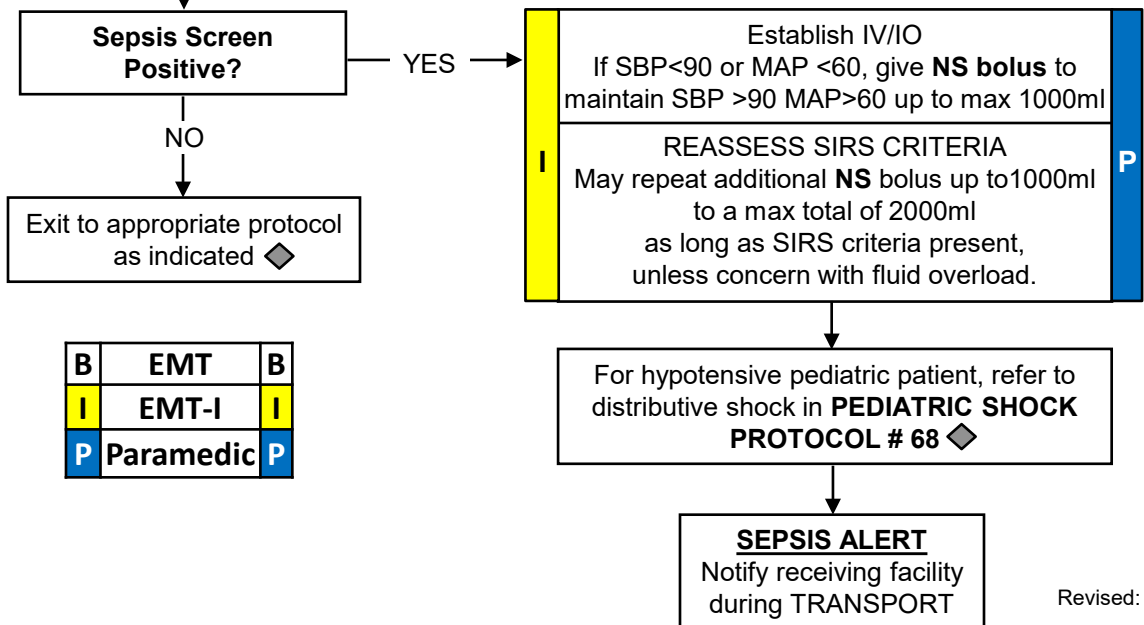
# Protocol 53

## ADULT SUSPECTED SEPSIS

INITIAL MEDICAL CARE

<p><b>HISTORY</b></p> <ul style="list-style-type: none"> <li>•Duration and severity of fever</li> <li>•Past medical history</li> <li>•Medications / recent antibiotics</li> <li>•Immunocompromised (transplant, HIV, diabetes, cancer)</li> <li>•Indwelling medical device</li> <li>•Last acetaminophen or ibuprofen</li> <li>•Recent hospital / healthcare facility</li> <li>•Bedridden or immobile</li> <li>•Elderly and very young-at risk</li> <li>•Prosthetic device / indwelling device</li> </ul>	<p><b>SIGNS AND SYMPTOMS</b></p> <ul style="list-style-type: none"> <li>•Warm</li> <li>•Flushed</li> <li>•Sweaty</li> <li>•Chills/rigors</li> <li>•Delayed cap refill</li> </ul> <p>Mental status changes</p> <p><b>ASSOCIATED SYMPTOMS (helpful to localize source)</b></p> <ul style="list-style-type: none"> <li>•Myalgia, cough, chest pain, headache, dysuria, abdominal pain, rash</li> </ul>	<p><b>DIFFERENTIAL</b></p> <ul style="list-style-type: none"> <li>•Infections: UTI, Pneumonia, Skin/wound</li> <li>•Cancer / Tumors / Lymphomas</li> <li>•Medication or drug reaction</li> <li>•Connective tissue disease: Arthritis, Vasculitis</li> <li>•Hyperthyroidism</li> <li>•Heat Stroke</li> <li>•Meningitis</li> <li>•Hypoglycemia / hypothermia</li> <li>•MI/CVA</li> </ul>
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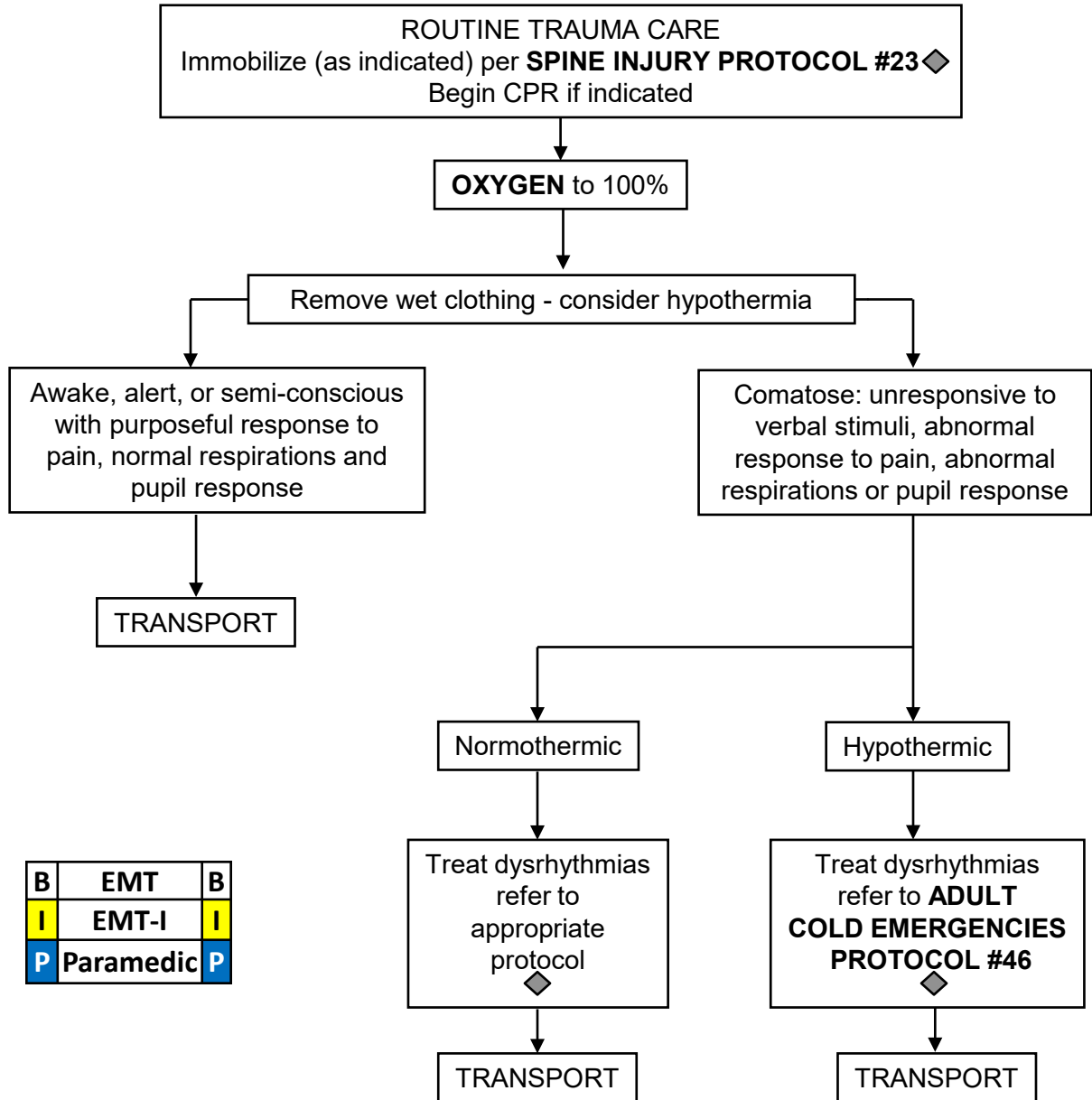
<p><b>SEPSIS SCREEN:</b></p> <p>Obvious or suspected source of infection AND any of these SIRS (Systemic Inflammatory Response Syndrome) criteria:</p> <ul style="list-style-type: none"> <li>•SBP &lt; 90 mmHg</li> <li>•Heart Rate &gt; 90/minute</li> <li>•Respiratory Rate &gt; 20</li> <li>•GCS &lt; 15</li> <li>•Temperature <math>\geq 100.4^{\circ}\text{F}</math> or <math>&lt; 96.0^{\circ}\text{F}</math></li> </ul>	<p><b>Pediatric SIRS Criteria</b></p> <p><b>Temperature</b> Same as adult</p> <p>AND</p> <p><b>Heart Rate</b></p> <p>1month – 1 year &gt; 180 2 – 5 years &gt; 140 6 – 12 years &gt; 130 13 – 18 years &gt; 120</p>
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B	EMT	B
I	EMT-I	I
P	Paramedic	P

