# Region X Standard Operating Procedures
## Log of Changes

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<tr>
<th>Date of Change</th>
<th>Protocol Name</th>
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These protocols have been developed and approved through a collaborative process involving the four Emergency Medical Services (EMS) Systems located in the EMS/Trauma Region X of the Illinois Department of Public Health (IDPH).

- Condell Medical Center EMS System
- Highland Park Hospital EMS System
- Saint Francis Hospital EMS System
- Vista Health/North Lake County EMS System

These protocols shall be used:

- as the written practice guidelines and pre-hospital standing medical orders as approved by the EMS Medical Directors and to be initiated by the System EMS personnel for off-line medical control,
- as the standing medical orders to be used by Emergency Communication Radio Nurses (ECRN’s) when providing on-line medical control,
- in disaster situations, given that the usual and customary forms of communication are contraindicated as specified in the Region X Multiple Patient Management Plan (MPMP).

The signatures of the agents listed below officially authorize the provision of emergency medical care by Region X EMS personnel and hospital-based Emergency Communication Registered Nurses. These protocols have been approved by the Illinois Department of Public Health.

Officially approved: _______________________________ (Date)

Scott French, MD, FACEP
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The following Standard Operating Procedures (SOPs) are to be employed for all patients requiring pre-hospital medical treatment within the IDPH designated EMS/Trauma Region X.

Important points:

- Care is to be initiated consistent with these Standard Operating Procedures upon the arrival of EMS or at the earliest possible time after EMS determines that the scene is considered to be safe.
- EMS System providers are authorized to carry out these protocols to the extent necessitated by the patient’s condition.
- ECRN’s may give only those orders outlined in these protocols. *Any deviations from Standard Operating Procedures are to be made in collaboration with the Emergency Department (ED) Physician.*
- If a patient’s situation is not covered by the standard operating procedures, providers should initiate routine medical or trauma care and **Contact Medical Control** at the appropriate hospital for further direction from an ED physician. In all circumstances, such physicians have the latitude to deviate from these protocols if it is believed that the deviation is in the best interest of the patient.
- Under no circumstances shall emergency pre-hospital care be delayed while attempting to establish contact with Medical Control.
- EMS personnel may withhold or withdraw resuscitative efforts in accordance with *Withdrawing Resuscitative Efforts* found on page 11 or *Withholding Resuscitative Efforts* found on page 85 of these Standard Operating Procedures.
- Unless otherwise specified, the pediatric patient is considered to be under the age of 16.
- An alternate order of listed interventions may be appropriate based upon patient assessment.
- It is understood that during multiple patient incidents altered standards of care may be necessary in order to provide the greatest good to the greatest number of patients.
- Pediatric medication dosages should not exceed adult dosages unless specifically indicated.
- If there is any indication that a patient’s condition exceeds the capabilities of a basic life support (BLS) response, **Contact Medical Control** for guidance.
- **Procedures/Interventions are dictated by individual System permissions.**
SEQUENCE FOR TRANSMISSION OF PATIENT INFORMATION

1. Identify provider name and vehicle number

2. Age, gender, and approximate weight

3. Level of consciousness

4. Chief Complaint - Degree Of Distress - Assessment Findings
   - Blood Pressure
   - Pulse
   - Respirations - rate and degree of distress
   - Pulse Oximetry
   - Capnography (when indicated)
   - Blood Glucose level (when indicated)
   - Lung sounds (when indicated)
   - Pupils
   - Skin condition and color
   - Glasgow Coma Scale
   - Pain Assessment

5. Treatment rendered and the patient’s response to the treatment rendered

6. History of present illness or injury, time of onset, mechanism of injury, and/or nature of illness

7. Past medical history

8. Allergies

9. Medications

10. ETA and destination
ABBREVIATED REPORT

An abbreviated report may be provided to, or requested by Medical Control in situations where resources are limited and/or the patient’s condition is critical

1. Identify provider name, vehicle number and receiving hospital

2. Declare “This is an abbreviated radio report”

3. Nature of situation and protocol being followed

4. Age and gender of patient

5. Chief complaint, brief history of present illness/injury and time of onset

6. Airway and vascular access status

7. Current vital signs, Glasgow Coma Scale

8. Major interventions completed or being attempted

9. ETA to receiving hospital

Be prepared to provide detailed information upon arrival at the hospital.
ALL patient care begins with assessing scene safety and the use of standard precautions.

1. INITIAL/PRIMARY ASSESSMENT
   a. Airway
   b. Breathing
   c. Circulation
   d. AVPU and Glasgow Coma Scale determination
   e. Expose and examine as indicated

2. IDENTIFY PRIORITY PATIENTS AND MAKE TRANSPORT DECISION.

3. ADDITIONAL ASSESSMENT (To include Focused History, Physical Exam and SAMPLE History)
   a. Vital Signs, pain scale
   b. Determine weight as indicated
   c. Apply pulse oximeter and capnography/EtCO2 (if indicated) and record reading before and during OXYGEN administration. Administer OXYGEN, if Sp02 is less than 94% or patient shows signs of respiratory distress.
      • Nasal Cannula 2-6 liters/minute
      • Non-Rebreather Mask – 12-15 liters/minute
      • Bag Valve Mask – 15 liters/minute
   d. Have suction available and ensure patent airway using OPA or NPA.
   e. Determine blood glucose level if appropriate.
   f. Perform 12 Lead ECG and transmit if available.
   g. Reassess vital signs, pain scale, pulse oximetry and capnography/EtCO2 and patient condition as frequently as the patient’s condition indicates and after each intervention.
   h. In the absence of contraindications (e.g. CPR or spinal trauma), consider elevation head of bed to 30 degrees.

4. CONTACT MEDICAL CONTROL

5. TRANSPORT TO THE CLOSEST APPROPRIATE FACILITY
   Closest appropriate facility means the comprehensive emergency department of patient choice within the department’s transport area or the nearest hospital in cases of life threatening emergencies.
Assess responsiveness
Assess pulse

RESPONSIVE
↓
Adult Routine Medical Care

UNRESPONSIVE
↓
If no breathing or only gasping, and no pulse felt within 10 seconds, begin compressions until AED is ready to analyze rhythm. Treat dysrhythmias per protocols using AED ↓
After 30 compressions, deliver 2 breaths. Continue 30:2 compressions to ventilation cycle for 2 minutes ↓
Consider advanced airway (Insertion of a supraglottic airway) Confirm device placement and ventilation With advanced airway in place, deliver 1 breath every 6 seconds Monitor status with capnography/EtCO2
1. Adult Routine Medical Care or Pediatric Routine Medical Care (position of comfort)

2. Prehospital personnel in contact with the patient at the time of AICD firing are in NO DANGER.

3. Treat dysrhythmias per protocols or AED except:
   
   a. If NO response, alter pad placement slightly between defibrillation attempts.
   b. Avoid direct placement of defib. pads over the AICD unit as this could damage the unit.

4. Any patient who has been defibrillated by his/her AICD should be strongly encouraged to seek medical attention regardless of the patient’s current condition.
TRANSITION OF CARE FROM AED TRAINED PERSONNEL TO ALS

PROCEDURE

On arrival of BLS trained personnel:
   a. Obtain report from the AED personnel
   b. Allow the AED to finish the cycle, continue CPR
   c. For suspected opioid emergency (if not previously given): Administer NARCAN 2 mg IN/IM every 3 minutes as needed to achieve desired effect to a maximum total of 10 mg
   d. Attach provider AED to the patient before disconnecting the AED

NOTE: For children 1 through 8 years of age, a standard AED may be used if pediatric dose-attenuator system is not available. For infants less than 1 year of age, manual selection defibrillation is preferred; however an AED with pediatric dose-attenuator is acceptable. If neither is available, a standard AED may be used.
ADULT ACUTE CORONARY SYNDROME

Adult Routine Medical Care

↓
ASPIRIN 81 mg x 4 (324 mg) PO
chewed and swallowed
if patient can tolerate
↓
Contact Medical Control to consider:
NTG 0.4mg SL x1 dose
and/or
ALS intercept
# ADULT TACHYCARDIA

## CONSIDER AND TREAT POSSIBLE UNDERLYING CAUSES

<table>
<thead>
<tr>
<th>Cause</th>
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<tr>
<td>Heart failure</td>
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<tr>
<td>Hypovolemia</td>
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<tr>
<td>Hypoxia</td>
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<tr>
<td>Hypoglycemia</td>
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<tr>
<td>Side effects of other drugs</td>
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</table>

Adult Routine Medical Care

↓

Instruct the patient to perform

VALSALVA MANEUVER
ADULT ACUTE PULMONARY EDEMA

Adult Routine Medical Care

\[\downarrow\]

**STABLE**

- Patient alert
- Skin warm and dry
- Systolic BP $\geq 90$ mmHg

\[\downarrow\]

Administer CPAP at 5cm/PEEP and titrate to desired effect (max PEEP=10)
Monitor status with capnography/EtCO2

\[\downarrow\]

**UNSTABLE**

- Altered mental status
- Systolic BP $< 90$ mmHg

\[\downarrow\]

Contact Medical Control for CPAP order

**Contact Medical Control** to consider:
- NTG 0.4mg SL x1 dose
  and/or
- ALS intercept

**NOTE:** At any time during CPAP treatment, if the patient shows signs and symptoms of deterioration, remove CPAP and consider supraglottic airway.
ADULT ASTHMA/COPD WITH WHEEZING

Adult Routine Medical Care
↓
ALBUTEROL 2.5 mg/3mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment with OXYGEN flow of 6 liters/minute
↓
If no improvement, administer ALBUTEROL 2.5 mg/3mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment
↓
If no improvement, administer ALBUTEROL 2.5 mg/3mL NEB treatment
May repeat every 5 minutes
↓
For severe distress Contact Medical Control to consider EPINEPHRINE 1:1,000 (1mg/mL) 0.5 mg IM

Do not delay transport while waiting for response

NOTE: ALBUTEROL/ATROVENT (DUONEB) and ALBUTEROL NEB treatment may be administered in-line for those patients requiring CPAP or supraglottic airway.

Contact Medical Control to consider use of CPAP in a patient with symptoms of COPD.
CARBON MONOXIDE/SMOKE INHALATION

Adult Routine Medical Care or Pediatric Routine Medical Care

↓

OXYGEN at 100%
Vomiting precautions

↓

NON-INVASIVE CARBON MONOXIDE MEASUREMENTS:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Signs and Symptoms</th>
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<tbody>
<tr>
<td>Less than 5%</td>
<td>None (Normal for non-smoker)</td>
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<tr>
<td>5 – 9%</td>
<td>Minor headache (May be normal for smoker)</td>
</tr>
<tr>
<td>10 – 19%</td>
<td>Headache, shortness of breath</td>
</tr>
<tr>
<td>20 – 29%</td>
<td>Headache, nausea, dizziness, fatigue</td>
</tr>
<tr>
<td>30 – 39%</td>
<td>Severe headache, vomiting, vertigo, altered LOC</td>
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<tr>
<td>40 – 49%</td>
<td>Confusion, syncope, tachycardia</td>
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<tr>
<td>50 – 59%</td>
<td>Seizures, shock, apnea</td>
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<tr>
<td>Greater than 59%</td>
<td>Coma, death, cardiac dysrhythmias</td>
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NOTE: If indicated, consider supraglottic airway.
Do not rely on pulse oximetry to indicate degree of hypoxia.
Consider cyanide poisoning in presence of smoke/fire situations.
# ADULT ALLERGIC REACTION
## ANAPHYLACTIC SHOCK

**Adult Routine Medical Care**

<table>
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<tr>
<th>ALLERGIC REACTION</th>
<th>ALLERGIC REACTION</th>
<th>ANAPHYLACTIC SHOCK</th>
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<tr>
<td><strong>STABLE</strong></td>
<td><strong>STABLE</strong></td>
<td><strong>UNSTABLE</strong></td>
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<tr>
<td>Hives, itching, and rash</td>
<td>WITH AIRWAY INVOLVEMENT</td>
<td>Altered mental status</td>
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<td>GI distress</td>
<td>Patient alert</td>
<td>Systolic BP &lt; 90 mmHg</td>
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<td><strong>Skin warm and dry</strong></td>
<td><strong>Skin warm and dry</strong></td>
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<tr>
<td>Systolic BP ≥ 90 mmHg</td>
<td>Systolic BP ≥ 90 mmHg</td>
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</tr>
<tr>
<td>⬇️</td>
<td>⬇️</td>
<td>⬇️</td>
</tr>
<tr>
<td>Apply ice/cold pack to site</td>
<td>EPINEPHRINE 1:1,000 (1 mg/mL)</td>
<td>Secure Airway</td>
</tr>
<tr>
<td>⬇️</td>
<td>0.5mg IM</td>
<td>⬇️</td>
</tr>
<tr>
<td>Benadryl 25mg PO/IM</td>
<td>⬇️</td>
<td>⬇️</td>
</tr>
<tr>
<td></td>
<td>Benadryl 50mg PO/IM</td>
<td>⬇️</td>
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<tr>
<td></td>
<td>If wheezing, ALBUTEROL 2.5 mg/3 mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment</td>
<td>If no improvement, administer</td>
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<tr>
<td></td>
<td>⬇️</td>
<td>ALBUTEROL 2.5 mg/3 mL NEB treatment every 5 minutes</td>
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<td></td>
<td>If no improvement, administer</td>
<td></td>
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<tr>
<td></td>
<td>ALBUTEROL 2.5 mg/3 mL NEB treatment every 5 minutes</td>
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**NOTE:** ALBUTEROL/ATROVENT (DUONEB) and ALBUTEROL NEB treatment may be administered in-line for those patients requiring supraglottic airway.
Adult Routine Medical Care

↓

Determine if patient meets Sepsis criteria:

Suspected or documented infection or altered mental status, and two (2) or more of the following vital signs:

- SBP < 90
- MAP <65
- Temperature > 38°C (100.4°F) OR < 36°C (96.8°F)
- Respiratory Rate > 20 breaths/min
- Heart Rate > 90 beats/min
- EtCO2 ≤ 25 mmHg