# Protocol 54

## ADULT DROWNING



B	EMT	B
I	EMT-I	I
P	Paramedic	P

**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.

# Protocol 55

## 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

B	EMT	B
I	EMT-I	I
P	Paramedic	P

INITIAL MEDICAL CARE

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

Delivery

Normal presentation

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

- 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 #58** ♦

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

Administer post-partum care - Refer to **MATERNAL CARE PROTOCOL #59** ♦

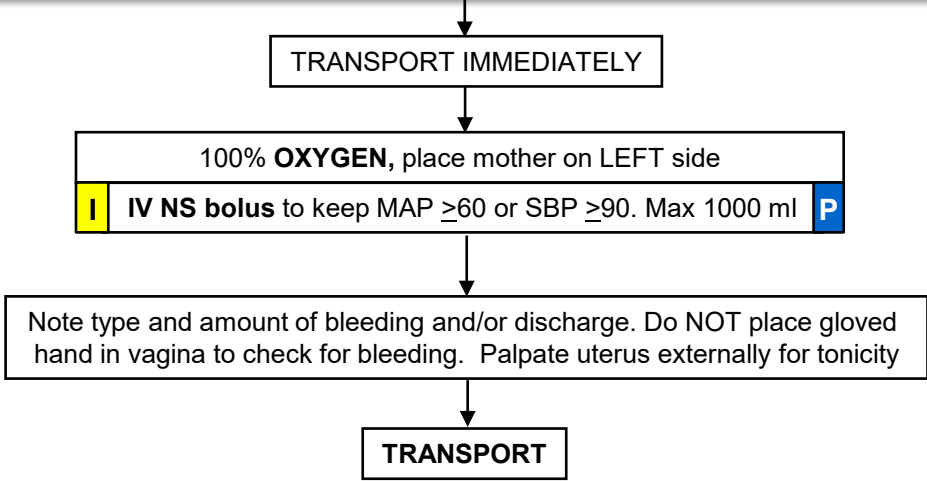
TRANSPORT



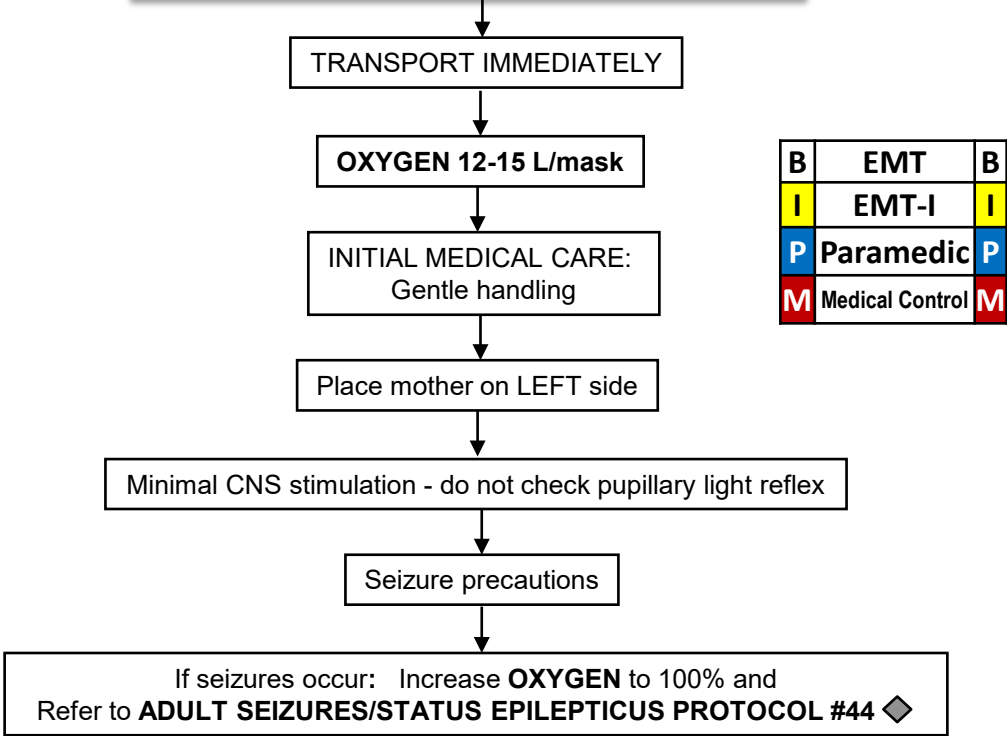
# Protocol 56

## OBSTETRICAL COMPLICATIONS

### THIRD TRIMESTER BLEEDING - 6-9 MONTHS (Placenta Previa, Abruption Placenta, Trauma)



### PRE-ECLAMPSIA OR TOXEMIA



B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

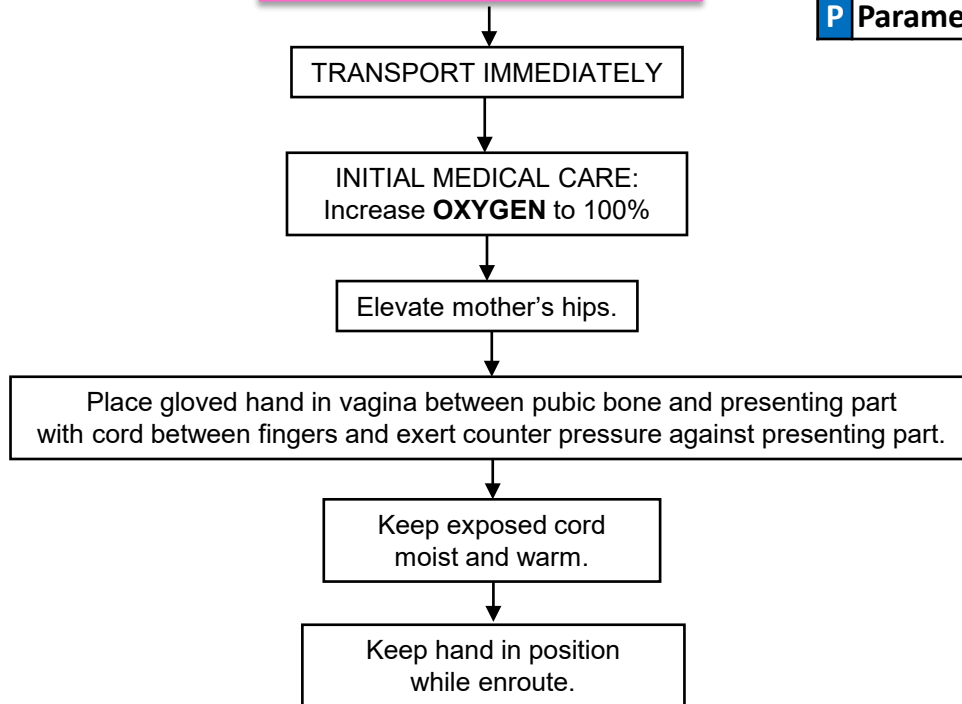
**M AT DISCRETION OF MEDICAL CONTROL:**  
 For prolonged geographical transport, consider **MAGNESIUM SULFATE (if available) 4g IVPB mixed with 250ml NS bag over 20 minutes**

# Protocol 57

## ABNORMAL DELIVERIES

B	EMT	B
I	EMT-I	I
P	Paramedic	P

### PROLAPSED CORD



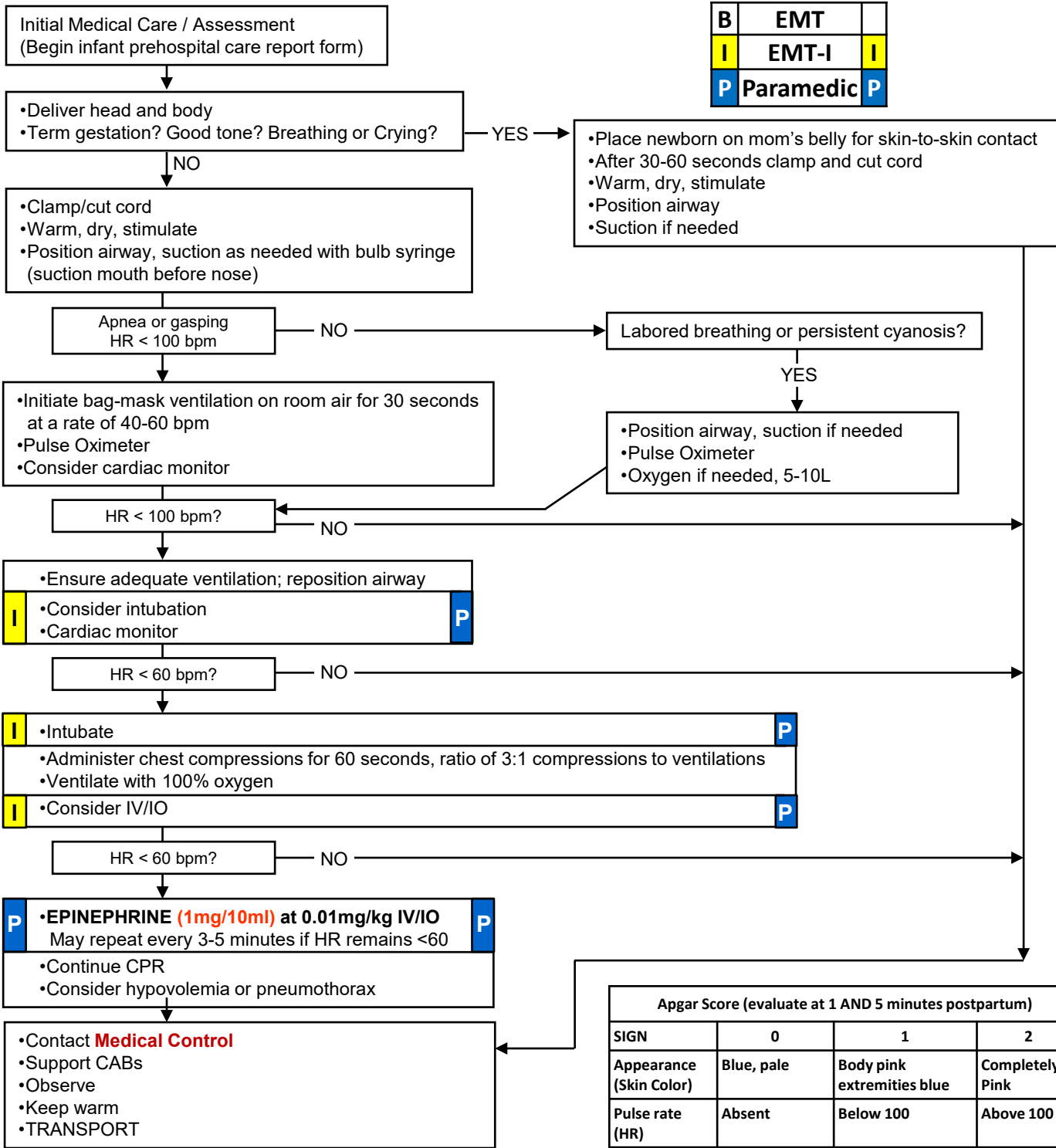
### BREECH BIRTH

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.

# Protocol 58

## RESUSCITATION AND CARE OF THE NEWBORN

B	EMT	
I	EMT-I	I
P	Paramedic	P



**NOTE TO PREHOSPITAL PROVIDERS:**

- Focus should be on neonate appearance (tone, breathing, crying).
- Consider APGAR at 1 minute, repeat every 5 minutes. Do not interrupt resuscitation efforts to obtain APGAR.

Apgar Score (evaluate at 1 AND 5 minutes postpartum)			
SIGN	0	1	2
Appearance (Skin Color)	Blue, pale	Body pink extremities blue	Completely Pink
Pulse rate (HR)	Absent	Below 100	Above 100
Grimace	No Response	Grimaces	Cries
Activity	Limp	Some flexion of extremities	Active Motion
Respiratory (Effort)	Absent	Slow and Irregular	Strong Cry

# Protocol 59

## MATERNAL CARE

B	EMT	B
I	EMT-I	I
P	Paramedic	P

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 **IV NS bolus**  
to keep MAP  $\geq 60$  or SBP  $\geq 90$   
Max 1000ml

Mother may be encouraged to breastfeed to stimulate uterine contraction.

# Protocol 60

## PEDIATRIC INITIAL ASSESSMENT: PG 1 OF 3

### 1. SCENE SIZE UP

B	EMT	B
I	EMT-I	I
P	Paramedic	P

- 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.

# Protocol 60

## PEDIATRIC INITIAL ASSESSMENT: PG 2 OF 3

### 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 pressure
  - U Unresponsive
- Assess pupils
- Assess for transient numbness/tingling.

B	EMT	B
I	EMT-I	I
P	Paramedic	P

### 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.

# Protocol 60

## PEDIATRIC INITIAL ASSESSMENT: PG 3 OF 3

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.

B	EMT	B
I	EMT-I	I
P	Paramedic	P

### 6. ONGOING ASSESSMENT

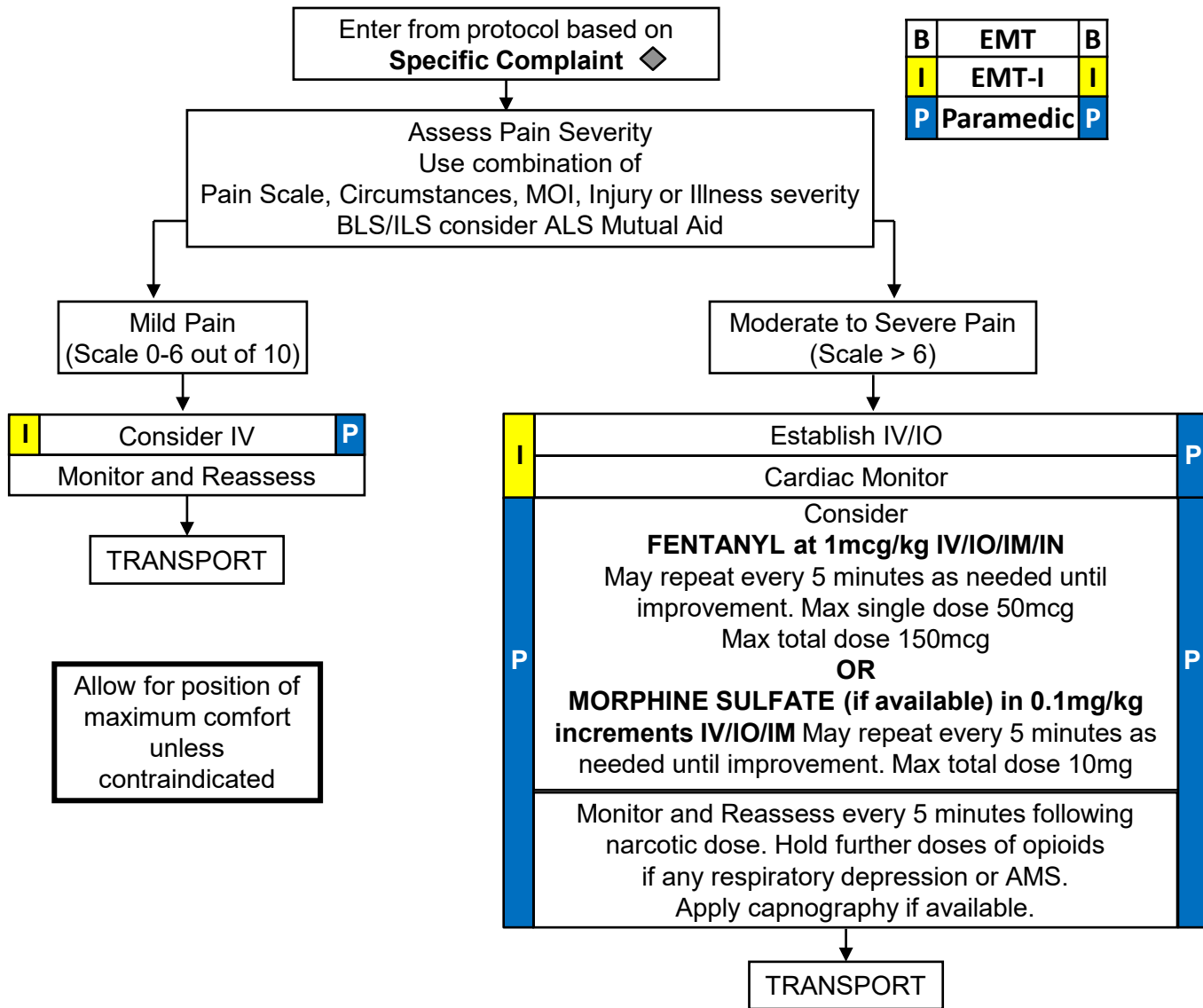
To effectively maintain awareness of changes in patient’s condition, repeated assessments are essential and should be performed at least every 5 minutes on the unstable patient, and at least every 15 minutes on the stable patient.

### 7. CONSIDERATIONS FOR CHILDREN WITH SPECIAL HEALTHCARE NEEDS (CSHN)

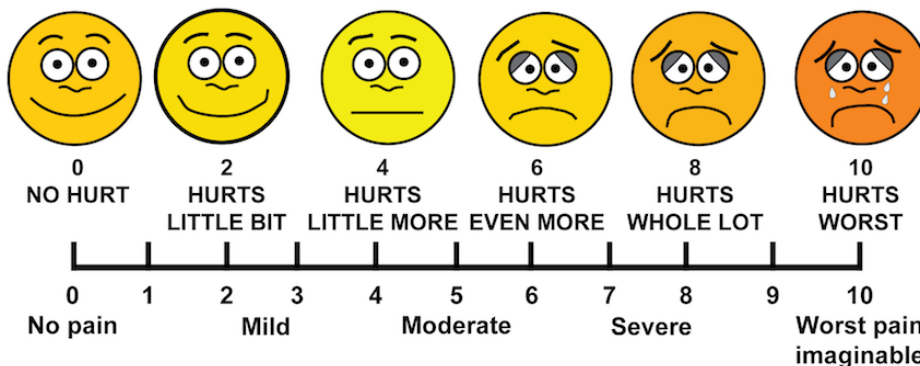
- Be familiar with CSHN in your service community and with both the child as well as their anticipated emergency care needs.
- Refer to child’s emergency care plan formulated by their medical providers, (if available). Understanding the child’s baseline will assist in determining the significance of 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.

# Protocol 61

## PEDIATRIC PAIN CONTROL



## PAIN MEASUREMENT SCALE



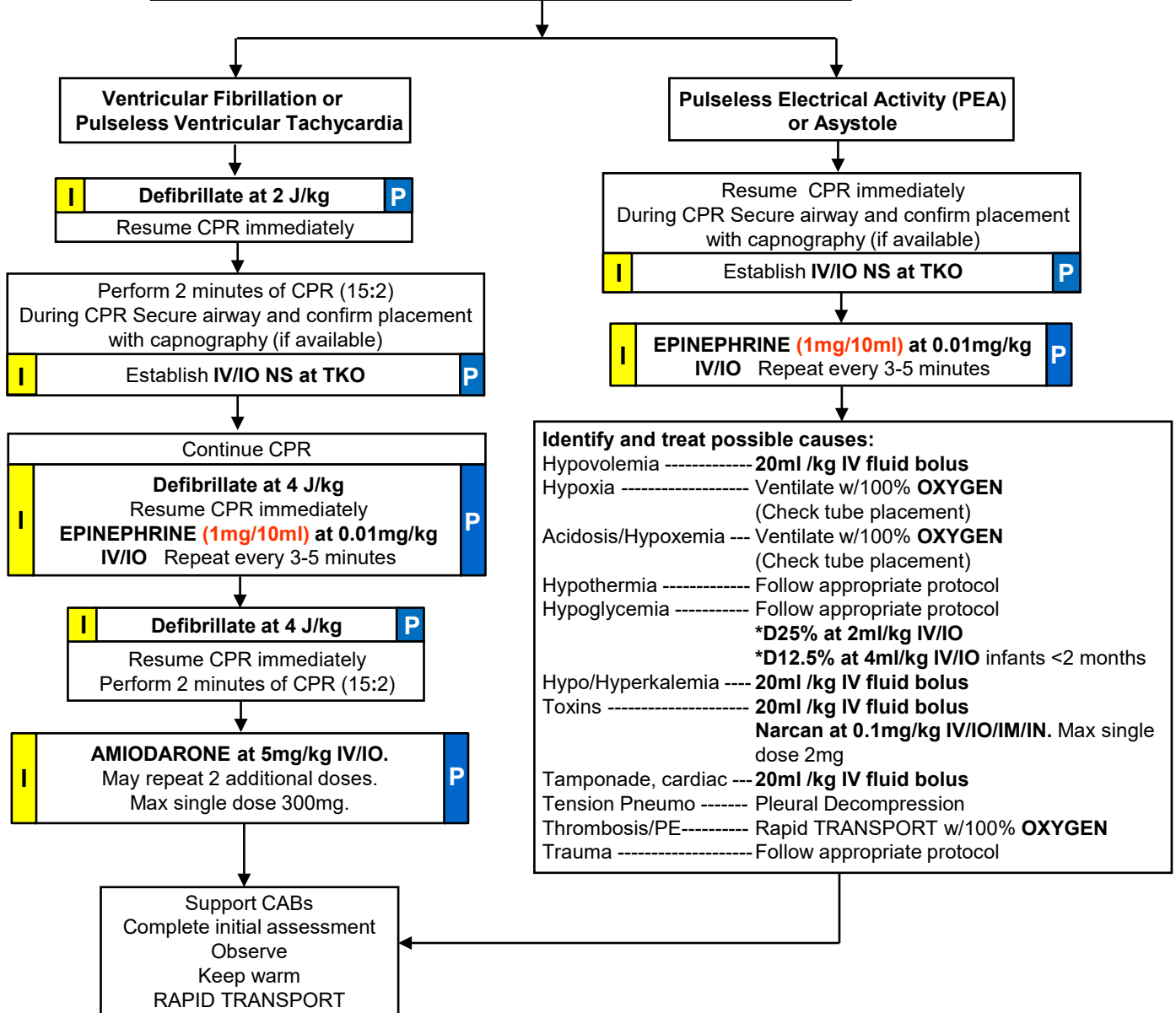


# Protocol 62

## PEDIATRIC CARDIAC ARREST

- Establish unresponsiveness
- Position airway
- Determine breathlessness
- Ventilate with BVM 100% **OXYGEN** at a rate of 20-30 breaths per minute
- Determine pulselessness
- Initiate compressions, and continue as indicated
- Maintain airway
- (BLS) AED (if available), (ILS/ALS) Quick look/cardiac monitor

B	EMT	B
I	EMT-I	I
P	Paramedic	P



**NOTE TO PREHOSPITAL PROVIDERS:**

- \* 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

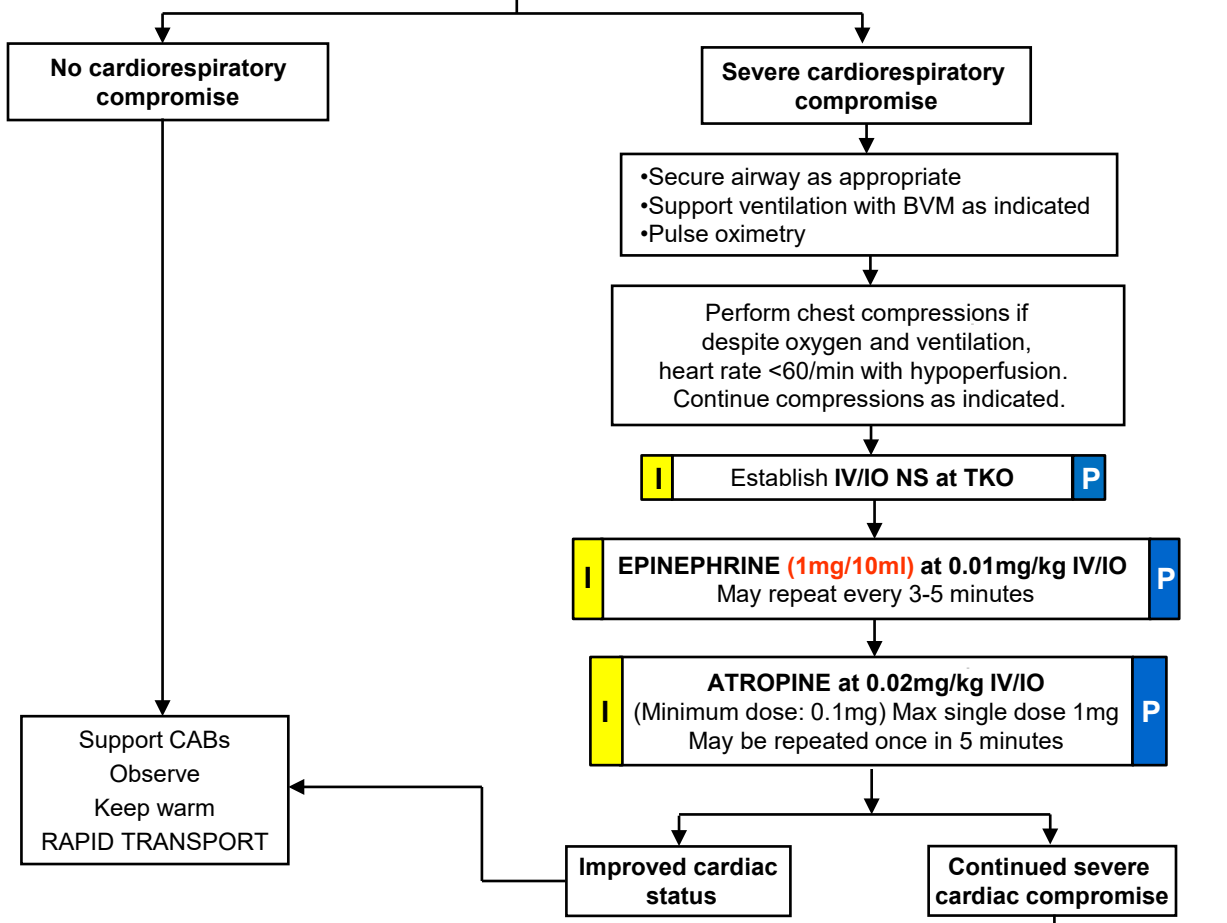
# Protocol 63

## PEDIATRIC BRADYCARDIA

- Assess CABs
- Administer 100% **OXYGEN**
- Complete initial assessment.
  - Assess for:
    - Respiratory difficulty
    - Cyanosis despite **OXYGEN** administration
    - Truncal cyanosis and coolness
    - Hypotension
    - No palpable blood pressure
    - Weak thready, absent peripheral pulses
    - Decreasing consciousness

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

I
•Cardiac Monitor
P



**NOTE TO PREHOSPITAL PROVIDERS:**

1. Hypoglycemia has been known to cause bradycardia in infants.
2. Refer to **PEDIATRIC ALTERED LEVEL OF CONSCIOUSNESS/BRUE PROTOCOL #71** ♦
3. Special conditions may apply in the presence of severe hypothermia.
4. Refer to **PEDIATRIC COLD EMERGENCIES PROTOCOL #74** ♦ as needed.