Contact Medical Control to notify of Sepsis assessment findings

Note: Mean Arterial Pressure (MAP): \( \frac{(DBP \times 2) + SBP}{3} \)
ADULT ALTERED MENTAL STATUS, SYNCOPE OR PRESYNCOPE

**CONSIDER ETIOLOGY**

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<th>Etiology</th>
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<tr>
<td>Diabetes</td>
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<tr>
<td>Drug Overdose</td>
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<tr>
<td>Poisoning</td>
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<tr>
<td>Alcohol related</td>
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<tr>
<td>Stroke</td>
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Adult Routine Medical Care
- Immobilize C-spine as indicated
- Obtain blood glucose level and record.
  - If blood glucose is < 60:
    - If patient is able to tolerate oral preparation, has gag reflex and able to protect own airway: ORAL GLUCOSE GEL 15 G or GLUCAGON 1 mg IM/IN
- If patient is not alert, respirations are decreased or a narcotic overdose is suspected:
  - NARCAN 2 mg IN/IM every 3 minutes as needed to achieve desired effect to a maximum total of 10 mg

**NOTE:** Attempt to identify substance(s) involved.
Any containers found at the scene with medications and/or substances should be brought to the emergency department providing that the transport of the item(s) do not pose a safety risk. Consider the use of restraints prior to the administration of NARCAN.
STROKE

Adult Routine Medical Care
↓
Determine time of onset of symptoms (last known well time)
Obtain blood glucose level and record,
if result <60
↓
GLUCAGON 1 mg IM/IN
↓
Perform Cincinnati Prehospital Stroke Scale
↓
Contact Medical Control for Stroke Alert
with Stroke Scale Response and Last Known Well Time
Document Findings
↓
If rapid neurologic deterioration (unequal pupils, extensor posturing, lateralizing signs),
ventilate with BVM at the following rates:
↓
Ventilate 1 breath every 3-6 seconds
Ventilate patient guided by capnography to aim for EtCO2 of 35 when there is a perfusing rhythm
↓

Cincinnati Prehospital Stroke Scale

<table>
<thead>
<tr>
<th>TEST</th>
<th>NORMAL</th>
<th>ABNORMAL</th>
</tr>
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<tbody>
<tr>
<td>FACIAL DROOP</td>
<td>Have patient show teeth or smile</td>
<td>Both sides of face move equally</td>
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<tr>
<td>ARM DRIFT</td>
<td>Patient closes eyes and holds both arms</td>
<td>Both arms move the same or don’t move at all</td>
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<td>straight out, palms up for 10 seconds</td>
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<tr>
<td>ABNORMAL SPEECH</td>
<td>Have patient say, “You can’t teach an old dog</td>
<td>Patient uses correct words with no slurring</td>
</tr>
<tr>
<td></td>
<td>new tricks”</td>
<td></td>
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</tbody>
</table>
ADULT HYPERTENSIVE EMERGENCY
No History of Head Trauma

Definition: An acute elevation of Systolic BP > 220 mm Hg or Diastolic BP > 120 mm Hg.
Symptoms: Epistaxis (nosebleed), headache, visual disturbances, and neurologic changes ranging from altered mental status to coma and seizure activity.

Adult Routine Medical Care
Take Blood Pressure in both arms

↓
Monitor vital signs and neuro status every 5 minutes
ADULT DIABETIC EMERGENCIES

Adult Routine Medical Care

- Obtain history of time of patient’s last medication dosage
- and whether or not the patient has eaten

**HYPOGLYCEMIA**

- Altered mental status
- Blood glucose < 60
  - or
- Unable to determine blood glucose level and cool, clammy skin

- If patient is able to tolerate oral preparation, has gag reflex and able to protect own airway
  - ORAL GLUCOSE GEL 15 G
  - or
  - GLUCAGON 1 mg IM/IN

**HYPERGLYCEMIA/KETOACIDOSIS**

- Blood glucose > 200
  - or
- Unable to determine blood glucose level and warm, flushed skin and deep, rapid respirations
ADULT SEIZURES
STATUS EPILEPTICUS

Adult Routine Medical Care

↓

Protect patient from injury
Vomiting/aspiration precautions
Do NOT place anything in mouth if actively seizing

↓

Obtain blood glucose level
If blood glucose < 60, administer:
GLUCAGON 1 mg IM/IN

Assess for any injury sustained during seizure and/or any incontinence
SEVERE FEBRILE RESPIRATORY ILLNESS

<table>
<thead>
<tr>
<th>SYMPTOMS</th>
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<tbody>
<tr>
<td>- Fever &gt; 100.4 F</td>
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<tr>
<td>- Cough, shortness of breath or hypoxia</td>
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<tr>
<td>- Close contact with person confirmed or suspected of illness in the last 10 days</td>
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<tr>
<td>- Employment in an occupation associated with risk</td>
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<tr>
<td>- Atypical pneumonia without an alternative diagnosis</td>
</tr>
</tbody>
</table>

Take measures to decrease risk of transmission by droplet/airborne/contact

**PATIENT**
- Patient to don surgical mask
- Hand hygiene with waterless soap
- Instruct on tissue use

**PROVIDER**
- Limit number of personnel exposed
- Provider to don N95 mask, gloves and eye protection
- Avoid touching outside of N95 mask

Adult Routine Medical Care
Limit interventions to essential procedures

Notify receiving facility of precautions
Consider initial facility evaluation of patient in back of ambulance to determine isolation needs

Leave equipment in patient room until appropriately cleaned
Refer to agency policy on decontamination of ambulance and equipment
Document exposure to possible communicable disease
ADULT ROUTINE TRAUMA CARE

1. SCENE SIZE-UP
   a. Standard Precautions
   b. Scene Hazards
   c. Mechanism of Injury
   d. Number of Patients
   e. Need for Additional Resources

2. INITIAL ASSESSMENT/PRIMARY SURVEY
   a. Airway/Spinal Precaution
   b. Breathing
   c. Circulation
   d. AVPU and Glasgow Coma Scale
   e. Management of immediate life threats
      i. Sucking chest wound
      ii. Control bleeding

3. IDENTIFY PRIORITY OF TRANSPORT
   TREAT AND TRANSPORT | RAPID TRANSPORT
   ↓ | ↓

   Focused Exam
   Examine areas where trauma is expected
   • As per mechanism of injury
   • As per patient complaint
   History
   Vital signs, Pain scale, Neuro exam, Blood glucose

   Rapid Trauma Assessment
   Continue management of life threats
   Examine head, neck, chest, abdomen, pelvis, extremities, back
   History
   Vital signs, pulse oximeter and capnography/EtCO2, Pain scale, Neuro exam, Blood glucose

   ↓ | ↓

   Injury management
   • Airway
   Package patient
   Transport
   Other serious injury management

   ↓ | ↓

   Perform Detailed Exam/Secondary Survey as time permits enroute
   Perform Detailed Exam/Secondary Survey as time permits enroute

   ↓ | ↓

   Ongoing assessment as patient condition indicates
   Ongoing assessment every 5 minutes

4. Contact Medical Control enroute; Abbreviated Radio Report may be appropriate for Rapid Transport patients.

5. Patient treatments to include (as indicated):
   a. Pelvic binding
   b. External hemorrhage control
   c. Splinting or suspected fractures
**NOTE**: Traumatic Arrest – Transport to closest Trauma Center
No Airway – Transport to closest Comprehensive Emergency Department

<table>
<thead>
<tr>
<th>Systolic Blood Pressure</th>
<th>Transport to highest level Trauma Center within 25 minutes transport time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult ( \leq 90 ) (2 consecutive measurements)</td>
<td>Yes</td>
</tr>
<tr>
<td>Peds ( \leq 80 ) (2 consecutive measurements)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Category I**

<table>
<thead>
<tr>
<th>Unstable Vital Signs</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glasgow Coma Scale ( \leq 13 ) with associated head trauma</td>
<td></td>
</tr>
<tr>
<td>Respiratory Rate (&lt; 10 \text{ or } &gt; 29 ) ((&lt; 20 \text{ infant } &lt; 1 \text{ year})) or need for ventilatory support</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Anatomic Criteria</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penetrating injuries to head, neck, torso and extremities proximal to elbow or knee</td>
<td></td>
</tr>
<tr>
<td>Two or more proximal long bone fractures</td>
<td></td>
</tr>
<tr>
<td>Unstable pelvis</td>
<td></td>
</tr>
<tr>
<td>Chest wall instability or deformity (e.g. flail chest)</td>
<td></td>
</tr>
<tr>
<td>Crushed, degloved, mangled or pulseless extremity</td>
<td></td>
</tr>
<tr>
<td>Open or depressed skull fractures</td>
<td></td>
</tr>
<tr>
<td>Amputation proximal to wrist or ankle</td>
<td></td>
</tr>
<tr>
<td>Paralysis</td>
<td></td>
</tr>
</tbody>
</table>

| Transport to closest appropriate comprehensive emergency department | |

**Category II**

<table>
<thead>
<tr>
<th>Mechanism of Injury</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Risk Auto Crash</td>
<td></td>
</tr>
<tr>
<td>• Ejection from Automobile (partial or complete)</td>
<td></td>
</tr>
<tr>
<td>• Death in same passenger compartment</td>
<td></td>
</tr>
<tr>
<td>• Intrusion, including roof; ( &gt; 12 \text{ inches occupant site or } &gt; 18 \text{ inches any site} )</td>
<td></td>
</tr>
<tr>
<td>• Vehicle telemetry data consistent with a high risk for injury</td>
<td></td>
</tr>
<tr>
<td>• Motorcycle crash ( &gt; 20 \text{ mph} )</td>
<td></td>
</tr>
<tr>
<td>• Rollover (Unrestrained)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Falls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Adult Falls ( \geq 20 \text{ feet} ) (1 story = 10 feet)</td>
<td></td>
</tr>
<tr>
<td>• Peds falls ( &gt; 10 \text{ feet or } 2 \text{X height of the child} )</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>• Auto vs. Pedestrian thrown or run over or with ( &gt; 20 \text{ mph impact} )</td>
<td></td>
</tr>
<tr>
<td>• Auto vs. Bicyclist thrown, run over or with ( &gt; 20 \text{ mph impact} )</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special Considerations</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age: Adults ( &gt; 55 \text{ years} ); risk of injury and death increases ( SBP &lt; 110 ); might be shock if age ( &gt; 65 \text{ years} )</td>
<td></td>
</tr>
<tr>
<td>Low impact mechanisms/standing falls may lead to severe injury</td>
<td></td>
</tr>
<tr>
<td>Children should be transported to a trauma center</td>
<td></td>
</tr>
<tr>
<td>Anticoagulation and bleeding disorders: Patient with head injury is at high risk for rapid deterioration</td>
<td></td>
</tr>
<tr>
<td>Burns: MOI with or without trauma: transfer to closest trauma center</td>
<td></td>
</tr>
<tr>
<td>Pregnancy ( &gt; 20 \text{ weeks} )</td>
<td></td>
</tr>
<tr>
<td>EMS Provider judgment</td>
<td></td>
</tr>
</tbody>
</table>

Transport to closest Trauma Center
Adult Routine Trauma Care

STABLE
Patient alert
Skin warm and dry
Systolic BP ≥90 mmHg

↓
Focused Exam

UNSTABLE
Altered mental status
Systolic BP < 90 mmHg

↓
Rapid Trauma Assessment

↓
Obtain Blood Glucose level
If results are < 60 administer:
GLUCAGON 1 mg IM/IN

↓
If rapid neurologic deterioration (unequal pupils, extensor posturing, lateralizing signs)
ventilate with BVM at the following rates:
Adult 1 breath every 3-6 seconds,
Ventilate patient guided by capnography to aim for EtCO2 of 35 when there is a perfusing rhythm
SELECTIVE SPINAL IMMOBILIZATION

A reliable patient who can adequately communicate, is without signs/symptoms of neck/spine injury, has no evidence of a distracting injury and has a low risk mechanism of injury does not require full spinal immobilization.

If in doubt, fully immobilize the patient.