\*Limited pediatric data on efficacy of external pacing.

P

Per  
**Medical Control**  
consider **external pacing\***

Refer to **PEDIATRIC  
CARDIAC ARREST  
PROTOCOL #62** ♦

P

# Protocol 64

## PEDIATRIC TACHYCARDIA WITH POOR PERFUSSION

B	EMT	B
I	EMT-I	I
P	Paramedic	P

- Assess CABs
- Administer 100% **OXYGEN**
- Assess for severe cardiorespiratory compromise:
  - Respiratory distress
  - Truncal cyanosis and coolness
  - Weak thready, or absent peripheral pulses
  - Hypotension/no palpable blood pressure
  - Decreasing consciousness

•Cardiac Monitor

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

BLS consider ILS/ALS mutual aid

Pulse present?

**Narrow Complex Tachycardia**  
(QRS duration ≤ 0.08 sec)

**IMC & TRANSPORT**

**Wide Complex Tachycardia**  
(QRS duration > 0.08 sec)

Evaluate Rhythm

**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
- Attempt vagal maneuvers

**Treat as presumptive Ventricular Tachycardia**

IV/IO established or RAPIDLY available?

**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
- Trauma ----- 100% **OXYGEN**  
Follow appropriate protocol

IV/IO established or RAPIDLY available?

YES NO

**ADENOSINE at 0.1mg/kg**  
IV/IO followed by RAPID flush with 5-10ml NS  
If rhythm persists, may double **ADENOSINE** dose and repeat once.  
Max initial dose 6mg  
Max subsequent dose 12mg

If conscious, consider sedation with **MIDAZOLAM HYDROCHLORIDE (Versed)** at 0.05mg/kg IV/IO/IM/IN  
Max total dose 6mg  
Monitor via pulse oximetry and capnography (if available)  
**DO NOT DELAY CARDIOVERSION**

Perfusion normal

Rhythm converted but continued hypoperfusion

Rhythm NOT converted

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

Support CABs  
Observe  
Keep warm  
TRANSPORT

Refer to **PEDIATRIC SHOCK PROTOCOL #68**

TRANSPORT

# Protocol 65

## PEDIATRIC TACHYCARDIA WITH ADEQUATE PERFUSION

- Assess CABs
- Administer 100% **OXYGEN**
- Assess for signs of adequate perfusion:
  - NO Respiratory distress
  - Extremities warm and pink
  - Strong peripheral pulses
  - Conscious and alert

•Cardiac Monitor

B	EMT	B
I	EMT-I	I
P	Paramedic	P

**Narrow Complex Tachycardia**  
(QRS duration ≤ 0.08 sec)

**IMC & TRANSPORT**

**Wide Complex Tachycardia**  
(QRS duration > 0.08 sec)

Evaluate Rhythm

**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
- Attempt vagal maneuvers

**Treat as presumptive Ventricular Tachycardia**

**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
- Trauma ----- Follow appropriate protocol

**Establish IV/IO**

**ADENOSINE at 0.1mg/kg IV/IO** followed by RAPID flush with 5-10ml NS

If rhythm persists, may double **ADENOSINE** dose and repeat once.

Max initial dose 6mg

Max subsequent dose 12mg

Support CABs  
Observe  
Keep warm  
TRANSPORT

# Protocol 66

## PEDIATRIC RESPIRATORY DISTRESS

Assess CABs  
 Administer 100% **OXYGEN**  
 Complete initial assessment  
 Assess for:

<p><b>Reactive Airway Disease</b></p> <ul style="list-style-type: none"> <li>•wheezing</li> <li>•grunting</li> <li>•retractions</li> <li>•tachypnea</li> <li>•diminished respirations</li> <li>•decreased breath sounds</li> <li>•tachycardia/bradycardia</li> <li>•decreasing consciousness</li> </ul>	<p><b>Partial Airway Obstruction/ Upper Airway Disease</b></p> <ul style="list-style-type: none"> <li>•suspected foreign body, obstruction or epiglottitis</li> <li>•stridor</li> <li>•choking</li> <li>•drooling</li> <li>•hoarseness</li> <li>•retractions</li> <li>•tripod position</li> </ul>
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B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

**Reactive (Lower) Airway Disease**

**Partial (Upper) Airway Obstruction**

**Upper Airway Disease**

- Position of comfort
- Nebulized **ALBUTEROL (Ventolin) 2.5mg** and **IPRATROPIUM (Atrovent) 0.5mg**
- Pulse oximetry

Cardiac Monitor

- 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**

Do not attempt intubation, glottic visualization, or IV access

Per **Medical Control**, consider nebulized **ALBUTEROL (Ventolin) 2.5mg** and **IPRATROPIUM (Atrovent) 0.5mg**

Nebulized **EPINEPHRINE (1mg/ml) 1mg in 2ml NS**  
 Per **Medical Control**, may repeat for a max of 3 total doses

Support CABs  
 Observe  
 Keep warm  
 TRANSPORT

**Obstruction Relieved**

**Obstruction Unrelieved**

TRANSPORT

Refer to  
**PEDIATRIC RESPIRATORY ARREST PROTOCOL #67**  
 as indicated

# Protocol 67

## PEDIATRIC RESPIRATORY ARREST

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

Assess Airway

- Perform airway maneuver, maintaining in-line C-spine stabilization, if indicated
  - jaw thrust or chin lift/head tilt
  - suction
  - oropharyngeal airway

ADEQUATE RESPIRATORY EFFORT

INADEQUATE RESPIRATORY EFFORT

- Administer 100% **OXYGEN**
- Monitor via pulse oximetry and capnography (if available)
- Support ventilation with BVM as indicated
- Secure airway as appropriate
- Consider blood glucose test and administration of **ORAL GLUCOSE PO** (if patient is awake and can tolerate PO intake) **OR GLUCAGON 0.03mg/kg IN** Max total dose 1mg (if available) **AND NALOXONE (Narcan) at 0.1mg/kg IN** for suspected narcotic exposure. Max single dose 2mg

- Administer 100% **OXYGEN**
- Monitor via pulse oximetry and capnography (if available)
- Ventilate with BVM at a rate of 20-30 breaths per minute
- Age appropriate rate

Chest Rise Adequate

Chest Rise Inadequate

- 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. May repeat to a max total dose of 6 mg.
- Consider blood glucose test and administration of:
  - **D25% at 2ml/kg IV/IO OR**
  - **D12.5% at 4ml/kg IV/IO infants <2 months**

Hypoperfusion\*\*

Normal Perfusion\*\*

Relieve Upper Airway Obstruction

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

Refer to **PEDIATRIC SHOCK PROTOCOL #68** or **PEDIATRIC CARDIAC ARREST PROTOCOL #62**

Support CABs  
Complete initial assessment

I	Cardiac Monitor	P
---	-----------------	---

Pulse oximetry  
Observe  
Keep warm  
TRANSPORT

Consider intubation per **MEDICATION ASSISTED INTUBATION PROTOCOL # 84** or **NEEDLE CRICOTHYROTOMY PROTOCOL #86** as indicated

**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 #37**

- \* 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

# Protocol 68

## PEDIATRIC SHOCK

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

- Assess CABs
- Secure airway as appropriate
- Administer 100% **OXYGEN**
- Complete initial assessment
- Supine position

- Cardiac Monitor
- Establish IV/IO NS at TKO

**DETERMINE ETIOLOGY OF SHOCK**

**CARDIOGENIC SHOCK \***  
(History congenital heart disease / cardiac surgery / rhythm disturbance / post-cardiac arrest)

- Administer **fluid at 10ml/kg**
- Identify any cardiac rhythm disturbance and refer to appropriate **DYSRHYTHMIA PROTOCOL** ♦
- Assess respiratory status for fluid overload.

**DISTRIBUTIVE SHOCK**  
(Suspected sepsis/anaphylaxis)

- Administer **fluid bolus at 20ml/kg**
- If suspected allergic reaction, refer to **PEDIATRIC ALLERGIC REACTION / ANAPHYLAXIS PROTOCOL #69** ♦
- 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.
- Assess respiratory status for fluid overload.

**HYPOVOLEMIC SHOCK**  
(Suspected dehydration/volume loss/hemorrhagic shock)

- Administer **fluid bolus at 20ml/kg**
- If no response to initial fluid bolus, repeat at 20ml/kg as indicated to max of 60ml/kg.
- Assess respiratory status for fluid overload.

Support CABs  
Pulse oximetry  
Observe  
Keep warm  
**TRANSPORT**

**Pediatric Shock Vital Signs:**

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

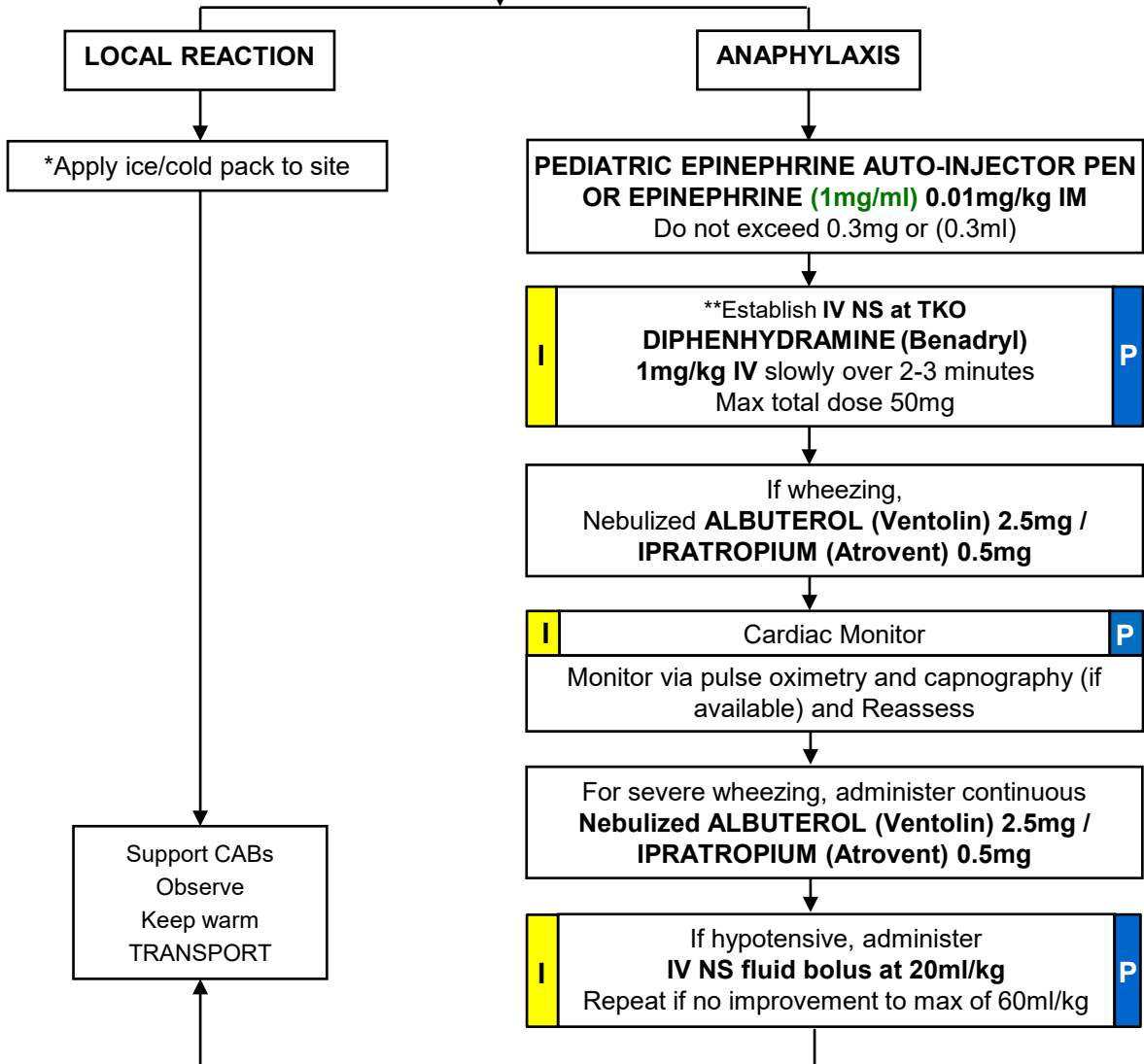
**M AT DISCRETION OF MEDICAL CONTROL:**  
\*CAUTION - Fluids may need to be restricted in Cardiogenic Shock.