<table>
<thead>
<tr>
<th>Mechanism of Injury</th>
<th>Adult Routine Trauma Care or Pediatric Routine Trauma Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low velocity MVC</td>
<td>High Risk Mechanism</td>
</tr>
<tr>
<td>Restrained occupant in MVC</td>
<td></td>
</tr>
<tr>
<td>Passenger compartment intrusion minimal</td>
<td></td>
</tr>
<tr>
<td>No Ejection from vehicle</td>
<td></td>
</tr>
<tr>
<td>No Rollover MVC</td>
<td>Adult Routine Trauma Care or Pediatric Routine Trauma Care</td>
</tr>
<tr>
<td>Motorcycle collision &lt; 20 mph</td>
<td></td>
</tr>
<tr>
<td>Ground level fall</td>
<td>Adult Routine Trauma Care or Pediatric Routine Trauma Care</td>
</tr>
</tbody>
</table>

Yes – Low Risk Mechanism

<table>
<thead>
<tr>
<th>Patient Reliability</th>
<th>Adult Routine Trauma Care or Pediatric Routine Trauma Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>No signs of intoxication</td>
<td></td>
</tr>
<tr>
<td>Normal mental status</td>
<td></td>
</tr>
<tr>
<td>Communicates without difficulty</td>
<td></td>
</tr>
<tr>
<td>Normal stress reaction</td>
<td></td>
</tr>
<tr>
<td>No distracting injuries</td>
<td></td>
</tr>
</tbody>
</table>

No – Patient is Reliable

<table>
<thead>
<tr>
<th>Signs and Symptoms</th>
<th>Adult Routine Trauma Care or Pediatric Routine Trauma Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pain in neck or spine</td>
<td></td>
</tr>
<tr>
<td>No tenderness/deformity of neck or spine</td>
<td></td>
</tr>
<tr>
<td>Normal motor exam</td>
<td></td>
</tr>
<tr>
<td>No paresthesia</td>
<td></td>
</tr>
<tr>
<td>No paralysis</td>
<td></td>
</tr>
<tr>
<td>Normal response to painful stimuli</td>
<td></td>
</tr>
</tbody>
</table>

Yes – Does not have signs or symptoms

Consider no immobilization
ADULT BURNS

Adult Routine Trauma Care
Assess for airway compromise
May be indicated by presence of wheezing, hoarseness, stridor, carbonaceous sputum or singed nasal hair
Consider advanced airway

FURTHER CARE DEPENDENT ON MECHANISM OF BURN:
Evaluate depth of burn and estimate extent using Rule of Nines (p. 67)

THERMAL
•Superficial (1st degree)
Cool burned area with water or saline
<20% body surface involved, apply sterile SALINE SOAKED dressings
DO NOT OVER COOL major burns or apply ice directly to burned areas

•Partial or Full thickness (2nd or 3rd degree)
Cover burn wound with DRY sterile dressings

ELECTRICAL
Identify and document any entrance and exit wounds
Assess neurovascular status of affected part
Immoblize affected part
Cover wounds with DRY, sterile dressings

CHEMICAL
Refer to Haz/Mat protocol
If powdered chemical, brush away excess
Remove clothing if necessary
Flush burn area with sterile water or saline

•IF EYE INVOLVEMENT
Assist patient with removal of contact lens and irrigate with saline or sterile water continuously. DO NOT CONTAMINATE THE UNINJURED EYE WITH EYE IRRIGATION
ADULT DROWNING

Adult Routine Medical Care or Adult Routine Trauma Care
↓
Spinal Precautions
↓
Consider CPAP if patient condition indicates
↓

<table>
<thead>
<tr>
<th>STABLE</th>
<th>UNSTABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient alert</td>
<td>Altered mental status</td>
</tr>
<tr>
<td>Skin warm and dry</td>
<td>Systolic BP &lt; 90 mmHg</td>
</tr>
<tr>
<td>Systolic BP ≥ 90 mmHg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secure Airway</td>
</tr>
<tr>
<td></td>
<td>Assess for hypothermia</td>
</tr>
<tr>
<td></td>
<td>Normothermic</td>
</tr>
<tr>
<td></td>
<td>Hypothermic</td>
</tr>
<tr>
<td></td>
<td>Place AED as indicated</td>
</tr>
<tr>
<td></td>
<td>Refer to Hypothermia protocol (p. 29)</td>
</tr>
</tbody>
</table>

ADULT DIVE (SCUBA) INJURY

Adult Routine Medical Care or Adult Routine Trauma Care
↓
Manage airway as indicated
↓
If air embolism is suspected place patient in Left Lateral Recumbent position
↓
Monitor vital signs including O2 saturation and capnography
ADULT HEAT EMERGENCIES

Adult Routine Medical Care

Move the patient to a cool environment
Remove as much clothing as necessary to facilitate cooling

<table>
<thead>
<tr>
<th>HEAT CRAMPS</th>
<th>HEAT EXHAUSTION</th>
<th>HEAT STROKE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal level of consciousness</td>
<td>May have altered mental status</td>
<td>Altered mental status</td>
</tr>
<tr>
<td>Muscle cramps or spasms</td>
<td>Perspiring, weakness, fatigue, frontal headache, nausea, vomiting, dizziness, syncope, temperature may be elevated</td>
<td>Hot skin (dry or moist)</td>
</tr>
</tbody>
</table>

↓
INITIATE RAPID COOLING:
Douse towels or sheets with cool water, place on patient, and fan body

Cold packs (as available) to lateral chest wall, groin, axilla, carotid arteries, temples, and behind knees

↓

Stop cooling if shivering occurs

IF ACTIVELY SEIZING
Refer to
Adult Seizure protocol (p. 20)
ADULT HYPOTHERMIA/COLD EMERGENCIES

Adult Routine Medical Care

**FROSTBITE**

Move patient to a warm environment

Rapidly re-warm frozen areas with warm water (if available)

or

Hot packs wrapped in a towel

HANDLE SKIN LIKE A BURN
Protect affected area with light, dry, sterile dressings

Elevate and immobilize

Do not let affected skin surfaces rub together

**SYSTEMIC HYPOTHERMIA**

Avoid rough handling and excess activity

Apply heat packs (as available) to axilla, groin, neck and thorax

Assess pulse

Present

Continue assessment

Absent

Universal Adult Emergency Cardiac Care

NOTE: Withdrawal of Resuscitative Effort policy does not apply to these patients.
EMERGENCY CHILDBIRTH

LABOR:
1. Obtain history. Initiate Adult Routine Medical Care.
   - Gravida (# of pregnancies)
   - Para (# of live births)
   - Due date
   - High risk concerns
   - Length of previous labors
   - Bag of waters (amniotic sac) Intact? Broken?
   - Duration and frequency of contractions

2. Position patient and evaluate for:
   - **SIGNS OF IMMINENT DELIVERY**
     - Crowning
     - Bulging Perineum
     - Involuntary Pushing
   - **SIGNS OF COMPLICATIONS**
     - Prolapsed Cord
     - Profuse Bleeding
     - Meconium Staining

3. If delivery is not imminent, transport patient on her left side.

DELIVERY:
1. If contractions are 2 minutes apart, or signs of imminent delivery are present, open OB pack and don sterile gloves as well as standard precautions. Drape mother’s abdomen and perineum. Prepare to assist the delivery.

2. Initiate Adult Routine Medical Care.

3. Protect perineum with gentle hand pressure while supporting the newborn’s head as it emerges from the vagina. Tear amniotic membrane if it is still intact at this point.

4. Check for nuchal cord (cord wrapped around the neck).

5. Clear airway, if necessary, with a bulb syringe. Suction mouth, then nose as soon as head is delivered. Suctioning with the bulb syringe should be reserved for a newborn with obvious obstruction to spontaneous breathing.

6. To facilitate delivery of the upper shoulder, gently guide the head downwards. Support and lift the head and neck slightly to deliver the lower shoulder. The rest of the newborn should deliver with minimal assistance. Get a firm grasp on newborn. Note time of delivery and record on newborn’s PCR.

NEWBORN and POST PARTUM CARE:
1. Spontaneous respirations should begin within 15 seconds after stimulating newborn by drying, rubbing back or flicking the soles of the feet. Do not shake newborn. Rapid assessment should include the following characteristics: term gestation, crying or breathing and good muscle tone.
   a. If still no respirations, begin ventilating at 40-60 breaths/minute. After 30 seconds of ventilation and if pulse < 60 begin chest compressions at a ratio of 3 compressions to 1 ventilation. Refer to Resuscitation of the Newborn/Neonate protocol.
2. Obtain 1 minute APGAR SCORE (p. 69).

3. Keep newborn level with the vagina until the cord is double-clamped. Delay cord clamping at least 30 seconds. The cord should be clamped 8 inches from the newborn’s navel with 2 clamps placed 2 inches apart. Cut the cord between the two clamps.

4. Continue to dry the newborn and wrap in a dry blanket to provide and maintain body warmth. Wrap the newborn in silver swaddler or blanket, ensuring the head is covered. If the newborn is cyanotic, but breathing spontaneously, place infant NRB mask next to newborn’s face and run OXYGEN at 15 liters/minute.

5. Obtain 5 minute APGAR score.

6. Allow placenta to deliver spontaneously. Do not delay transport while waiting for placenta to deliver. Do not pull on cord to facilitate placental delivery. When delivered, collect placenta in plastic bag, bring to hospital and document time of placental delivery.

7. Check perineum for tears. If torn and bleeding, apply direct pressure with sanitary pads, and have patient bring legs together.

8. Observe for excessive vaginal bleeding (more than 500 mL).
   a. Following delivery of the placenta, massage fundus of uterus until firm. Check every five (5) minutes for firmness and massage as necessary.

9. Utilize identification tags for mother and newborn, must include mothers name, gender of newborn, time of delivery.

10. Every reasonable attempt should be made to secure the mother and the newborn for transport.

**INFANT PATIENT CARE REPORT must include:**
1. Time of delivery, gender and mother’s name.

2. If nuchal cord was present.

3. If meconium flecks were noted in amniotic fluid.

4. APGAR scores at 1 minute and 5 minutes.

5. Any infant resuscitation initiated and response.
DELIVERY COMPLICATIONS

Adult Routine Medical Care
Contact Medical Control

BREECH BIRTH:

Delivery Procedure:

1. Prepare to transport with care enroute if only the buttocks or lower extremities are delivered.
   It is acceptable to stay on the scene while in contact with Medical Control and delivery is in progress.
2. As soon as the legs are delivered, support the baby’s body wrapped in a towel/chux. If the cord is accessible, palpate frequently for pulsations. Attempt to loosen the cord to create slack for delivery of the head.
3. After the torso and shoulders are delivered, gently sweep down the arms.
   a. If face down, gently elevate the legs and trunk to facilitate the delivery of the head.
   b. **Do not hyperextend the neck.**
   c. Apply firm pressure over the mother’s fundus to facilitate the delivery of the head.
   d. **NEVER ATTEMPT TO PULL THE INFANT BY THE LEGS OR TRUNK.**
   e. Allow the entire body to be delivered with contractions while continuing to support the newborn’s body.
4. **The head should deliver in 30 seconds**
   a. If not, reach 2 gloved fingers in the shape of a “V” into the vagina with the palm facing the newborn’s face to locate the newborn’s mouth and nose.
   b. Push vaginal wall away from the newborn’s face to maintain an airway.
   c. Keep your fingers in place and transport, alerting the receiving hospital. Keep the delivered portion of the body warm and dry.
5. If the head delivers, anticipate neonatal distress.
6. Anticipate maternal hemorrhage after the birth of the infant.

**NOTE:** Do not attempt delivery or delay transport of any single limb or other abnormal presentation.

PROLAPSED CORD:

If the umbilical cord is visualized prior to delivery:

1. Elevate mother’s hips. Instruct patient to pant during contractions.
2. Place gloved hand into vagina between pubic bone and presenting part with cord between two fingers to monitor cord pulsations and exert counter-pressure on presenting part to keep pressure off the cord.
3. Cover exposed cord with moist dressing and keep warm.
4. Transport with hand pressure in place.

NUCHAL CORD: (Cord wrapped around neck)

1. Increase mother’s OXYGEN to 100 % with non-rebreather mask.
2. Slip two fingers around the cord and lift over newborn’s head, proceed with delivery.
3. If unsuccessful, attempt to slide cord over shoulders.
4. If unsuccessful, double-clamp cord, cut cord between clamps with sterile scissors to allow for release of cord from neck.
5. Proceed with delivery.
RESUSCITATION OF THE NEWBORN/NEONATE

Assess the Airway
Assess the pulse
↓
Dry the baby and keep the baby warm
Stimulate
Place the baby on back with neck in neutral position
↓
If there is obvious obstruction to spontaneous breathing or significant respiratory distress suction mouth and then nose with bulb syringe
(Suctioning should continue for no longer than 3-5 seconds per attempt)
↓
Stimulate if the above methods fail: gently slap/flick the soles of the feet or rub the trunk
↓
Apnea or the heart rate < 100, positive pressure ventilation via BVM/ETT at 40-60/minute
After 30 seconds of ventilation, assess the pulse
↓
If pulse 60 – 100
Continue positive pressure ventilation
↓
If pulse < 60
Begin chest compressions
At a ratio of 3 compressions to 1 ventilation
↓
Contact Medical Control for further consideration
↓
Re-evaluate newborn every 30 seconds

NOTE: APGAR score (p. 90) must be obtained at one (1) and five (5) minutes after birth.
OBSTETRICAL COMPLICATIONS

Adult Routine Medical Care

BLEEDING IN PREGNANCY: (Placenta Previa, Placenta Abruptio, Threatened Miscarriage)
Position mother on her left side if possible.

NOTE: Type, color and amount of bleeding and/or discharge. If tissue passes, collect and transport to hospital with the patient.

HYPERTENSIVE DISORDERS OF PREGNANCY (includes Pre-Eclampsia and Eclampsia):
GENTLE handling. Minimal CNS stimulation.

Position patient on her left side if possible.

Seizure precautions and secure airway.

MATERNAL RESUSCITATION MODIFICATIONS
Perform left uterine displacement while the patient is in the supine position.

Chest compressions should be performed slightly higher on the sternum than normal.

AED usage should be performed following standard guidelines.
A patient under the age of 16 is considered to be a pediatric patient. All patient care begins with assessing scene safety and the use of standard precautions.

1. GENERAL ASSESSMENT USING THE PEDIATRIC ASSESSMENT TRIANGLE (PAT)
(To establish a level of severity, determine urgency for life support and identify key physiologic problems)
   a. Appearance
   b. Work of Breathing
   c. Circulation to Skin

2. INITIAL ASSESSMENT
(A prioritized sequence of life support interventions to reverse critical physiologic abnormalities and determine transport priority)
   a. Airway / determine need for Selective Spinal Immobilization
   b. Breathing
   c. Circulation
   d. AVPU and Pediatric Glasgow Coma Scale determination
   e. Expose and examine as indicated

3. IDENTIFY PRIORITY PATIENTS AND MAKE TRANSPORT DECISION.

4. ADDITIONAL ASSESSMENT (To include Focused History, Physical Exam and SAMPLE History)
   a. Vital signs, pain scale
   b. Determine weight and age.
      ▪ Medication dosage should be age/weight-based and contained within Region X Standard Operating Procedures.
      ▪ Utilize length-based tape to measure body length and to determine approximate weight (if actual weight is not available).
      ▪ If less than 5 kg, Contact Medical Control for medication guidance.
   c. Apply pulse oximeter and capnography/EtCO2 (if indicated) and record reading before and during OXYGEN administration. Administer OXYGEN if SpO2 is less than 94% or if patient shows signs of respiratory distress.
      ▪ Insert NPA/OPA if indicated
   d. Determine blood glucose level if appropriate.
   e. Reassess vital signs, pain scale, pulse oximetry/capnography and patient condition as frequently as the patient’s condition indicates and after each intervention.

5. DETAILED PHYSICAL EXAM
(To build on the findings of the Initial Assessment and Focused Exam, use the toe-to-head sequence for infants, toddlers and preschoolers)

6. CONTACT MEDICAL CONTROL

7. TRANSPORT TO CLOSEST APPROPRIATE FACILITY
Assess responsiveness
Assess pulse

RESPONSIVE
↓
Adult Routine Medical Care

UNRESPONSIVE
↓
If no breathing or only gasping, and no pulse felt within 10 seconds
begin compressions until AED is ready to analyze rhythm
Treat dysrhythmias per protocols using AED
↓
Secure airway
Assist ventilations with BVM at 100% OXYGEN
↓

After 15 compressions, deliver 2 breaths
Continue 15:2 compressions to ventilation cycle for 2 minutes
↓
Analyze rhythm with AED and assess pulse every 2 minutes during CPR
↓
Consider advanced airway
(Insertion of a supraglottic airway)
Confirm device placement and ventilation
With advanced airway in place, deliver 1 breath every 6 seconds

Monitor status with continuous capnography/EtCO2
**PEDIATRIC BRADYARRHYTHMIAS**

### Possible Causes

<table>
<thead>
<tr>
<th>Cause</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypovolemia</td>
<td>Toxins</td>
</tr>
<tr>
<td>Hypoxia</td>
<td>Tamponade, Cardiac</td>
</tr>
<tr>
<td>Hydrogen ion – acidosis</td>
<td>Tension Pneumothorax</td>
</tr>
<tr>
<td>Hyper/Hypokalemia</td>
<td>Thrombosis, Coronary (ACS)</td>
</tr>
<tr>
<td>Hypothermia</td>
<td>Thrombosis, Pulmonary (embolism)</td>
</tr>
<tr>
<td>Hypoglycemia</td>
<td>Trauma</td>
</tr>
</tbody>
</table>

**Routine Pediatric Care**

- Secure airway
- Assist ventilations with BVM at 100% OXYGEN

If heart rate <60/min and poor perfusion despite oxygenation and ventilation (Weak or absent pulses, hypotension, pallor/cyanosis, altered mental status)

- NO
- Observe

- YES
- Begin CPR with compressions
- Reassess cardiac rhythm after 2 minutes
### POSSIBLE CAUSES

<table>
<thead>
<tr>
<th>Hypovolemia</th>
<th>Toxins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoxia</td>
<td>Tamponade, Cardiac</td>
</tr>
<tr>
<td>Hydrogen ion – acidosis</td>
<td>Tension Pneumothorax</td>
</tr>
<tr>
<td>Hyper/Hypokalemia</td>
<td>Thrombosis, coronary (ACS)</td>
</tr>
<tr>
<td>Hypothermia</td>
<td>Thrombosis, pulmonary (embolism)</td>
</tr>
<tr>
<td>Hypoglycemia</td>
<td>Trauma</td>
</tr>
</tbody>
</table>

Routine Pediatric Care
Consider and treat possible causes

↓

Vagal maneuvers
PEDIATRIC ASTHMA

Routine Pediatric Care

- Obtain history of patient’s current asthma medications and time of last dosage and current weight

Mild to Moderate Distress
(Increased work of breathing with wheezing or coughing)

- Supplemental OXYGEN
- Position of comfort
  ALBUTEROL 2.5 mg/3mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment with OXYGEN flow of 6 liters/minute
  If no improvement, administer
  ALBUTEROL 2.5 mg/3mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment with OXYGEN flow of 6 liters/minute
  May repeat ALBUTEROL every 5 minutes

Severe Distress
(Inadequate oxygenation, ventilation or both, breath sounds decreased or absent, hypoxia, exhausted)

- Open the airway, ventilate with 100% OXYGEN via BVM 1 breath every 3-5 seconds
- Monitor patient with continuous capnography/EtCO2
- ALBUTEROL 2.5 mg/3mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment with OXYGEN flow of 6 liters/minute
  In-line nebulizer if needed
- EPINEPHRINE 1:1000 (1mg/1mL) 0.01 mg/kg IM (Adult maximum 0.5 mg)
  ALBUTEROL 2.5 mg/3mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment with OXYGEN flow of 6 liters/minute
  In-line nebulizer if needed
  May repeat ALBUTEROL every 5 minutes
PEDICATRIC CROUP/EPIGLOTTITIS

Routine Pediatric Care
Keep patient calm – **DO NOT AGITATE**
Provide emotional support and allow position of comfort

↓

**CROUP**
Infant/toddler, low grade fever, barking cough

↓

**STABLE**
(No cyanosis, good air exchange)

↓

Administer humidified OXYGEN by placing
NORMAL SALINE 6 mL in nebulizer, deliver by mask or aim mist near the child’s face

↓

**UNSTABLE**
(Cyanosis present, respiratory distress)

↓

Attempt ventilation via BVM with supplemental OXYGEN

↓

Be prepared for intubation (attempt x1)

↓

If wheezing, ALBUTEROL 2.5 mg/3 mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment

↓

If no improvement, ALBUTEROL 2.5 mg/3 mL mixed with ATROVENT 0.5 mg/2.5 mL (DUONEB) NEB treatment

↓

If no improvement, ALBUTEROL 2.5 mg/3 mL NEB treatment

May repeat ALBUTEROL NEB every 5 minutes

↓

**EPIGLOTTITIS**
Toddler, high fever, drooling, no cough, stridor

↓

Administer humidified OXYGEN by placing NORMAL SALINE 6 mL in nebulizer, deliver by mask or aim mist near the child’s face

↓

If patient condition deteriorates, attempt ventilation via BVM with supplemental OXYGEN 1 breath every 3-5 seconds

↓
PEDIATRIC RESPIRATORY FAILURE

Routine Pediatric Care
Consider and treat possible causes

RESPIRATORY DISTRESS
(Increased work of breathing, increased respiratory rate, use of accessory muscles, nasal flaring, effectively compensating)

↓
Supplemental OXYGEN

↓
Support head in neutral position

Keep child calm, allow caregiver access to child

RESPIRATORY FAILURE
(Exhausted energy reserves, cannot maintain adequate oxygenation and ventilation, low respiratory rate, decreased effort, usually with bradycardia, agitation or lethargy and cyanosis)

↓
Open the airway, ventilate with 100% OXYGEN via BVM 1 breath every 3-5 seconds

↓
Apply AED

NOTE: Monitor patient with continuous capnography/EtCO2
PEDIATRIC ALLERGIC REACTION/ANAPHYLAXIS

Routine Pediatric Care

\[ \downarrow \]

ALLERGIC REACTION

STABLE

Hives, itching, and rash

GI distress, Patient alert

Skin warm and dry

\[ \downarrow \]

Apply ice/cold pack to site

\[ \downarrow \]

Benadryl 25mg PO/IM for patients \( \geq \) 25kg.

ANAPHYLACTIC SHOCK

UNSTABLE

Altered mental status

\[ \downarrow \]

Secure airway

EPINEPHRINE 1:1000 (1mg/1mL)

0.01mg/kg IM

Maximum 0.5 mg (0.5mL) per single dose

May repeat every 5 minutes

or

\( \text{EpiPen} \)

<15kg (33lbs) Contact Medical Control

15-29kg (33-65lbs) 0.15mg

\( \geq \) 30kg (>66lbs) 0.3mg

\[ \downarrow \]

Benadryl 25mg PO/IM for patients \( \geq \) 25kg.

or

Benadryl 50mg PO/IM for patients \( > \) 50kg.

\[ \downarrow \]

If wheezing,

ALBUTEROL 2.5 mg/3 mL

mixed with

ATROVENT 0.5 mg/2.5 mL

(DUONEB) NEB treatment

\[ \downarrow \]

If no improvement,

ALBUTEROL 2.5 mg/3 mL

mixed with

ATROVENT 0.5 mg/2.5 mL

(DUONEB) NEB treatment

\[ \downarrow \]

If no improvement may repeat

ALBUTEROL 2.5 mg/3 mL NEB every 5 minutes
# PEDIATRIC APPARENT LIFE THREATENING EVENT (ALTE) OR BRIEF RESOLVED UNEXPLAINED EVENT (BRUE)

**Routine Pediatric Care**

<table>
<thead>
<tr>
<th>▪ History of any of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Apnea</td>
</tr>
<tr>
<td>o Loss of consciousness</td>
</tr>
<tr>
<td>o Color Change</td>
</tr>
<tr>
<td>o Loss in muscle tone</td>
</tr>
<tr>
<td>o Episode of choking or gagging</td>
</tr>
<tr>
<td>o Parental/caregiver actions at the time of the event</td>
</tr>
<tr>
<td>o What resuscitative efforts were taken</td>
</tr>
</tbody>
</table>

**Age 2 years or less**

- Check blood glucose level

  **If Blood Glucose ≤ 60**
  
  If patient >2 y/o and is able to tolerate oral preparation, and has gag reflex and able to protect own airway
  
  **ORAL GLUCOSE GEL 15 G**
  
  or
  
  **GLUCAGON 0.5 mg IM/IN ≤ 8 years**
  
  **GLUCAGON 1 mg IM/IN > 8 years**

  **Blood Glucose >60**

  NOTE: an Apparent Life Threatening Event (ALTE) or Brief Resolved Unexplained

**Perform comprehensive physical exam including**

- General appearance
- Evidence of trauma
- Skin color
- Extent of interaction with environment
- NOTE: Exam may be normal

**Treat identifiable causes as indicated**

**Contact Medical Control**

to consider ALS intercept
PEDIATRIC ALTERED MENTAL STATUS, SYNCOPE OR PRESYNCOPE

<table>
<thead>
<tr>
<th>CONSIDER ETIOLOGY</th>
<th>AEIOU-TIPPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Trauma/Temperature</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>Infection</td>
</tr>
<tr>
<td>Insulin</td>
<td>Psychogenic</td>
</tr>
<tr>
<td>Overdose/Opiate</td>
<td>Poisoning</td>
</tr>
<tr>
<td>Uremia</td>
<td>Shock/Seizure/Stroke/Shunt</td>
</tr>
</tbody>
</table>

Routine Pediatric Care
Immobilize C-Spine as indicated

↓
Check blood glucose level
↓
If blood glucose < 60, administer:
If patient > 2 y/o and is able to tolerate oral preparation, has gag reflex and able to protect own airway
ORAL GLUCOSE GEL 15 G
or
GLUCAGON 0.5 mg IM/IN ≤ 8 years
GLUCAGON 1 mg IM/IN > 8 years
↓
Reassess respiratory effort
Secure airway if ineffective
↓
If patient is not alert, respirations are decreased or a narcotic overdose with respiratory depression is suspected:
Administer NARCAN
≤20 kg = 0.1 mg/kg IN/IM
>20 kg = 2 mg IN/IM
If no response Contact Medical Control to consider additional NARCAN
PEDIATRIC SEIZURES

Routine Pediatric Care

↓

Protect airway and protect from injury
Vomiting/aspiration precautions
DO NOT place anything in mouth if seizing
↓

Obtain blood glucose level
If result is < 60, administer:

or

GLUCAGON 0.5 mg IM/IN for ages ≤ 8years
GLUCAGON 1 mg IM/IN for ages > 8years
↓

Observe patient’s sensorium and maintain airway
Note any injury sustained during seizure and/or any incontinence

FEBRILE SEIZURES

Routine Pediatric Care

↓

Cool patient by removing clothing
Consider placing towels moistened in tepid (room temperature) water over patient and fan patient
DO NOT induce shivering
DO NOT rub down with alcohol or place in ice-water bath
↓

Allow nothing by mouth
Routine Pediatric Care

If nausea or vomiting
ZOFRAN 4 mg ORAL if ≥ 40 kg
May repeat once after 10 minutes

NOTE: Do not administer to patients who are pregnant
A patient under the age of 16 is considered to be a pediatric patient. All patient care begins with assessing scene safety and the use of standard precautions.

6. **SCENE SIZE-UP**
   a. Standard Precautions
   b. Scene Hazards
   c. Mechanism of Injury
   d. Number of Patients
   e. Need for Additional Resources

7. **GENERAL ASSESSMENT USING THE PEDIATRIC ASSESSMENT TRIANGLE (PAT)**
   (To establish a level of severity, determine urgency for life support and identify key physiologic problems)
   a. Appearance
   b. Work of Breathing
   c. Circulation to Skin

8. **INITIAL ASSESSMENT/PRIMARY SURVEY**
   a. Airway/Spinal Precaution
   b. Breathing
   c. Circulation
   d. AVPU and Glasgow Coma Scale
   e. Management of immediate life threats
      i. Sucking chest wound
      ii. Control bleeding

9. **IDENTIFY PRIORITY OF TRANSPORT**

<table>
<thead>
<tr>
<th>TREAT AND TRANSPORT</th>
<th>RAPID TRANSPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Focused Exam</td>
<td>Rapid Trauma Assessment</td>
</tr>
<tr>
<td>Examine areas where trauma is expected</td>
<td>Continue management of life threats</td>
</tr>
<tr>
<td>• As per mechanism of injury</td>
<td>Examine head, neck, chest, abdomen, pelvis, extremities, back</td>
</tr>
<tr>
<td>• As per patient complaint</td>
<td>History</td>
</tr>
<tr>
<td>History</td>
<td>Vital signs, pulse oximeter and capnography/EtCO2, Pain scale, Neuro exam, Blood glucose</td>
</tr>
<tr>
<td>Vital signs, Pain scale, Neuro exam, Blood glucose</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Injury management</td>
<td>Package patient</td>
</tr>
<tr>
<td>• Airway</td>
<td>Transport</td>
</tr>
<tr>
<td>Package patient</td>
<td>Other serious injury management</td>
</tr>
<tr>
<td>Transport</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Perform Detailed Exam/Secondary Survey as time permits enroute</td>
<td>Perform Detailed Exam/Secondary Survey as time permits enroute</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing assessment as patient condition indicates</td>
<td>Ongoing assessment every 5 minutes</td>
</tr>
</tbody>
</table>

10. **Contact Medical Control enroute; Abbreviated Radio Report may be appropriate for Rapid Transport patients.**