# Protocol 69

## PEDIATRIC ALLERGIC REACTION / ANAPHYLAXIS

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

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M



**M AT DISCRETION OF MEDICAL CONTROL:**  
Administer **EPINEPHRINE (1mg/10ml) 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.

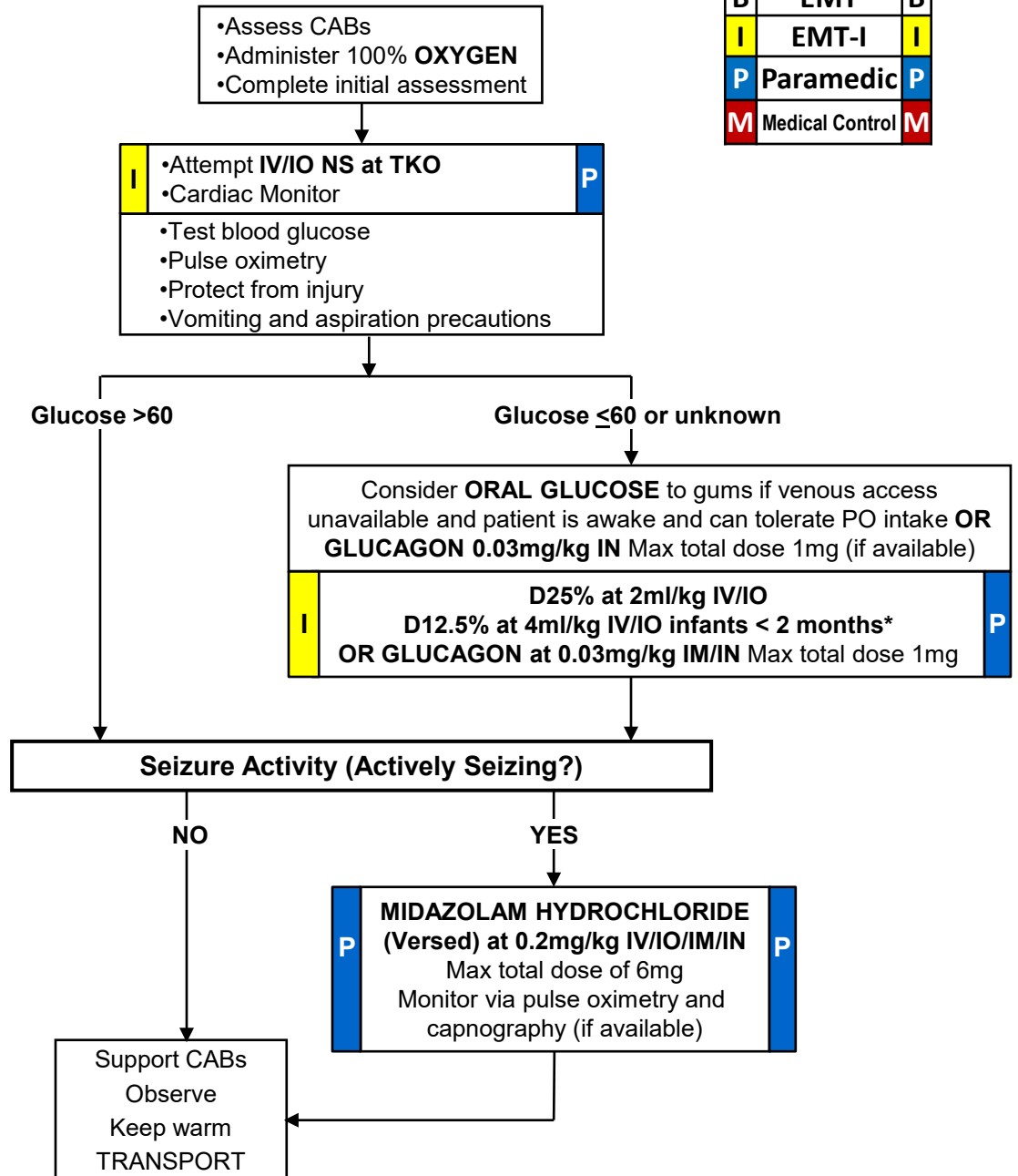
**I** If prolonged transport, per **Medical Control** consider **METHYLPREDNISOLONE (Solu-Medrol) at 2mg/kg IV** **P**



# Protocol 70

## PEDIATRIC SEIZURES

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M



**NOTE TO PREHOSPITAL PROVIDERS:**

Anticipate respiratory depression if **MIDAZOLAM HYDROCHLORIDE (VERSED)** is administered. Refer to **PEDIATRIC RESPIRATORY ARREST PROTOCOL #67** 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.

# Protocol 71

## PEDIATRIC ALTERED LEVEL OF CONSCIOUSNESS/BRUE \*BRIEF RESOLVED UNEXPLAINED EVENT

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

- Assess CABs
- Immobilize (as indicated) Refer to **SPINE INJURY PROTOCOL #23** ♦
- 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

Glucose ≤60mg/dl or unknown

B	EMT	B
I	EMT-I	I
P	Paramedic	P

Consider **ORAL GLUCOSE** to gums if venous access unavailable and patient is awake and can tolerate PO intake **OR GLUCAGON 0.03mg/kg IN** Max total dose 1mg

Establish IV/IO NS at TKO  
**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

Reassess Respiratory Effort

Altered level of consciousness

Improved level of consciousness

Inadequate Respiratory Effort

Adequate Respiratory Effort

Consider **NALOXONE (Narcan) at 0.1mg/kg IN** for suspected narcotic exposure Max single dose 2mg

Secure airway as appropriate

**\*\*NALOXONE (Narcan) at 0.1mg/kg IV/IO/IM/IN** if respiratory rate <12 Max single dose 2mg Max total dose 6mg

Support CABs  
 Observe  
 Keep warm  
 TRANSPORT

**M** \*Contact **Medical Control Physician** for BRUE, Brief Resolved Unexplained Event

**NOTE TO PREHOSPITAL PROVIDERS:**

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

**I** \* 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

# Protocol 72

## PEDIATRIC TOXIC EXPOSURES / INGESTIONS

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

**POISON CONTROL**  
**(800) 222-1222**

	<ul style="list-style-type: none"> <li>•Assess scene safety as indicated:                     <ul style="list-style-type: none"> <li>▪Appropriate body substance isolation</li> <li>▪Refer to appropriate <b>HAZMAT PROTOCOL #48-52</b> ◆</li> <li>▪Stop exposure</li> </ul> </li> <li>•Assess CABs</li> <li>•Secure airway as appropriate</li> <li>•Support ventilation with BVM as indicated</li> <li>•Administer 100% <b>OXYGEN</b></li> <li>•Pulse oximetry</li> <li>•Complete initial assessment</li> </ul>	
I	<ul style="list-style-type: none"> <li>•Cardiac Monitor</li> <li>•Establish <b>IV/IO NS at TKO</b></li> </ul>	P

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

Consider **NALOXONE (Narcan) 2mg IN**, if respiratory rate <12

	<p><b>EXPOSURE TO OR INGESTION OF NARCOTICS OR UNKNOWN SUBSTANCES</b></p> <p>For altered level of consciousness consider:</p> <ul style="list-style-type: none"> <li>•<b>NALOXONE (Narcan) at 0.1mg/kg IV/IO/IM/IN</b> if respiratory rate &lt;12. Max single dose 2 mg</li> <li>•If seizures occur, refer to <b>PEDIATRIC SEIZURES PROTOCOL #70</b> ◆ as indicated</li> <li>•<b>GLUCOSE</b></li> <li>•<b>DO NOT INDUCE VOMITING.</b></li> </ul>	P
--	--	---

**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

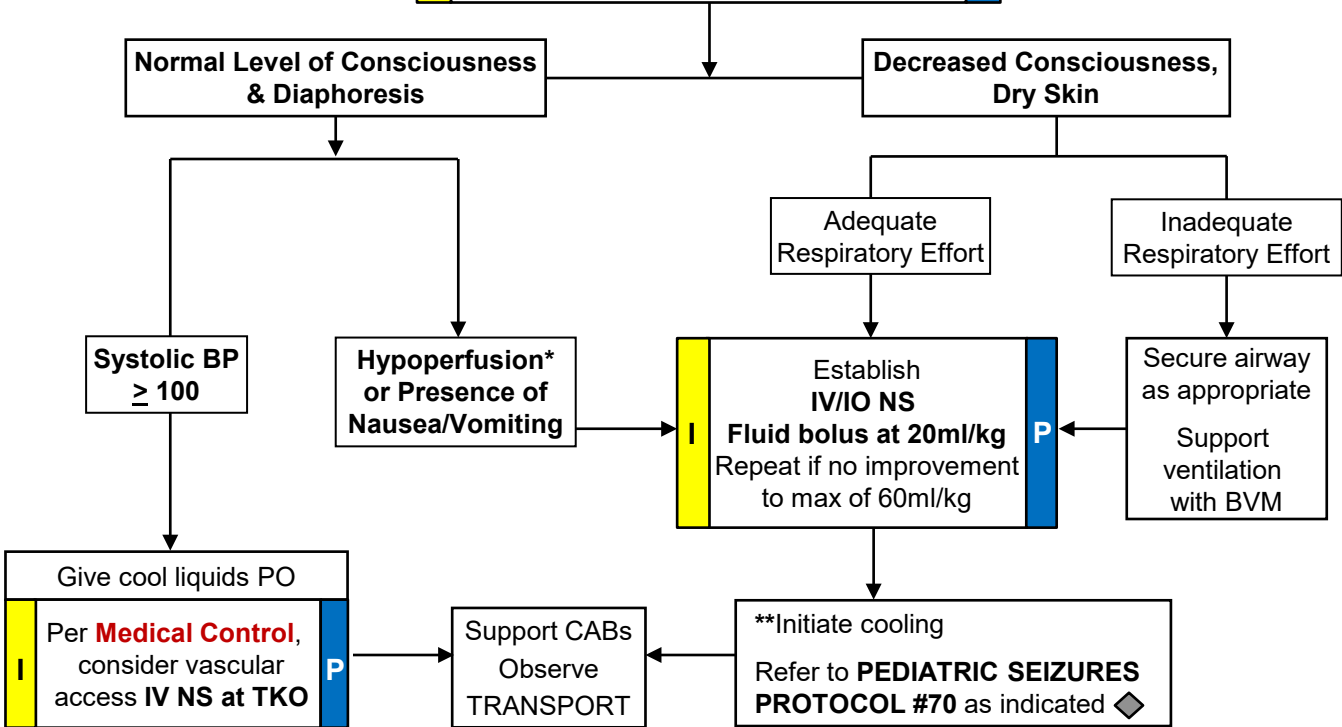
**NOTE TO PREHOSPITAL PROVIDERS:**  
 Anticipate vomiting, respiratory arrest, seizure, dysrhythmias and refer to indicated protocol(s). ◆

# Protocol 73

## PEDIATRIC HEAT EMERGENCIES

- Assess CABs
  - Administer 100% **OXYGEN**
  - Complete initial assessment. Assess for:
    - Hot, dry, flushed or ashen skin
    - Tachycardia
    - Tachypnea
    - Diaphoresis
    - Decreasing consciousness
    - Profound weakness and fatigue
    - Vomiting, diarrhea
    - Hypoperfusion
    - Muscle cramps
  - Assess scene for environmental risks
    - Place in a cool environment
    - Remove clothing as appropriate
- I** •Cardiac Monitor **P**

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M



**NOTE TO PREHOSPITAL PROVIDERS:**

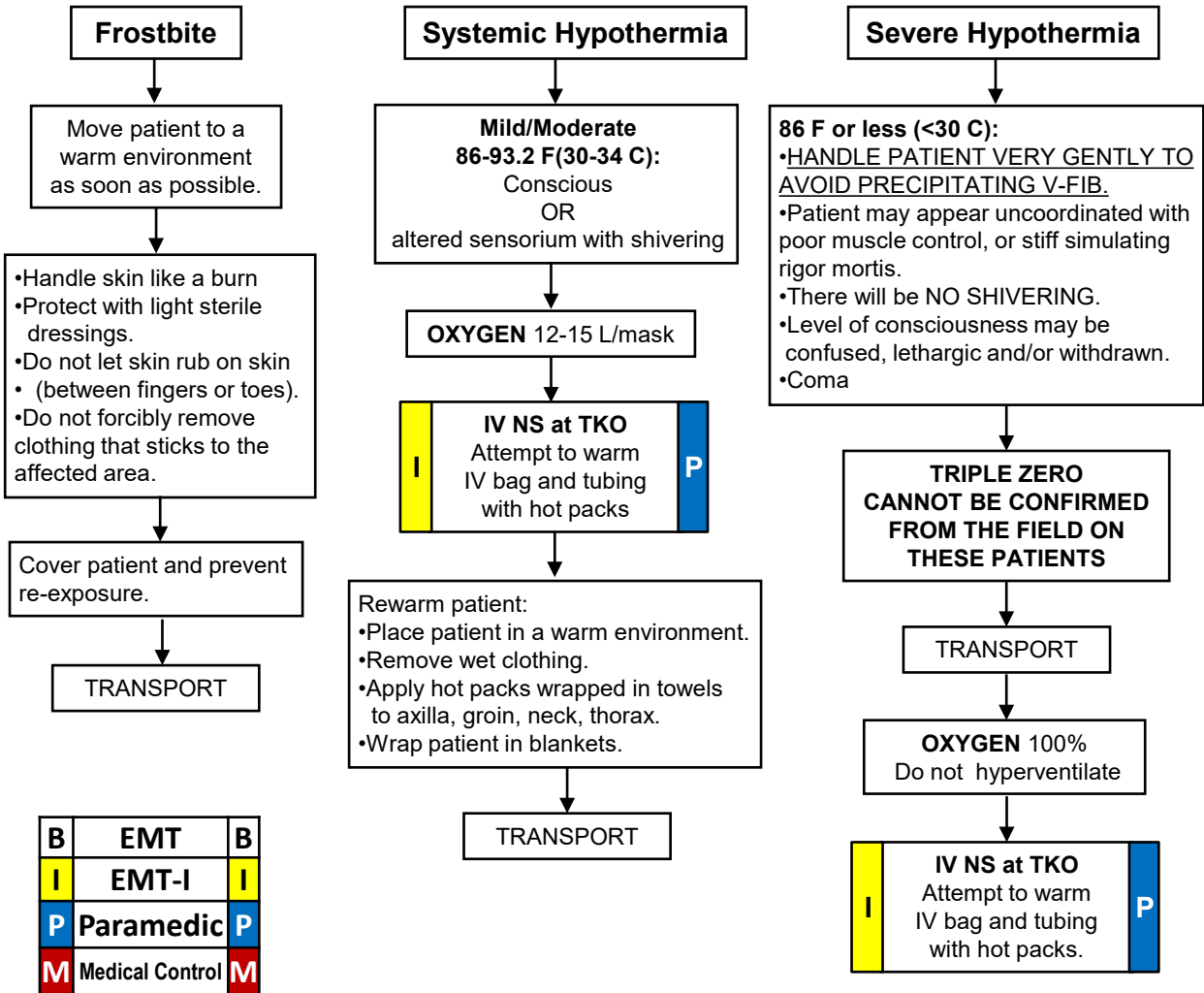
**\*\*Cooling Techniques**

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 #37** ◆

# Protocol 74

## PEDIATRIC COLD EMERGENCIES



B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

**AT DISCRETION OF MEDICAL CONTROL:**

Refer to **PEDIATRIC PAIN CONTROL PROTOCOL #61** as necessary for severe pain  
 Consider **FENTANYL at 1mcg/kg IV/IO/IM/IN**. Max single dose 50mcg. Max total dose 150mcg.  
**OR MORPHINE SULFATE (if available) at 0.1mg/kg IV/IO/IM**. Max total dose 10mg.

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

**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 or Pulseless V-Tach  
 Refer to **PEDIATRIC CARDIAC ARREST PROTOCOL #62**

# Protocol 75

## PEDIATRIC DROWNING

- Assess airway, ventilation, and respiratory effort
- Assess for hypothermia:  
Refer to **PEDIATRIC COLD EMERGENCIES PROTOCOL #74** ◆

B	EMT	B
I	EMT-I	I
P	Paramedic	P

**ADEQUATE RESPIRATORY EFFORT**

**INADEQUATE RESPIRATORY EFFORT**

- Administer 100% **OXYGEN**
- Immobilize (as indicated)  
Refer to **SPINE INJURY PROTOCOL #23** ◆

- Perform airway maneuver, maintaining in-line Cervical spine stabilization as indicated:
  - Jaw thrust
  - Suction
- Relieve upper airway obstruction as indicated
- Ventilate with BVM 100% **OXYGEN** at a rate of 20-30 breaths per minute
- Spinal immobilization if indicated

Reassess airway patency

patent

obstructed

- Complete initial assessment
- Remove wet clothing
- Rewarm. Place heat packs to axilla and groin, taking care to avoid direct skin contact.

Refer to **PEDIATRIC RESPIRATORY ARREST PROTOCOL #67** ◆  
OR  
**PEDIATRIC CARDIAC ARREST PROTOCOL #62**  
as indicated  
◆

Pulse Oximetry

Establish IV/IO NS at TKO  
Cardiac Monitor

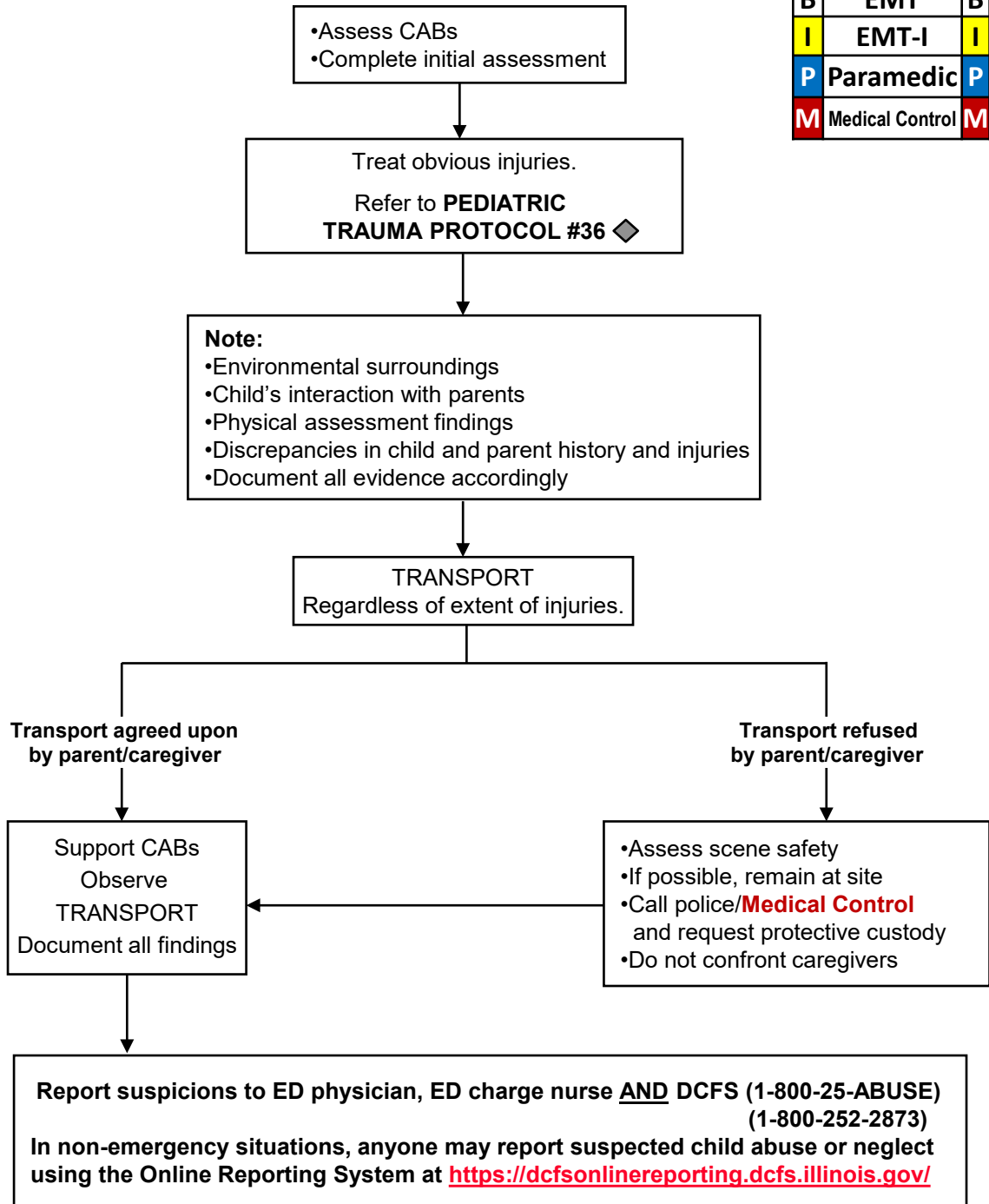
Refer to **PEDIATRIC SEIZURES PROTOCOL #70** ◆  
OR APPROPRIATE PEDIATRIC  
**DYSRHYTHMIA PROTOCOLS #63-65** ◆

Support CABs  
Observe  
Keep warm  
TRANSPORT

# Protocol 76

## SUSPECTED CHILD ABUSE AND NEGLECT PAGE 1 OF 2

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M



# Protocol 76

## SUSPECTED CHILD ABUSE AND NEGLECT PAGE 2 OF 2

### NOTE TO PREHOSPITAL PERSONNEL:

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

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).



# Protocol 77

## DOMESTIC VIOLENCE, SPOUSAL ABUSE, GERIATRIC ABUSE, AND SEXUAL ASSAULT PAGE 1 OF 2

### 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

<b>B</b>	<b>EMT</b>	<b>B</b>
<b>I</b>	<b>EMT-I</b>	<b>I</b>
<b>P</b>	<b>Paramedic</b>	<b>P</b>

# Protocol 77

## DOMESTIC VIOLENCE, SPOUSAL ABUSE, GERIATRIC ABUSE, AND SEXUAL ASSAULT PAGE 2 OF 2

### 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 #77**  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

B	EMT	B
I	EMT-I	I
P	Paramedic	P

**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**

# Protocol 78

## TRIPLE ZERO / DNR / CRITERIA FOR INITIATION OF CPR

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>B</b>	<b>EMT</b>	<b>B</b>
<b>I</b>	<b>EMT-I</b>	<b>I</b>
<b>P</b>	<b>Paramedic</b>	<b>P</b>
<b>M</b>	<b>Medical Control</b>	<b>M</b>

- B. Transmit a rhythm strip via telemetry, as requested.
- 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 an on-line **Medical Control Physician** 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.

# Protocol 79

## ADULT RESTRAINTS AND BEHAVIORAL EMERGENCIES

**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!

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M

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. Only approved spit barrier devices may be used.
  - 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 MEDICAL CONTROL:**

**M**

For the patient exhibiting Excited Delirium, may consider **KETAMINE (if available) 2mg/kg IM**  
Monitor via pulse oximetry and capnography (if available).