11. **Patient treatments to include (as indicated):**
   a. Pelvic binding
   b. External hemorrhage control
   c. Splinting or suspected fractures
PEDIATRIC BURNS

Routine Pediatric Care

<table>
<thead>
<tr>
<th>No Respiratory Compromise</th>
<th>Respiratory Compromise</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no increased work of breathing)</td>
<td>(wheezing, retractions, stridor, decreased respirations, apnea, tachypnea, grunting, decreasing consciousness)</td>
</tr>
</tbody>
</table>

Secure airway

FURTHER CARE DEPENDENT ON MECHANISM OF BURN:
Evaluate depth of burn and estimate extent using Rule of Nines (p. 67)

THERMAL BURNS
• Superficial (1st degree)
  Cool burned area with water or saline
  <20% body surface involved, apply sterile saline soaked dressings
  DO NOT OVER COOL major burns or apply ice directly to burned areas

• Partial or Full thickness (2nd or 3rd degree)
  Cover burn wound with DRY sterile dressings
  Place patient on clean sheet on stretcher, cover patient with dry clean sheets and blanket

ELECTRICAL BURNS
Identify and document any entrance and exit wounds
Assess neurovascular status of affected part
Immobilize affected part
Cover wounds with DRY sterile dressings

CHEMICAL BURNS
Refer to HazMat protocol (p. 71)
If powdered chemical, brush away excess
Remove clothing if possible
Flush burn area with sterile water or saline

• IF EYE INVOLVEMENT
  Assist with removal of contact lens and irrigate with saline or sterile water continuously. DO NOT CONTAMINATE THE UNINJURED EYE WITH EYE IRRIGATION
**PEDiatric HEAD/Spinal Injuries**

Pediatric Routine Trauma Care

<table>
<thead>
<tr>
<th>STABLE</th>
<th>UNSTABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient alert</td>
<td>Altered mental status</td>
</tr>
<tr>
<td>Skin warm and dry</td>
<td>PGCS: Moderate-Severe</td>
</tr>
<tr>
<td>PGCS: Mild</td>
<td>↓</td>
</tr>
</tbody>
</table>

Support ventilation, administer 100% O2 as indicated.
*If rapid neurologic deterioration (unequal pupils, extensor posturing, lateralizing signs)*
Ventilate with BVM at the following rates:
1 breath every 3-5 seconds,
Ventilate patient guided by capnography to aim for EtCO2 of 35 when there is a perfusing rhythm.

Obtain Blood Glucose level
If results are < 60 administer:

- **or** GLUCAGON 0.5 mg IM/IN for ages ≤ 8 years
- GLUCAGON 1 mg IM/IN for ages > 8 years

If actively seizing, refer to Pediatric Seizure protocol (p. 44)

### TABLE: PGCS 13-15 (Mild) vs. PGCS 9-12 (Moderate) vs. PGCS ≤ 8 (Severe)

<table>
<thead>
<tr>
<th>PGCS 13-15 (Mild)</th>
<th>PGCS 9-12 (Moderate)</th>
<th>PGCS ≤ 8 (Severe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administer 100% O2 as indicated</td>
<td>Administer 100% O2</td>
<td>Administer 100% O2</td>
</tr>
<tr>
<td>Control hemorrhage</td>
<td><em>Support ventilation with bag mask as indicated</em></td>
<td>Support ventilation with bag mask</td>
</tr>
<tr>
<td>Reassess PGCS</td>
<td>Control hemorrhage</td>
<td><em>Provide hyperventilation only for impending herniation (non-reactive/unequal pupils or posturing)</em></td>
</tr>
<tr>
<td>Observe</td>
<td>Reassess PGCS</td>
<td>Intubate orally as indicated</td>
</tr>
<tr>
<td>Observe</td>
<td>Observe</td>
<td>Control hemorrhage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reassess PGCS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Observe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Refer to <strong>Seizure Protocol</strong> as indicated</td>
</tr>
</tbody>
</table>
PEDIATRIC DROWNING

Routine Pediatric Care

Spinal Precautions as indicated

OXYGEN 100%

**STABLE**

*Awake, alert, normal respirations*

**UNSTABLE**

*Abnormal respirations*

*Altered mental status*

Evaluate for gag reflex

**Negative**

Insert Supraglottic Airway and assist ventilations via BVM

1 breath every 6 seconds

Assess for hypothermia

**Normothermic**

Place AED and defibrillate as indicated

**Hypothermic**

Refer to Pediatric Hypothermia protocol (p. 49)

**Positive**

Assist ventilations via BVM

1 breath every 3-5 seconds

Assess for hypothermia

**Normothermic**

Place AED and defibrillate as indicated

**Hypothermic**

Refer to Pediatric Hypothermia protocol (p. 49)
## ROUTINE PEDIATRIC CARE

Move to a cool environment
Remove as much clothing as necessary to facilitate cooling

<table>
<thead>
<tr>
<th>HEAT CRAMPS</th>
<th>HEAT EXHAUSTION</th>
<th>HEAT STROKE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal level of consciousness, muscle cramps or spasm</td>
<td>May have altered mental status, perspiring, weakness, fatigue, frontal headache, nausea, vomiting, dizziness, syncope, temperature may be elevated</td>
<td>Hot, dry or moist skin, weak thready pulse, altered level of consciousness</td>
</tr>
</tbody>
</table>

↓

**INITIATE RAPID COOLING:**
Douse towels or sheets with cool water, place on patient, and fan body
Cold packs (as available) to lateral chest wall, groin, axilla, carotid arteries, temples, and behind knees
↓
Stop cooling if shivering occurs
↓

**IF ACTIVELY SEIZING**
Refer to
Pediatric Seizure protocol (p. 44)
PEDiATRIC HYPOThERMiA/COLD EMERGENCiES

Pediatric Routine Medical Care

FROSTBiTE

Move patient to a warm environment

Rapidly re-warm frozen areas with warm water (if available)
or
Hot packs wrapped in a towel

HANDLE SKIN LIKE A BURN
Protect affected area with light, dry, sterile dressings
Elevate and immobilize
Do not let affected skin surfaces rub together

SYStEMiC HYPOThERMiA

Avoid rough handling and excess activity
Apply heat packs (as available) to axilla, groin, neck and thorax

Assess pulse

Present

Continue assessment

Absent

Universal Pediatric Emergency Cardiac Care

NOTE: Withdrawal Of Resuscitative Effort policy does not apply to these patients.
PEDIATRIC TOXIC INGESTIONS/EXPOSURES

Assess Scene Safety

¶

Routine Pediatric Care

¶

Contact Medical Control
for interventions as indicated for identified exposure

¶

Bring container(s) of drug or substance to the emergency department providing that the transport of the item(s) do not pose a safety risk

NOTE: Do not give patient anything to eat or drink by mouth. Anticipate vomiting, respiratory arrest, seizure, dysrhythmias and refer to indicated protocols.
Do not induce vomiting, especially in cases where caustic substance ingestion is suspected.
Illinois Poison Center (800) 222-1222
SUSPECTED CHILD ABUSE

Routine Pediatric Care
↓
Note environment, child’s interaction with parents, discrepancies in the history obtained from child and caregivers, and any signs of obvious injury ↓
Treat obvious injuries ↓
If parent/guardian refuses to let you transport the child, remain at the scene
Contact police and request the child be placed in protective custody ↓
Transport ↓
Report your suspicions to the Emergency Department Physician and/or Nurse ↓
Carefully document history and physical exam findings as well as environmental/circumstantial data on the report ↓
Department of Children and Family Services must be notified at (800)-25-ABUSE (24-hour phone line)
When contacting DCFS, identify self as a State Mandated Reporter to expedite the process
Written confirmation of the verbal report must be filed with DCFS within 48 hours
ELECTRICAL DEVICE WEAPON EXPOSURE

Adult Routine Trauma Care
Routine Pediatric Medical/Trauma Care

Evaluate depth of skin penetration
Do not remove darts if patient is not under control
Identify location of probes on the patient’s body

If darts are found to be superficially embedded in other than critical locations, they may be removed as follows:

1. Remove Taser cartridge from gun or cut wires before removing darts.
2. Place one hand on the patient where the dart is embedded to stabilize the skin surrounding the puncture site.
3. Firmly grasp the probe with your other hand.
4. Remove by gently pulling the dart straight out along the same plane it entered the body.
5. Assure that the dart is intact.
6. Repeat procedure with second dart, if embedded.
7. Return the darts to law enforcement officials, utilizing standard precautions.
8. Cleanse the wound area with saline.
9. Cover with a dry dressing.

Transport decision should be based on patient condition.

If darts are embedded in any of the following critical areas, stabilize in place and transport patient:

- lid/globe of the eye
- face or neck
- genitalia
- bony prominence
- spinal column
BEHAVIORAL EMERGENCIES

Establish SCENE AND PERSONAL SAFETY
Call law enforcement personnel to scene as appropriate
↓
Determine and document if patient is a threat to self or others
or if patient is unable to care for self
↓
Attempt to verbally calm the patient
↓
Restrain as necessary and document reasons for the use of restraints,
type of restraint, time of restraint and patient’s response
↓
Consider medical etiology of behavioral disorder:
   Hypoxia
   Substance Abuse/Overdose
   Excited Delirium/Hyperthermia
   Neurologic disease (CVA, intracerebral bleed, etc.)
   Metabolic problems (hypoglycemia, etc.)
↓
Adult Routine Medical Care as situation warrants
   Pediatric Routine Medical Care as situation warrants

NOTE: All Emergency Departments in Region X are able to receive patients with behavioral emergencies who may need psychiatric referral. Any containers found at the scene with medications and/or substances should be brought to the emergency department providing that the transport of the item(s) does not pose a safety risk. Contact Medical Control in all instances where a refusal of transport is being considered.
SEXUAL ASSAULT

Approach the victim calmly and professionally

EMS should limit questioning concerning the incident to the minimum necessary to provide appropriate patient care

Respect the victim’s modesty
Explain all procedures before beginning the procedures

Avoid touching the patient other than taking vital signs or examining physical injuries
(Do not examine the genitalia unless there is a life threatening hemorrhage)

Attempt to preserve physical evidence

Provide emotional support with a non-judgmental attitude

NOTE: Physical trauma, such as bruising, lacerations and fractures are often associated with sexual assault and may be life-threatening.
DOMESTIC VIOLENCE

Adult Routine Medical Care or Adult Routine Trauma Care as appropriate by patient condition

Definition: Domestic Violence is the **MOST** common form of violence and the least reported. Domestic Violence is the act of attacking, threatening, harassing or interfering with the personal liberty of any family or household member by any other family or household member, excluding any reasonable discipline of a minor child by a parent or guardian of such minor child.

- BE NON-JUDGMENTAL AND NON-THREATENING.
- Respect and take the patient seriously.
- Maintain privacy. The patient should be interviewed and examined alone.
- Questions should be asked when household members are not within hearing distance.
- The patient must be asked directly if their injuries are a result of physical attack.
- Have a high index of suspicion; battered patients rarely admit the source of their injury.
- Aside from the typical injuries (trauma to head, neck, face, arms or back) look for:
  - Suicide attempts
  - Depression
  - Substance abuse
  - Hysterics
  - Multiple vague somatic complaints
  - Anxiety
  - Miscarriage
- Maintain a helping approach and be as non-threatening as possible.
- Respect and take the patient seriously.

NOTE: If the victim signs a refusal, inform the patient that EMS personnel are mandated by the State to report all cases of domestic violence to the local police. Document this conversation on the PCR. Also, offer immediate and adequate information regarding services available to victims of abuse, for any person suspected to be a victim of domestic abuse.
SUSPECTED ELDER ABUSE

Adult Routine Medical Care or Adult Routine Trauma Care as appropriate by patient condition

Definition: “Abuse” is defined as any physical injury, sexual abuse or mental injury inflicted on a person, age 60 or older, other than by accidental means.

Definition: “Neglect” means a failure to provide adequate medical or personal care or maintenance, which failure results in physical or mental injury to a person or in the deterioration of a person’s physical or mental condition.

Abuse and/or neglect of elderly patients may occur in the non-institutional or nursing home setting. It is mandated by the State of Illinois to report suspected abuse cases to the Abuse Hot Line:

(866) 800-1409

The prehospital provider must accurately and completely document any physical findings on the PCR and relay such findings to the Emergency Department Staff upon transfer to the hospital.
NERVE AGENT EXPOSURE

**WARM ZONE**
Mild to Severe Exposures
- Reassess Patient & Triage
- Assist Ventilations
- Decontaminate Patient
- Contact Medical Control When Appropriate
- Initiate IV NS
- Repeat Atropine If Conditions Warrants

**MILD EXPOSURE**
SOB, Wheezing, Runny Nose

**MODERATE EXPOSURE**
Vomiting, Drooling, Pinpoint Pupils

**Adult/Adolescent**
Inject One **DuoDote** Kit (Third Dose)

**SEVERE EXPOSURE**
Unconscious, cyanosis, seizures

**Adult/Adolescent**
Inject 2 **DuoDote** Kit

**HOT ZONE**
Severe Exposures Only

**Adult/Adolescent**
Assess Patient
Inject one **DuoDote** Kit
Label or Tag Patient to Identify Dosage
Remove Patient to Warm Zone

**Children Under 14 yrs (< 50 kg)**
Remove Patient to Warm Zone
KING AIRWAY DEVICE

INDICATIONS: Cardiac or respiratory arrest, unresponsive medical or trauma patient without a gag reflex in which endotracheal intubation is unable to be established.

CONTRAINDICATIONS: Height less than 4 feet, gag reflex, caustic substance ingestion, known esophageal disease.

1. Pre-oxygenate patient with bag-valve-mask device attached to 100% oxygen and appropriate airway adjunct (OPA or NPA). (May need to remove adjunct prior to insertion of King airway).

2. Choose the correct size based on patient’s height:
   a. Size 3 for patients 4 to 5 feet tall
   b. Size 4 for patients 5 to 6 feet tall
   c. Size 5 for patients over 6 feet tall

3. Assemble and check equipment and apply water-soluble lubricant to distal tip of King airway.

4. With the non-dominant hand, hold the mouth open and apply chin lift. Hold the King at the connector with the dominant hand.