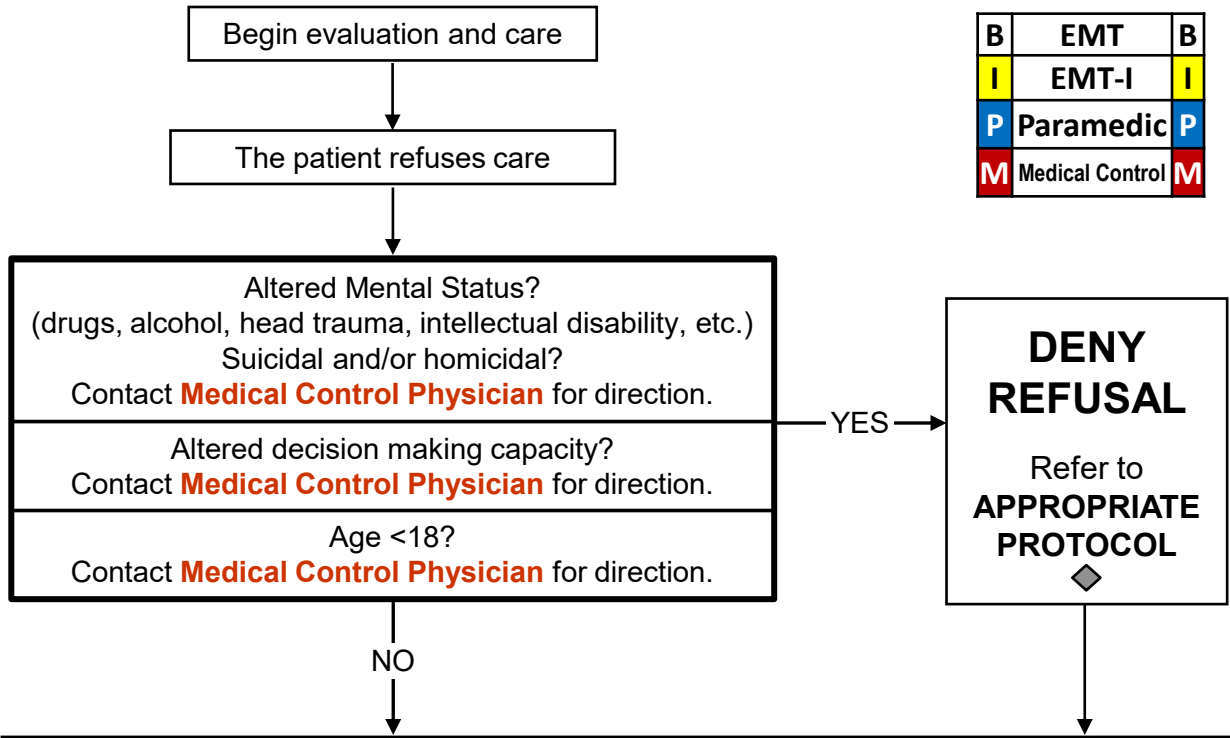
### **NOTE TO PREHOSPITAL PROVIDERS:**

Once restrained, continue to be conscious of the patient's airway and other medical needs.

# Protocol 80

## REFUSALS OF CARE

B	EMT	B
I	EMT-I	I
P	Paramedic	P
M	Medical Control	M



**Contact **Medical Control Physician** with any questions.**

# Protocol 81

## NITROUS OXIDE ADMINISTRATION

P Paramedic P

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
- Distended abdomen / possible bowel obstruction
- Head injury
- Pregnancy
- Fire hazard situations
- Any other situation in which the patient cannot self administer **NITROUS OXIDE**

# Protocol 82

## EXTERNAL JUGULAR VEIN CANNULATION

P Paramedic P

- P
- Position patient in Trendelenburg position.
  - Turn the head away from the side to be cannulated.
  - Prep the skin with cleansing prep.
  - Apply traction to the skin just above the clavicle.
  - 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.
  - Carefully lower the needle and catheter and advance them about 2mm further into the vein.
  - Advance the catheter over the needle into the vein and remove the needle.
  - Discard the needle in a sharps container – **do not recap the needle.**
  - Attach IV tubing to the hub of the catheter and open the flow regulator to assure fluid flows freely.
  - Secure the catheter to the skin.
- P

# Protocol 83

## DECOMPRESSION OF TENSION PNEUMOTHORAX

I	EMT-I	I
P	Paramedic	P

- 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 2<sup>nd</sup> 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.

**NOTE TO PREHOSPITAL PROVIDERS:**

For pediatric patients, preferred site is second intercostal space in the mid-clavicular line.  
For adults, use 14 gauge needle at least 1.5 inches in length.



# Protocol 84

## 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 supraglottic airway device and/or needle cricothyrotomy equipment available.**
- Prepare patient and equipment.
- Monitor via pulse oximetry and capnography (if available).

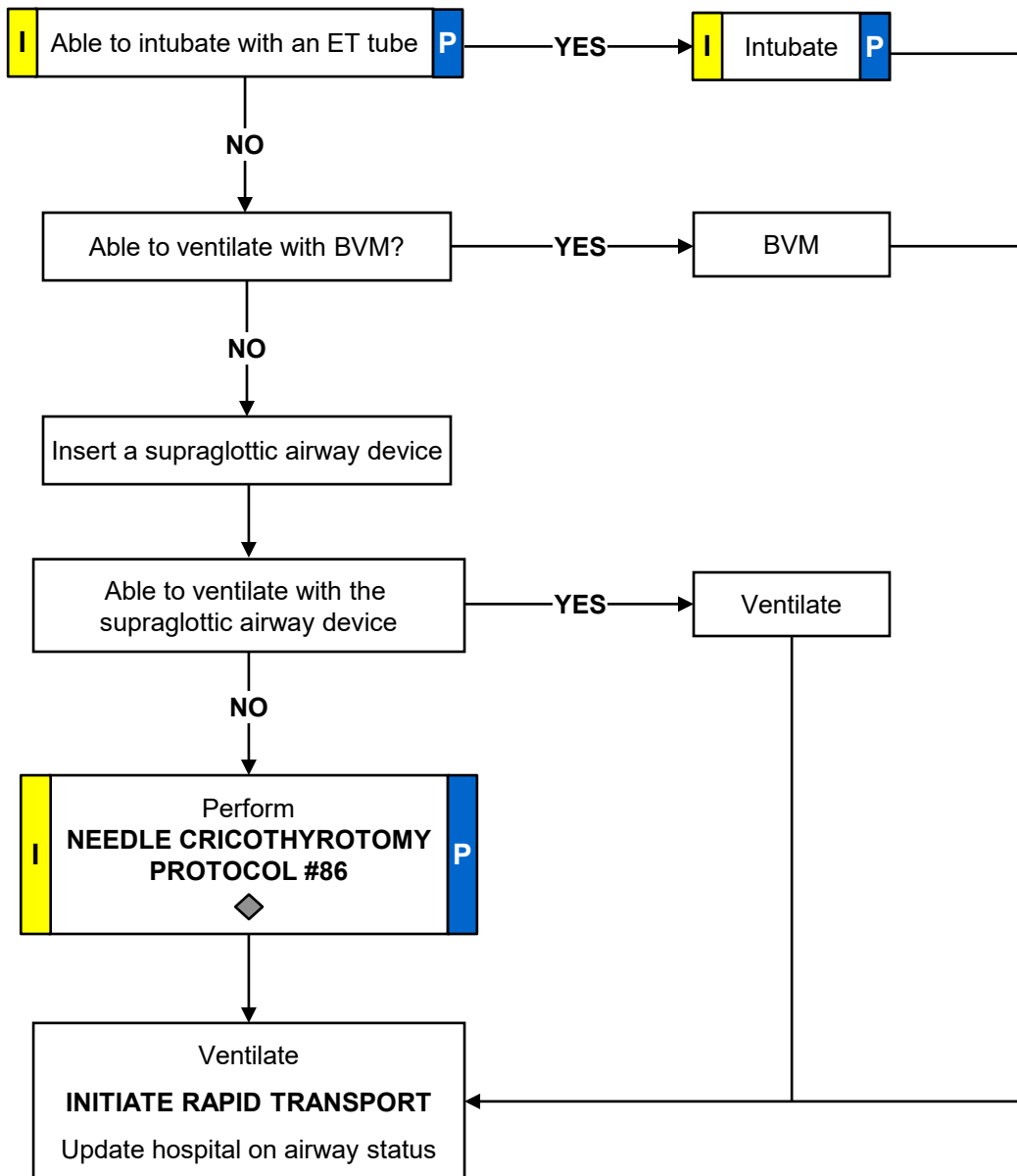
Adults	Pediatrics
Continue to assist ventilations during the procedure	Continue to assist ventilations during the procedure
<p><b>MIDAZOLAM HYDROCHLORIDE (Versed) in 5mg increments slow IV/IO/IM/IN</b> until sedation is achieved up to a max total dose of 10mg. Monitor via pulse oximetry and capnography (if available).</p> <p><u>OR if using Ketamine (if available):</u></p> <p><b>KETAMINE (if available) 2mg/kg IV/IO/IM/IN</b> (may repeat x 1)</p> <p><b>MIDAZOLAM HYDROCHLORIDE (Versed) 2.5 mg IV/IO/IM/IN</b> to maintain sedation. Monitor via pulse oximetry and capnography (if available).</p>	<p><b>MIDAZOLAM HYDROCHLORIDE (Versed) in 0.1mg/kg increments slow IV/IO</b> every 2 minutes up to a max total dose of 5mg. Monitor via pulse oximetry and capnography (if available).</p> <p>If no IV, may administer <b>MIDAZOLAM HYDROCHLORIDE (Versed) at 0.15 mg/kg up to 2.5mg IM/IN</b> (may repeat x 1) Monitor via pulse oximetry and capnography (if available)</p> <p><u>OR if using Ketamine (if available):</u></p> <p><b>KETAMINE (if available) 2mg/kg IV/IO/IM/IN</b> (may repeat x 1)</p> <p><b>MIDAZOLAM HYDROCHLORIDE (Versed) 0.1mg/kg IV/IO/IM/IN</b> to maintain sedation. Monitor via pulse oximetry and capnography (if available).</p>

- **If intubation unsuccessful:**
  - Continue to assist ventilations with BVM
  - Refer to **ADULT AIRWAY PROTOCOL #85** ◆
  - Contact **Medical Control**

# Protocol 85

## ADULT AIRWAY

B	EMT	B
I	EMT-I	I
P	Paramedic	P



# Protocol 86

## NEEDLE CRICOTHYROTOMY

I	EMT-I	I
P	Paramedic	P

- |   |   |   |
|---|---|---|
| I | <ul style="list-style-type: none"> <li>• Attempt to ventilate the patient with BVM.</li> <li>• Attach an empty syringe to a large gauge angiocath.</li> <li>• Locate the thyroid notch, the cricothyroid notch, and the cricoid cartilage.</li> <li>• Cleanse area with cleansing prep.</li> <li>• Grasp the thyroid cartilage firmly in the nondominant hand.</li> <li>• While aspirating, puncture the cricoid membrane with the angiocath, directing it caudally, at a 45-degree angle. <b>(The plunger of the syringe will move freely when the needle has entered the trachea.)</b></li> <li>• Remove the needle from the catheter and advance the catheter into the trachea.</li> <li>• Reattach the syringe to the catheter and aspirate again to insure correct placement.</li> <li>• Attach the plastic adapter from a #3 ET tube to the catheter.</li> <li>• Attach ambu bag to the adapter and ventilate the patient.</li> <li>• Ventilate with 2-3 seconds of inspiration followed by passive exhalation.</li> <li>• Auscultate bilateral axillae and epigastrium.</li> </ul> | P |
|---|---|---|

# Protocol 87

## TRANSCUTANEOUS CARDIAC PACING

P Paramedic P

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, monitor via pulse oximetry and capnography (if available)