5. Introduce the tip into the patient’s mouth, using a lateral approach. The blue orientation line should be touching the corner of the mouth.

6. Advance the tip behind the base of the tongue while rotating the tube to midline so that the blue orientation line faces the chin of the patient.

7. Without exerting excessive force, advance the tube until the base of the colored connector is aligned with the patient’s teeth or gums.

8. Inflate the pilot balloon with the appropriate volume of air:
   a. Size 3 – 50 mL
   b. Size 4 – 70 mL
   c. Size 5 – 80 mL

9. Attach the BVM to the King. While ventilating the patient, gently withdraw the tube until ventilation becomes easy and free flowing.

10. Adjust cuff inflation, if necessary, to obtain a seal of the airway at the peak ventilatory pressure.

11. Confirm bilateral breath sounds and negative gastric sounds and observe chest rise.

12. Apply cervical collar to maintain tube position.
AMPUTATED AND AVULSED PARTS

1. Adult Routine Trauma Care or Pediatric Routine Trauma Care

2. Remove gross contamination of stump and amputated part by gentle irrigation with NORMAL SALINE.

3. Control bleeding with direct pressure. If unable to control with direct pressure, apply a tourniquet at least 4 inches wide or a commercial device.

4. Cover stump with damp sterile dressing and an elastic wrap (provide uniform pressure over the entire stump). Cover wounds with a sterile dressing.

5. Care of amputated part:

   Place in a plastic bag; place in a larger bag or container with ice and water. *Do not use ice alone.*
TOURNIQUET USE

INDICATIONS: Life threatening extremity hemorrhage; defined as extremity hemorrhage that continues after application of direct pressure and/or pressure dressing. Tourniquet use may be considered as first line treatment for extremity amputation.

Tourniquet Placement
1. Place as far distally on the extremity as possible but at least 2 inches proximal to the wound and on bare skin if possible.
2. Tighten windlass until bleeding stops and pulse is no longer palpable.
3. Monitor for further bleeding, tighten tourniquet only if necessary. (If bleeding is not controlled, consider an additional tourniquet applied proximal to first tourniquet applied.)
4. Record time of placement on the tourniquet.
5. Notify MEDICAL CONTROL of tourniquet placement.
6. Consider pain management.

NOTE: Do not cover the wound, an impaled foreign body, or an open fracture. Do not place tourniquet over a joint. Do not cover the tourniquet with a dressing or splint. Lower leg injuries may require placement on the thigh for adequate compression to be obtained.
DUODOTE AUTO-INJECTOR

1. Tear open plastic pouch at any of the notches, and remove the DuoDote Auto-Injector.

2. Place DuoDote in your dominant hand and firmly grasp it, with the green tip pointing downward.

3. With your other hand, pull off the gray safety release, taking care never to touch the green tip.

4. Keep fingers clear of both ends of the auto-injector.

5. Select the site and inject. The injection site is the mid-outer thigh area. You can inject through clothing but make sure that the pockets are empty.

6. Swing and firmly push the green tip straight down (at a 90 degree angle) against the mid-outer thigh, continuing to push firmly until you feel the auto-injector trigger.

7. After the DuoDote Auto-Injector triggers, hold it firmly in place against the injection site for 10 seconds.

8. After injecting, remove the DuoDote Auto-Injector from the thigh and inspect the green tip: if the needle is visible, then the injection was successful. If the needle is not visible, make sure the gray safety release is removed and repeat the preceding injection steps.

9. Keep used auto-injector(s) plastic pouch with the patient so the other medical personnel will be aware of how many injections were administered.

10. Move away from the contaminated area, decontaminate the skin and clothing, and seek definitive medical treatment.
# 2015 AHA CPR GUIDELINES

<table>
<thead>
<tr>
<th>Component</th>
<th>Neonate (0-28 days)</th>
<th>Infant (Age Less than 1 year)</th>
<th>Children (Age 1 year to Puberty)</th>
<th>Adults and Adolescents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scene Safety</td>
<td>Make sure the environment is safe for rescuers and victim</td>
<td>Check for responsiveness &lt;br&gt;No definite pulse felt within 10 seconds&lt;br&gt;(Breathing &amp; pulse check can be performed simultaneously in &lt; than 10 seconds)</td>
<td>Continuous compressions at a rate of 100-120/min &lt;br&gt;Give 1 breath every 6 seconds (10 breaths/min)</td>
<td></td>
</tr>
<tr>
<td>Recognition of Cardiac Arrest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compression to ventilation ratio</td>
<td>3:1 ratio compressions to ventilation</td>
<td>One Rescuer 30:2 &lt;br&gt;Two or more Rescuers 15:2</td>
<td>One or Two Rescuers 30:2</td>
<td></td>
</tr>
<tr>
<td>without advanced airway</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compression to ventilation ratio</td>
<td>90/min</td>
<td>At least ⅓ AP diameter</td>
<td>At least ⅓ AP diameter (about 1 1/2” or 4cm)</td>
<td>At least 2” (5cm)</td>
</tr>
<tr>
<td>with advanced airway</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compression rate</td>
<td></td>
<td></td>
<td>100-120/min</td>
<td></td>
</tr>
<tr>
<td>Compression depth</td>
<td></td>
<td>At least ⅓ AP diameter</td>
<td>At least ⅓ AP diameter (about 2” or 5cm)</td>
<td>At least 2” (5cm)</td>
</tr>
<tr>
<td>Hand Placement</td>
<td></td>
<td>Compressions are delivered on the lower third of the sternum using 2 thumbs, with the fingers encircling the chest and supporting the back</td>
<td>One rescuer: fingers in the center of the chest just below the nipple line &lt;br&gt;Two or more rescuers &lt;br&gt;Two thumb encircling hands in the center of the chest, just below the nipple line</td>
<td>2 hands or 1 hand (optional for very small child) on the lower half of the breastbone (sternum)</td>
</tr>
<tr>
<td>Chest recoil</td>
<td>Allow full recoil but the rescuer’s thumbs should not leave the chest</td>
<td>Allow full recoil of chest after each compression; do not lean on the chest after each compression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimizing interruptions</td>
<td>Limit interruptions in chest compressions to less than 10 seconds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate breathing with pulse</td>
<td>Rescue breaths 12-20/minute &lt;br&gt;(1 breath every 3-5 seconds)</td>
<td>Rescue breaths 10-12/minute &lt;br&gt;(1 breath every 5-6 seconds)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard AED without pediatric attenuator</td>
<td>Not recommended</td>
<td>Only if pediatric attenuator not available</td>
<td>Recommended</td>
<td></td>
</tr>
</tbody>
</table>
## 2015 AHA AIRWAY OBSTRUCTION GUIDELINES

<table>
<thead>
<tr>
<th>Component</th>
<th>Neonate/Infant (Age Less than 1 year)</th>
<th>Children (Age 1 year to Puberty)</th>
<th>Adults and Adolescents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conscious patient unable to speak or cough</td>
<td>Cycles of 5 back blows (slaps) followed by 5 chest compressions</td>
<td>Abdominal thrusts in rapid sequence until the obstruction is relieved.</td>
<td>Obese patients – chest thrusts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Later stages of pregnancy – chest thrusts</td>
</tr>
<tr>
<td>Unresponsive victim with obstructed airway No change in AHA</td>
<td>If patient becomes unresponsive, begin CPR starting with chest compressions (no pulse check)</td>
<td>Each time the airway is opened, look in mouth for object; attempt removal only if visualized. After visual inspection, attempt 2 ventilations</td>
<td>If obstruction unrelieved with Magill forceps or manual maneuvers, consider cricothyrotomy or needle cricothyrotomy</td>
</tr>
</tbody>
</table>
WITHHOLDING RESUSCITATIVE EFFORTS

EMS personnel may withhold or cease resuscitative efforts in the following circumstances:

- There is a risk to the health and safety of EMS personnel.
- Resources are inadequate to treat all patients (i.e. multiple patient incidents).
- The patient shows indications of irreversible death process:
  - Decapitation
  - Rigor mortis
  - Dependent lividity
  - Body decomposition
  - Transection
  - Incineration
  - Obvious mortal trauma
- Death has been declared by a physician, medical examiner or coroner.
- A valid State of Illinois Practitioner Order for Life-Sustaining Treatment (POLST) or state approved Do Not Resuscitate (DNR) order has been secured that includes:
  - Name of patient,
  - Name and signature of authorized practitioner to include physician, licensed resident (second year or higher), advanced practice nurse or physician assistant,
  - Effective date,
  - The words “Do Not Resuscitate” or “Do Not Attempt Resuscitation/DNR”,
  - Evidence of consent:
    - signature of patient; or
    - signature of legal guardian; or
    - signature of durable power of attorney for health care agent; or
    - signature of surrogate decision-maker
    - signature of witness required if IDPH DNR Advanced Directive (POLST) form used
- A living will by itself cannot be recognized by pre-hospital care providers.
<table>
<thead>
<tr>
<th>ADULT GLASGOW COMA SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>RESPIRATORY RATE</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SYSTOLIC BLOOD PRESSURE</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GLASGOW COMA SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>EYE OPENING</td>
</tr>
<tr>
<td>Spontaneous</td>
</tr>
<tr>
<td>To Voice</td>
</tr>
<tr>
<td>To Pain</td>
</tr>
<tr>
<td>None</td>
</tr>
<tr>
<td>VERBAL RESPONSE</td>
</tr>
<tr>
<td>Oriented (conversation)</td>
</tr>
<tr>
<td>Confused (conversation)</td>
</tr>
<tr>
<td>Inappropriate words</td>
</tr>
<tr>
<td>Incomprehensible sounds</td>
</tr>
<tr>
<td>None</td>
</tr>
<tr>
<td>MOTOR RESPONSE</td>
</tr>
<tr>
<td>Obeys commands</td>
</tr>
<tr>
<td>Purposeful Movement to Pain</td>
</tr>
<tr>
<td>Withdraw to Pain</td>
</tr>
<tr>
<td>Abnormal flexion</td>
</tr>
<tr>
<td>Abnormal extension</td>
</tr>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

TOTAL GLASGOW COMA SCALE POINTS =
# PEDIATRIC GLASGOW COMA SCALE (PGCS)

<table>
<thead>
<tr>
<th>EYE OPENING</th>
<th>&lt; 2 years</th>
<th>&gt; 2 years</th>
<th>Score</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous</td>
<td>Spontaneous</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Speech</td>
<td>To Speech</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Pain</td>
<td>To Pain</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>No response</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VERBAL RESPONSE</th>
<th>&lt; 2 years</th>
<th>&gt; 2 years</th>
<th>Score</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coos, babbles, appropriate words</td>
<td>Orientated/appropriate words</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritable, Cries but consolable</td>
<td>Confused</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cries to pain, inconsolable</td>
<td>Inappropriate word/persistent cry</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moans to pain</td>
<td>Incomprehensible sounds</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Response</td>
<td>No response</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MOTOR RESPONSE</th>
<th>&lt; 2 years</th>
<th>&gt; 2 years</th>
<th>Score</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal spontaneous movements</td>
<td>Obeys commands</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdraws from touch</td>
<td>Localizes to pain</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdraws from pain</td>
<td>Withdraws from pain</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abnormal flexion (Decorticate)</td>
<td>Abnormal flexion (Decorticate)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abnormal extension (decerebrate)</td>
<td>Abnormal extension (decerebrate)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>No response</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTA PEDIATRIC GLASGOW COMA SCALE (3-15)**

**Reference:** EMSC

<table>
<thead>
<tr>
<th>PGCS 13-15 (Mild)</th>
<th>PGCS 9-12 (Moderate)</th>
<th>PGCS &lt; 8 (Severe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Administer 100% O₂ as indicated</td>
<td>• Administer 100% O₂</td>
<td>• Administer 100% O₂</td>
</tr>
<tr>
<td>• Control hemorrhage</td>
<td>• Support ventilation with bag mask as indicated</td>
<td>• Support ventilation with bag mask</td>
</tr>
<tr>
<td>• Reassess PGCS</td>
<td>• Control hemorrhage</td>
<td>• Control hemorrhage</td>
</tr>
<tr>
<td>• Observe</td>
<td>• Reassess PGCS</td>
<td>• Reassess PGCS</td>
</tr>
<tr>
<td></td>
<td>• Observe</td>
<td>• Observe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Refer to <strong>Seizure Protocol</strong> as indicated</td>
</tr>
</tbody>
</table>

---

**PEDIATRIC GLASGOW COMA SCALE (PGCS) Reference:** EMSC

**Administer 100% O₂ as indicated**

**Support ventilation with bag mask as indicated**

**Control hemorrhage**

**Reassess PGCS**

**Observe**

**Administer 100% O₂**

**Support ventilation with bag mask**

**Control hemorrhage**

**Reassess PGCS**

**Observe**

**Refer to **Seizure Protocol** as indicated**
BODY SURFACE BURN PERCENTAGE CALCULATION

Adult
- full head & neck 9%
- upper back 9%
- lower back 9%
- anterior chest 9%
- anterior abdomen 9%
- full upper extremity 9%
- full lower extremity 18%
- genitalia 1%

Infant
- full head and neck 18%
- upper back 9%
- lower back 9%
- anterior chest 9%
- anterior abdomen 9%
- full upper extremity 9%
- full lower extremity 13.5%
- genitalia 1%

Palm of hand (including fingers) of infant or child = 1% of the total body surface
# APGAR SCORING

<table>
<thead>
<tr>
<th>APGAR SCORING</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A=Appearance (color)</td>
<td>Blue or pale</td>
<td>Blue hands or feet</td>
<td>Entirely pink</td>
</tr>
<tr>
<td>P=Pulse</td>
<td>Absent</td>
<td>&lt; 100/min</td>
<td>&gt; 100/min</td>
</tr>
<tr>
<td>G=Grimace (reflex irritability)</td>
<td>Absent</td>
<td>Grimace</td>
<td>Cry or Active Withdrawal</td>
</tr>
<tr>
<td>A=Activity (muscle tone)</td>
<td>Limp</td>
<td>Some extremity flexion</td>
<td>Active motion</td>
</tr>
<tr>
<td>R=Respirations</td>
<td>Absent</td>
<td>Weak cry, hypoventilation</td>
<td>Strong cry</td>
</tr>
</tbody>
</table>

Reference: AHA 2015

Scores:
7 to 10 – Majority of infants generally requiring only routine care
4 to 6 – Moderately depressed infants requiring oxygenation and stimulation to breathe
0 to 3 – Severely depressed requiring immediate ventilatory and circulatory assistance
# PEDIATRIC NORMAL VITAL SIGNS

<table>
<thead>
<tr>
<th>AGE</th>
<th>SYSTOLIC BP</th>
<th>HEART RATE</th>
<th>RESPIRATORY RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>&gt;60/</td>
<td>100 – 180</td>
<td>30 – 60</td>
</tr>
<tr>
<td>3 months</td>
<td>&gt;70/</td>
<td>100 – 160</td>
<td>30 – 60</td>
</tr>
<tr>
<td>6 months</td>
<td>&gt;70/</td>
<td>110 – 160</td>
<td>30 – 60</td>
</tr>
<tr>
<td>9 months</td>
<td>&gt;70/</td>
<td>110 – 160</td>
<td>30 – 60</td>
</tr>
<tr>
<td>12 months</td>
<td>&gt;70/</td>
<td>110 – 160</td>
<td>30 – 60</td>
</tr>
<tr>
<td>2 years</td>
<td>&gt;70/</td>
<td>90 – 150</td>
<td>24 – 40</td>
</tr>
<tr>
<td>4 years</td>
<td>&gt;75/</td>
<td>90 – 150</td>
<td>22 – 34</td>
</tr>
<tr>
<td>6 years</td>
<td>&gt;80/</td>
<td>70 – 120</td>
<td>18 – 30</td>
</tr>
<tr>
<td>8 years</td>
<td>&gt;80/</td>
<td>70 – 120</td>
<td>18 – 30</td>
</tr>
<tr>
<td>10 years</td>
<td>&gt;80/</td>
<td>70 – 120</td>
<td>18 – 30</td>
</tr>
<tr>
<td>12 years</td>
<td>&gt;90/</td>
<td>60 – 110</td>
<td>12 – 16</td>
</tr>
</tbody>
</table>

Reference: EMSC
# PAIN SCALES

## Wong-Baker FACES™ Pain Rating Scale

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No Hurt</td>
</tr>
<tr>
<td>2</td>
<td>Hurts Little Bit</td>
</tr>
<tr>
<td>4</td>
<td>Hurts Little More</td>
</tr>
<tr>
<td>6</td>
<td>Hurts Even More</td>
</tr>
<tr>
<td>8</td>
<td>Hurts Whole Lot</td>
</tr>
<tr>
<td>10</td>
<td>Hurts Worst</td>
</tr>
</tbody>
</table>

## FLACC PAIN SCALE

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Face** | 0 – No particular expression or smile  
1 – Occasional grimace or frown, withdrawn, disinterested  
2 – Frequent to constant quivering chin, clenched jaw |
| **Legs** | 0 – Normal position or relaxed  
1 – Uneasy, restless, tense  
2 – Kicking or legs drawn up |
| **Activity** | 0 – Lying quietly, normal position, moves easily  
1 – Squirming, shifting back and forth, tense  
2 – Arched, rigid or jerking |
| **Cry** | 0 – No cry (awake or asleep)  
1 – Moans or whimpers; occasional complaint  
2 – Crying steadily, screams or sobs, frequent complaints |
| **Consolability** | 0 – Content, relaxed  
1 – Reassured by occasional touching, hugging or being talked to, distractible  
2 – Difficult to console or comfort |

**TOTAL SCORE**
PATIENT CONTAMINATED WITH A HAZARDOUS MATERIAL

Use proper PPE and containment procedures during entire contact with the patient(s), equipment and environment. Avoid self-injury.

**Contact Medical Control** early to allow receiving hospital(s) time to prepare for the contaminated patient(s). The hospital staff treatment of the patient(s) may be performed separate from the main Emergency Department area, possibly in the ambulance.

**All attempts are to be made to decontaminate the patient prior to moving into ambulance.**

1. If warranted, contact the Department/Regional HazMat Response Team/Illinois Poison Center for assistance.
2. Remove as much of the outermost layer of clothing as possible.
3. The usual decontamination solution is soap and water.
   a. Refer to reference material for any variation to this solution i.e.: alkali.
4. If powdered/dry agent, brush excess before irrigating.
5. If possible, bring copy of the MSDS with the patient to the hospital.

**CHEMICAL WEAPONS** (vapor or liquid):

<table>
<thead>
<tr>
<th>NERVE AGENTS</th>
<th>BLISTER AGENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms: Salivation, Lacrimation, Urination, Defecation, Gastrointestinal Distress, Emesis, Breathing Difficulty With Bronchospasm And Copious Secretions, Arrhythmias And Myosis (constricted pupils) (SLUDGE BAM)</td>
<td>Symptoms: Reddened skin, blistering, tearing, itching, CNS effect and respiratory failure</td>
</tr>
</tbody>
</table>
| Duodote Auto-Injector  
(Refer to Nerve Agent Exposure protocol p. 71) |

Follow hazmat response protocols as above. Treat these materials as extremely toxic substances.

**BIOLOGICAL AGENTS** Symptoms may include: Fever, chills, diarrhea, sore throat, swollen lymph nodes, malaise, cough, respiratory insufficiency or distress, and jaundice.

1. For all possible exposures wear appropriate PPE
2. If the patient is coughing, all rescuers to wear N95 mask and surgical mask on patient.
3. Cover any lesions with dressings to avoid spread of contaminant.

**CYANIDE POISONING** Symptoms may include hypotension, apnea and seizures.

1. **Contact Medical Control** as soon as possible.
2. Administer Cyanide antidote if available.

**NOTE:** Illinois Poison Center (800) 222-1222
RADIATION EMERGENCIES

Always practice scene safety.

If radiation hazard suspected:

1. If warranted, contact the Department/Regional HazMat Response Team/Illinois Poison Center.
2. Use proper PPE.
3. Use available survey meters and dosimeters to measure radiation levels.
4. If injured victims in radiation zone, assess and treat life-threatening injuries.
5. Utilize the Time, Distance and Shielding rule.
6. Move patient to the proper control area for further treatment and monitoring.
7. Treat all patients contaminated until proven otherwise.
8. Life threatening injury/illness takes precedence over decontamination procedure. Refer to appropriate protocols.

If contamination suspected, Contact Medical Control with the following:

1. Location of the incident and number of victims
2. Medical status of the victims
3. Source of radiation, fixed facility, transportation, Weapons of Mass Destruction (WMD) device
4. Amount and types of radiation
5. Type of contamination, external vs. internal
6. Need for decontamination at the hospital

If thorough surveying and decontamination cannot be completed at the scene:

1. Transfer patient onto a clean sheet to receive and cover.
2. Prevent contamination of equipment and the ambulance.
3. The rescuers, equipment and ambulance will need to be surveyed and decontaminated at the hospital.

If assistance is needed, 24-hour hot line numbers are available:

Radiation Emergency Assistance Center/Training Site (REACT/TS) in Oak Ridge, TN (865) 576-1005
Illinois Emergency Management Agency, Division of Nuclear Safety (217) 785-0600
Illinois Poison Center (800) 222-1222
Patients may present with special health care needs (functional needs) and may require reasonable modification to policies, practices, and procedures. Patients may be dependent upon durable medical equipment, consumable medical supplies, personal assistance services or other goods and services. Children and adults requiring functional needs support may have physical, sensory, mental health, cognitive and/or intellectual disabilities affecting their ability to function independently without assistance; others that may benefit include women in late stages of pregnancy, elders, and people needing bariatric equipment. Communicate with caregiver/parent for medical information and to assist with care if necessary. Confirm the baseline assessment of the patient with the caregiver.

**Care of the patient with a tracheostomy:**
Evaluate for displacement, obstruction, pulmonary problems and/or equipment issue. There are several types of tracheostomy tubes to include cuffed/uncuffed, fenestrated, single or double lumen; communicate with caregiver regarding specific device. May ventilate/oxygenate via a BVM with a tracheostomy adapter or with a mask over the stoma. If unable to ventilate, cover opening with gauze and ventilate with BVM over nose and mouth. Suction as needed.

**Care of the patient with a stoma:**
Consider the use of an infant or child mask to make a seal over the stoma site for ventilation; seal mouth and nose if air is escaping.

**Care of the patient with a Left Ventricular Assist Device (LVAD):** Battery operated, mechanical pump surgically implanted next to the native heart. A tube pulls blood from LV into pump that bypasses aortic valve to send blood directly into the aorta. This aids to help a weakened ventricle.
- NEVER remove both sources of power (batteries) at the same time!
- Patient may or may not have a peripheral pulse or BP
- SpO2 registers if perfusion is present, but may be unreliable
- Evaluate perfusion based on mental status, skin signs
- If patient is unconscious and non-breathing, CHEST COMPRESSIONS ARE ALLOWED
- Patient may be defibrillated without disconnecting the pump
- Do not defibrillate over the pump; defibrillate at nipple line or above. Anterior-posterior pad placement is preferred
- ECG waveforms may have artifact and or may be flat due to device
- Patients will often have pacemakers and/or Internal Cardioverter Devices (ICDs)
- Patients will be on anticoagulant medications
- Avoid water submersion; avoid contact with strong magnets or magnetic fields
- Transport specialized equipment, extra battery pack, charger and cords with the patient
- LVAD Coordinator may be contacted for further information (patient information sheet)

**Other technology-assisted special needs:**
If possible, transport specialized equipment, emergency information forms and medications to the emergency department with the patient.
To treat a person by hemodialysis, an access must be made to the circulatory system, enabling blood to flow out through the machine and return to the patient

A. **Arteriovenous Fistula.** The most common type of access, a fistula, is created internally by sewing an artery to a vein, forming a small opening between the two. Pressure from the arterial blood flow causes enlargement of the veins.

B. **Arteriovenous Graft.** This access is similar to the fistula. A synthetic tube is used to connect the artery to the vein.

C. **Venous Catheter.** Usually inserted in the internal jugular vein and tunneled to exit below the clavicle.

**Care of patients with a graft or fistula**
1. Do not take a blood pressure on the arm where an active graft or fistula is present.
2. If a graft or fistula is bleeding, apply direct pressure and transport the patient.

**Continuous ambulatory peritoneal dialysis**
Continuous ambulatory peritoneal dialysis (CAPD) is a self-care treatment where the patient instills dialysate fluid into the peritoneal (abdominal) cavity through a catheter that is surgically implanted. The dialysate is allowed to stay in the cavity for a prescribed period of time and is then drained out, carrying out body wastes.

**Care of the patient on CAPD**
1. Do not disconnect the CAPD bags from the catheter.
2. Do not infuse any fluids or medications directly into the catheter.
3. Transport the patient to the hospital with the CAPD intact, maintaining drainage bag lower than waist height.
<table>
<thead>
<tr>
<th>Drug</th>
<th>Narcan Naloxone</th>
<th>Epi 1:1,000 (1mg/1mL) Non-Arrest/Stable</th>
</tr>
</thead>
<tbody>
<tr>
<td>How Supplied</td>
<td>2mg/2mL (1mg/1mL)</td>
<td>1mg/1mL</td>
</tr>
<tr>
<td>Protocol Dosage</td>
<td>0.1mg/kg &lt;20 kg</td>
<td>0.01mg/kg</td>
</tr>
<tr>
<td>Routes</td>
<td>IVP/IO/IN/IM</td>
<td>IM</td>
</tr>
<tr>
<td>Weight Lbs.</td>
<td>Kgs</td>
<td>Max 0.5mg</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>0.1mL (0.1mg)</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>0.2mL (0.2mg)</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>0.3mL (0.3mg)</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>0.4mL (0.4mg)</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
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</tr>
<tr>
<td>18</td>
<td>8</td>
<td>0.8mL (0.8mg)</td>
</tr>
<tr>
<td>22</td>
<td>10</td>
<td>1mL (1mg)</td>
</tr>
<tr>
<td>26</td>
<td>12</td>
<td>1.2mL (1.2mg)</td>
</tr>
<tr>
<td>31</td>
<td>14</td>
<td>1.4mL (1.4mg)</td>
</tr>
<tr>
<td>35</td>
<td>16</td>
<td>1.6mL (1.6mg)</td>
</tr>
<tr>
<td>40</td>
<td>18</td>
<td>1.8mL (1.8mg)</td>
</tr>
<tr>
<td>44</td>
<td>20</td>
<td>2mL (2mg)</td>
</tr>
<tr>
<td>48</td>
<td>22</td>
<td>2mL (2mg)</td>
</tr>
<tr>
<td>53</td>
<td>24</td>
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<td>57</td>
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<td>62</td>
<td>28</td>
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<tr>
<td>66</td>
<td>30</td>
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<tr>
<td>70</td>
<td>32</td>
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<tr>
<td>75</td>
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<tr>
<td>79</td>
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<td>88</td>
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<td>92</td>
<td>42</td>
<td>2mL (2mg)</td>
</tr>
<tr>
<td>98</td>
<td>44</td>
<td>2mL (2mg)</td>
</tr>
</tbody>
</table>

*NOTE: Titrate = Administer slowly to desired effect*
### REGION X APPROVED DRUG INFORMATION LIST