# Protocol 88

## CONCEALED CARRY / FIREARM

B	EMT	B
I	EMT-I	I
P	Paramedic	P

### 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 page 1 of 2

## WEIGHT CONVERSION TABLE: POUNDS TO KILOGRAMS

WEIGHT CONVERSION TABLE: 2.2 lbs = 1 kg

lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	Kg	lbs	kg	lbs	Kg
1	0.5	31	14.1	61	27.7	91	41.4	121	55	151	68.6	181	82.3	211	95.9	241	109.5
2	0.9	32	14.5	62	28.2	92	41.8	122	55.5	152	69.1	182	82.7	212	96.4	242	110
3	1.4	33	15	63	28.6	93	42.3	123	55.9	153	69.5	183	83.2	213	96.8	243	110.5
4	1.8	34	15.5	64	29.1	94	42.7	124	56.4	154	70	184	83.6	214	97.3	244	110.9
5	2.3	35	15.9	65	29.5	95	43.2	125	56.8	155	70.5	185	84.1	215	97.7	245	111.4
6	2.7	36	16.4	66	30	96	43.6	126	57.3	156	70.9	186	84.5	216	98.2	246	111.8
7	3.2	37	16.8	67	30.5	97	44.1	127	57.7	157	71.4	187	85	217	98.6	247	112.3
8	3.6	38	17.3	68	30.9	98	44.5	128	58.2	158	71.8	188	85.5	218	99.1	248	112.7
9	4.1	39	17.7	69	31.4	99	45	129	58.6	159	72.3	189	85.9	219	99.5	249	113.2
10	4.5	40	18.2	70	31.8	100	45.5	130	59.1	160	72.7	190	86.4	220	100	250	113.6
11	5	41	18.6	71	32.3	101	45.9	131	59.5	161	73.2	191	86.8	221	100.5	251	114.1
12	5.4	42	19.1	72	32.7	102	46.4	132	60	162	73.6	192	87.3	222	100.9	252	114.5
13	5.9	43	19.5	73	33.2	103	46.8	133	60.5	163	74.1	193	87.7	223	101.4	253	115
14	6.4	44	20	74	33.6	104	47.3	134	60.9	164	74.5	194	88.2	224	101.8	254	115.5
15	6.8	45	20.5	75	34.1	105	47.7	135	61.4	165	75	195	88.6	225	102.3	255	115.9
16	7.3	46	20.9	76	34.5	106	48.2	136	61.8	166	75.5	196	89.1	226	102.7	256	116.4
17	7.7	47	21.5	77	35	107	48.6	137	62.3	167	75.9	197	89.5	227	103.2	257	116.8
18	8.2	48	21.8	78	35.5	108	49.1	138	62.7	168	76.4	198	90	228	103.6	258	117.3
19	8.6	49	22.3	79	35.9	109	49.5	139	63.2	169	76.8	199	90.5	229	104.1	259	117.7
20	9.1	50	22.7	80	36.4	110	50	140	63.6	170	77.3	200	90.9	230	104.5	260	118.2
21	9.5	51	23.2	81	36.8	111	50.5	141	64.1	171	77.7	201	91.4	231	105	261	118.6
22	10	52	23.6	82	37.3	112	50.9	142	64.5	172	78.2	202	91.8	232	105.5	262	119.1
23	10.5	53	24.1	83	37.7	113	51.4	143	65	173	78.6	203	92.3	233	105.9	263	119.5
24	10.9	54	24.5	84	38.2	114	51.8	144	65.5	174	79.1	204	92.7	234	106.4	264	120
25	11.4	55	25	85	38.6	115	52.3	145	65.9	175	79.5	205	93.2	235	106.8	265	120.5
26	11.8	56	25.5	86	39.1	116	52.7	146	66.4	176	80	206	93.6	236	107.3	266	120.9
27	12.3	57	25.9	87	39.5	117	53.2	147	66.8	177	80.5	207	94.1	237	107.7	267	121.4
28	12.7	58	26.4	88	40	118	53.6	148	67.3	178	80.9	208	94.5	238	108.2	268	121.8
29	13.2	59	26.8	89	40.5	119	54.1	149	67.7	179	81.4	209	95	239	108.6	269	122.3
30	13.6	60	27.3	90	40.9	120	54.5	150	68.2	180	81.8	210	95.5	240	109.1	270	122.7

# Appendix A page 2 of 2

## WEIGHT CONVERSION TABLE: 2.2 lbs = 1 kg

lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg
271	122.9	301	136.5	331	150.1	361	163.7	391	177.3	421	190.9	451	204.5
272	123.3	302	136.9	332	150.5	362	164.2	392	177.8	422	191.4	452	205
273	123.8	303	137.4	333	151	363	164.6	393	178.2	423	191.8	453	205.4
274	124.2	304	137.8	334	151.4	364	165.1	394	178.8	424	192.3	454	205.9
275	124.7	305	138.3	335	151.9	365	165.5	395	179.1	425	192.7	455	206.3
276	125.1	306	138.7	336	152.4	366	166	396	179.6	426	193.2	456	206.8
277	125.6	307	139.2	337	152.8	367	166.4	397	180	427	193.6	457	207.2
278	126	308	139.7	338	153.3	368	166.9	398	180.5	428	194.1	458	207.7
279	126.5	309	140.1	339	153.7	369	167.3	399	180.9	429	194.5	459	208.1
280	127	310	140.6	340	154.2	370	167.8	400	181.4	430	195.0	460	208.6
281	127.4	311	141	341	154.6	371	168.2	401	181.8	431	195.4	461	209.1
282	127.9	312	141.5	342	155.1	372	168.7	402	182.3	432	195.9	462	209.5
283	128.3	313	141.9	343	155.5	373	169.1	403	182.7	433	196.4	463	210
284	128.8	314	142.4	344	156	374	169.6	404	183.2	434	196.8	464	210.4
285	129.2	315	142.8	345	156.4	375	170	405	183.7	435	197.3	465	210.9
286	129.7	316	143.3	346	156.9	376	170.5	406	184.1	436	197.7	466	211.3
287	130.1	317	143.7	347	157.9	377	171	407	184.6	437	198.2	467	211.8
288	130.6	318	144.2	348	157.8	378	171.4	408	185	438	198.6	468	212.2
289	131	319	144.6	349	158.3	379	171.9	409	185.5	439	199.1	469	212.7
290	131.5	320	145.1	350	158.7	380	172.3	410	185.9	440	199.5	470	213.1
291	131.9	321	145.6	351	159.2	381	172.8	411	186.4	441	200	471	213.6
292	132.4	322	146	352	159.6	382	173.2	412	186.8	442	200.4	472	214
293	132.9	323	146.5	353	160.1	383	173.7	413	187.3	443	200.9	473	214.5
294	133.3	324	146.9	354	160.5	384	174.1	414	187.7	444	201.3	474	215.
295	133.8	325	147.4	355	161	385	174.6	415	188.2	445	201.8	475	215.4
296	134.2	326	147.8	356	161.4	386	175	416	188.6	446	202.3	476	215.9
297	134.7	327	148.3	357	161.9	387	175.5	417	189.1	447	202.7	477	216.3
298	135.1	328	148.7	358	162.3	388	175.9	418	189.6	448	203.2	478	216.8
299	135.6	329	149.2	359	162.8	389	176.4	419	190	449	203.6	479	217.2
300	136	330	149.6	360	163.2	390	176.9	420	190.5	450	204.1	480	217.7

# Appendix B

## PEDIATRIC FLUID WEIGHT BASED CHART

**NOTE: Calculations are for 20ml/kg bolus of fluids**

lbs	kg	NS ml	lbs	kg	NS ml	lbs	kg	NS ml
1	0.5	9	21	9.5	191	41	18.6	373
2	0.9	18	22	10.0	200	42	19.1	382
3	1.4	27	23	10.5	209	43	19.5	391
4	1.8	36	24	10.9	218	44	20.0	400
5	2.3	45	25	11.4	227	45	20.5	409
6	2.7	55	26	11.8	236	46	20.9	418
7	3.2	64	27	12.3	245	47	21.4	427
8	3.6	73	28	12.7	255	48	21.8	436
9	4.1	82	29	13.2	264	49	22.3	445
10	4.5	91	30	13.6	273	50	22.7	455
11	5.0	100	31	14.1	282	51	23.2	464
12	5.5	109	32	14.5	291	52	23.6	473
13	5.9	118	33	15.0	300	53	24.1	482
14	6.4	127	34	15.5	309	54	24.5	491
15	6.8	136	35	15.9	318	55	25.0	500
16	7.3	145	36	16.4	327	56	25.5	509
17	7.7	155	37	16.8	336	57	25.9	518
18	8.2	164	38	17.3	345	58	26.4	527
19	8.6	173	39	17.7	355	59	26.8	536
20	9.1	182	40	18.2	364	60	27.3	545



# Appendix C

Revised: 03/01/22

Effective: 05/01/98

## DRUG INDEX: MEDICATION LIST

DRUG NAME	BLS	ILS	ALS
ADENOSINE (ADENOCARD)	X	X	IV/IO
ALBUTEROL (VENTOLIN)/IPRATROPIUM (ATROVENT)	NEB	NEB	NEB
AMIODARONE	X	IV/IO	IV/IO
ASPIRIN CHEW TAB	PO	PO	PO
ATROPINE	X	IV/IO	IV/IO
CALCIUM GLUCONATE	X	X	IV/IO
DEXTROSE (D50)	X	IV/IO	IV/IO
DIPHENHYDRAMINE (BENADRYL)	X	IV/IM	IV/IM
EPINEPHRINE 1:1000 (1mg/ml)	IM	IM/NEB	IM/NEB
EPINEPHRINE 1:10,000 (1mg/10ml)	X	IV/IO	IV/IO
EPI-PEN (ADULT AND JUNIOR)	IM	IM	IM
FENTANYL	X	X	IV/IO/IM/IN
FUROSEMIDE	X	X	IV
GLUCAGON	IN	IM/IN	IM/IN
(ORAL) GLUCOSE	PO	PO	PO
KETAMINE	X	X	IV/IO/IM/IN
MAGNESIUM SULFATE	X	X	IVPB
METHYLPREDNISOLONE (SOLU-MEDROL)	X	X	IV
MIDAZOLAM (VERSED)	X	X	IV/IO/IM/IN
MORPHINE	X	X	IV/IO/IM
NALOXONE (NARCAN)	IN	IV/IO/IM/IN	IV/IO/IM/IN
NITROGLYCERIN	X	SL	SL
NITROUS OXIDE	X	X	INH
SODIUM BICARBONATE	X	X	IV/IO
TETRACAINE	X	EYE DROP	EYE DROP
TRANEXAMIC ACID (TXA)	X	X	IVPB
ONDANSETRON (ZOFTRAN)	ODT	ODT/IV	ODT/IV
0.9% SODIUM CHLORIDE (NORMAL SALINE)	X	IV/IO	IV/IO

# Appendix D

## ADULT AND PEDIATRIC DEXTROSE CHARTS

### ADULT DEXTROSE

Product	50% Dextrose (25gm/50mL)	10% Dextrose (25g/250mL or 50g/500mL or 100g/1000mL)
<b>Administration Instructions</b>	Administer 50mL IV/IO	<ul style="list-style-type: none"> <li>• Infuse 100mL boluses up to a max of 500mL</li> <li>• Reassess lung sounds and mental status after each 100ml bolus.</li> <li>• If patient becomes more alert and blood glucose &gt;60, slow infusion rate to TKO</li> </ul>

### PEDIATRIC DEXTROSE

Product	25% Dextrose (2.5g/10mL)	12.5% Dextrose (2.5g/20mL)	10% Dextrose (25g/250mL)
<b>Administration Instructions</b>	2ml/kg IV/IO  Dilution Instructions if needed: Dilute 50 % Dextrose 1:1 with sterile water or normal saline to make 25% Dextrose  Max initial dose: 100ml (25g)	4ml/kg IV/IO  Dilution Instructions If needed: Dilute 25% Dextrose 1:1 with sterile water or normal saline to make 12.5% Dextrose  Max initial dose: 200mL (25g)	5ml/kg IV/IO  Preferred for neonate <5kg  Max initial dose: 250mL (25g)