**NOTE:** See Pediatric Resuscitation Medication Chart for Pediatric Dose

<table>
<thead>
<tr>
<th>DRUG</th>
<th>DOSE AND ROUTE</th>
<th>ACTION</th>
<th>INDICATION</th>
<th>CONTRAINDICATIONS</th>
<th>SIDE EFFECTS</th>
</tr>
</thead>
</table>
| **ALBUTEROL** (Proventil)  
2.5 mg/3 mL vial         | Hand held nebulizer  
2.5 mg/3mL or inline or in-line ET | Produces bronchodilation regardless of route. Relaxes smooth muscle of bronchial tree. | Bronchospasm associated with chronic or acute asthma, bronchitis or other reversible obstructive airway diseases | Cautious w/HTN, MAO inhibitors, cardiovascular disease, hyperthyroid, diabetes mellitus, tricyclics | Anxiety, tremors, dizziness, paradoxical bronchospasm, nervousness, palpitations, high or low BP, reflex tachycardia, flushing, headache, nausea, vomiting |
| **ASPIRIN**  
81 or 324 mg Tablets | 324mg Oral           | Platelet inhibitor.                         | New chest pain suggestive of Acute MI       | Patients with known hypersensitivity to drug                                       | Heartburn, nausea, vomiting                                                   |
| Atrovent  
See IPRATROPIUM BROMIDE |                      | Decreases allergic reaction by blocking histamine | Allergic reaction and anaphylaxis           | Acute Asthma attack, COPD, hypersensitivity.                                      | Drowsiness, sedation, headache, blurred vision, tremors, tachycardia, convulsions, hypotension. May cause excitabile state |
| **DIPHENHYDRAMINE**  
(Benadryl)  
50 mg/1 mL preload | 25-50 mg IM or IVP/IO  
SLOWLY over 2 minutes | Decreases allergic reaction by blocking histamine | Allergic reaction and anaphylaxis           | Acute Asthma attack, COPD, hypersensitivity.                                      | Drowsiness, sedation, headache, blurred vision, tremors, tachycardia, convulsions, hypotension. May cause excitabile state |

**NOTE:** Titrate = Administer slowly to desired effect
<table>
<thead>
<tr>
<th>DRUG</th>
<th>DOSE AND ROUTE</th>
<th>ACTION</th>
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<th>CONTRAINDICATIONS</th>
<th>SIDE EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUODOTE</td>
<td></td>
<td>Atropine counters the over-stimulating effects on nerve receptors. 2 PAM removes nerve agent at nerve endings.</td>
<td>Symptomatic nerve agent or organophosphate exposure. Dermal decontamination is critical</td>
<td>Not to be used for prophylactic measure. Use with caution but not withheld in patients with cardiac disease or hypertension</td>
<td>Atropine may cause chest pain. 2 PAM may cause blurred vision, headache, nausea, hypertension, rapid heart rate.</td>
</tr>
<tr>
<td>DUODOTE Atropine</td>
<td>2 mg/0.7 mL</td>
<td>May utilize up to 3 kits based upon exposure and presentation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DUODOTE Pralidoxine</td>
<td>Chloride (2 PAM)</td>
<td>600 mg/2 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPINEPHRINE 1:1</td>
<td>1 mg/mL</td>
<td>Beta effects: increases automaticity, conductivity, contractility, dilation of bronchial tree. Alpha effects vasoconstriction.</td>
<td>Anaphylaxis, allergic reaction, bronchial asthma, bronchitis, bronchospasm, COPD, wheezing of any etiology in adults.</td>
<td>Use with caution in elderly patient and those with underlying cardiovascular disease. Known sensitivity to epinephrine or sulfites. Pregnant women in active labor.</td>
<td>Tachyarrhythmia, tremors, restlessness, anxiety, nausea, headache</td>
</tr>
<tr>
<td>EPINEPHRINE</td>
<td>0.5 mL IM</td>
<td>1 mg/mL ampules or preload</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPINEPHRINE</td>
<td>EpiPen Jr. 0.15mg</td>
<td>EpiPen 0.3mg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLUCAGON</td>
<td>1mg = 1 unit</td>
<td>Increases blood glucose by converting liver glycogen to glucose</td>
<td>Hypoglycemia when unable to establish IV</td>
<td>Chronic hypoglycemia, adrenal insufficiency, starvation, allergy to protein.</td>
<td>Nausea, vomiting, hypotension, allergic reaction due to protein substance.</td>
</tr>
<tr>
<td>GLUCAGON</td>
<td>IM/IN (dissolved in accompanying diluent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLUCOSE</td>
<td>15 grams ORAL</td>
<td>Increases blood glucose</td>
<td>Hypoglycemia when known diabetic, able to tolerate oral preparation, intact gag reflex</td>
<td>Unable to tolerate oral preparation, lacking gag reflex, unable to protect own airway</td>
<td>Nausea</td>
</tr>
<tr>
<td>GLUCOSE</td>
<td>(Glutose 15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLUCOSE</td>
<td>15 G</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

*NOTE: Titrate = Administer slowly to desired effect*
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<tr>
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<th>CONTRAINDICATIONS</th>
<th>SIDE EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NITROGLYCERIN</td>
<td>1 tablet SL (0.4mg - 1/150 gr.)</td>
<td>Vasodilator: decreases blood return to right heart, decreases preload and afterload and oxygen consumption.</td>
<td>Angina pectoris, chest pain. Pulmonary edema, Hypertensive crisis</td>
<td>Hypersensitivity to nitrates, head trauma, cerebral hemorrhage, and hypotension. Avoid use if Viagra drug taken within 24 hours or 48 hours with Cialis</td>
<td>Headache, dizziness, hypotension, nausea, vomiting, palpitations, sublingual burning.</td>
</tr>
<tr>
<td>(Nitrostat) 1/150 gr. Tablets</td>
<td>May be given every 5 minutes if BP &gt; 90.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPRATROPIUM BROMIDE</td>
<td>Unit dose, hand-held nebulizer 0.5 mg/2.5 mL or inline ET</td>
<td>Anticholinergic Bronchodilator</td>
<td>Bronchospasm which is associated with mod/severe allergic reaction, COPD/Asthma</td>
<td>Hypersensitivity to Atropine or ipratropium products, Glaucoma, prostate hypertrophy</td>
<td>Dry mouth, nausea, bitter taste in mouth, blurred vision, dilated pupils</td>
</tr>
<tr>
<td>(Atrovent) 0.5 mg/2.5 mL vial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NALOXONE HCL</td>
<td>2 mg IVP/IO/IN/IM</td>
<td>Narcotic antagonist</td>
<td>Known or suspected narcotic-induced respiratory depression.</td>
<td>Use cautiously in patients with cardiac irritability and narcotic addiction.</td>
<td>Nausea, vomiting, withdrawal symptoms, seizures</td>
</tr>
<tr>
<td>(Narcan) 2 mg/mL preload or vial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ONDANSETRON</td>
<td>4mg PO may repeat in 10 minutes to a maximum of 8 mg Or 4mg ORAL</td>
<td>Blocks the action of serotonin, a natural substance that may cause nausea and vomiting</td>
<td>Nausea and vomiting</td>
<td>Hypersensitivity Pregnancy</td>
<td>Blurred vision after infusion, diarrhea in children</td>
</tr>
<tr>
<td>(Zofran) 4mg tablet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*NOTE: Titrate = Administer slowly to desired effect*
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>abdominal aortic aneurysm</td>
</tr>
<tr>
<td>Abd</td>
<td>Abdomen</td>
</tr>
<tr>
<td>ACS</td>
<td>acute coronary syndrome</td>
</tr>
<tr>
<td>AED</td>
<td>automated external defibrillator</td>
</tr>
<tr>
<td>AHA</td>
<td>American Heart Association</td>
</tr>
<tr>
<td>AIDS</td>
<td>acquired immune deficiency syndrome</td>
</tr>
<tr>
<td>ALS</td>
<td>Advanced Life Support</td>
</tr>
<tr>
<td>AMA</td>
<td>against medical advice</td>
</tr>
<tr>
<td>Amb</td>
<td>ambulance</td>
</tr>
<tr>
<td>AMI</td>
<td>acute myocardial infarction</td>
</tr>
<tr>
<td>Amp</td>
<td>ampule</td>
</tr>
<tr>
<td>AMS</td>
<td>altered mental status</td>
</tr>
<tr>
<td>A&amp;O</td>
<td>alert &amp; oriented</td>
</tr>
<tr>
<td>APGAR</td>
<td>appearance, pulse, grimace, activity, respirations</td>
</tr>
<tr>
<td>ASA</td>
<td>aspirin</td>
</tr>
<tr>
<td>ASAP</td>
<td>as soon as possible</td>
</tr>
<tr>
<td>ASHD</td>
<td>arteriosclerotic heart disease</td>
</tr>
<tr>
<td>AV</td>
<td>atrioventricular</td>
</tr>
<tr>
<td>AVPU</td>
<td>mental status: alert, verbal, pain, unresponsive</td>
</tr>
<tr>
<td>BB</td>
<td>backboard</td>
</tr>
<tr>
<td>BCP</td>
<td>birth control pills</td>
</tr>
<tr>
<td>BLS</td>
<td>Basic Life Support</td>
</tr>
<tr>
<td>bm</td>
<td>bowel movement</td>
</tr>
<tr>
<td>BOW</td>
<td>Bag of water</td>
</tr>
<tr>
<td>BP</td>
<td>blood pressure</td>
</tr>
<tr>
<td>BPM or bpm</td>
<td>beats per minute</td>
</tr>
<tr>
<td>bs</td>
<td>breath sounds</td>
</tr>
<tr>
<td>BSA</td>
<td>body surface area</td>
</tr>
<tr>
<td>BSI</td>
<td>body substance isolation</td>
</tr>
<tr>
<td>BVM</td>
<td>bag valve mask</td>
</tr>
<tr>
<td>C</td>
<td>Celsius or centigrade</td>
</tr>
<tr>
<td>CA</td>
<td>cancer</td>
</tr>
<tr>
<td>c&amp;a</td>
<td>conscious and alert</td>
</tr>
<tr>
<td>CABG</td>
<td>coronary artery bypass graft</td>
</tr>
<tr>
<td>CAD</td>
<td>coronary artery disease</td>
</tr>
<tr>
<td>CC</td>
<td>chief complaint</td>
</tr>
<tr>
<td>C-Collar</td>
<td>cervical collar</td>
</tr>
<tr>
<td>CHB</td>
<td>complete heart block</td>
</tr>
<tr>
<td>CHF</td>
<td>congestive heart failure</td>
</tr>
<tr>
<td>CID</td>
<td>cervical immobilization device</td>
</tr>
<tr>
<td>cm</td>
<td>centimeter</td>
</tr>
<tr>
<td>CMS</td>
<td>circulation, motor, sensation</td>
</tr>
<tr>
<td>CNS</td>
<td>central nervous system</td>
</tr>
<tr>
<td>c/o</td>
<td>complaints of</td>
</tr>
<tr>
<td>CO</td>
<td>carbon monoxide</td>
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<tr>
<td>CO2</td>
<td>carbon dioxide</td>
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<tr>
<td>COPD</td>
<td>chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>CP</td>
<td>chest pain</td>
</tr>
<tr>
<td>CPAP</td>
<td>continuous positive airway pressure</td>
</tr>
<tr>
<td>CPR</td>
<td>cardiopulmonary resuscitation</td>
</tr>
<tr>
<td>CPSS</td>
<td>Cincinnati Prehospital Stroke Scale</td>
</tr>
<tr>
<td>Cric</td>
<td>cricothyrotomy</td>
</tr>
<tr>
<td>C-Section</td>
<td>caesarian section</td>
</tr>
<tr>
<td>CSF</td>
<td>cerebral spinal fluid</td>
</tr>
<tr>
<td>C-spine</td>
<td>cervical spine</td>
</tr>
<tr>
<td>CV</td>
<td>cardiovascular</td>
</tr>
<tr>
<td>CVA</td>
<td>cerebral vascular accident</td>
</tr>
<tr>
<td>D&amp;C</td>
<td>dilatation and curettage</td>
</tr>
<tr>
<td>D/J</td>
<td>discontinue</td>
</tr>
<tr>
<td>D5W</td>
<td>5% dextrose in water</td>
</tr>
<tr>
<td>DCAP</td>
<td>deformity, contusion, abrasion, penetration</td>
</tr>
<tr>
<td>DCFS</td>
<td>Department of Children and Family Services</td>
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<tr>
<td>Dept</td>
<td>department</td>
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<tr>
<td>Dig</td>
<td>diuretics</td>
</tr>
<tr>
<td>DKAs</td>
<td>diabetic ketoacidosis</td>
</tr>
<tr>
<td>DM</td>
<td>diabetes mellitus</td>
</tr>
<tr>
<td>DNA</td>
<td>does not apply</td>
</tr>
<tr>
<td>DNR</td>
<td>do not resuscitate</td>
</tr>
<tr>
<td>DOA</td>
<td>dead on arrival</td>
</tr>
<tr>
<td>DOE</td>
<td>dyspnea on exertion</td>
</tr>
<tr>
<td>Drsg</td>
<td>dressing</td>
</tr>
<tr>
<td>DTs</td>
<td>delirium tremens</td>
</tr>
<tr>
<td>DVT</td>
<td>deep vein thrombosis</td>
</tr>
<tr>
<td>Dx</td>
<td>diagnosis</td>
</tr>
<tr>
<td>ECG or EKG</td>
<td>electrocardiogram</td>
</tr>
<tr>
<td>ECRN</td>
<td>Emergency Communications RN</td>
</tr>
<tr>
<td>ED</td>
<td>emergency department</td>
</tr>
<tr>
<td>EDC</td>
<td>estimated date of confinement</td>
</tr>
<tr>
<td>EDD</td>
<td>esophageal detector device</td>
</tr>
<tr>
<td>EMS</td>
<td>Emergency Medical Services</td>
</tr>
<tr>
<td>EMT</td>
<td>Emergency Medical Technician</td>
</tr>
<tr>
<td>ENT</td>
<td>ear, nose and throat</td>
</tr>
<tr>
<td>ET</td>
<td>endotracheal</td>
</tr>
<tr>
<td>EtCO2</td>
<td>end tidal carbon dioxide</td>
</tr>
<tr>
<td>ETA</td>
<td>estimated time of arrival</td>
</tr>
<tr>
<td>ETOH</td>
<td>alcohol</td>
</tr>
<tr>
<td>Exam</td>
<td>examination</td>
</tr>
<tr>
<td>F</td>
<td>fahrenheit</td>
</tr>
<tr>
<td>FB</td>
<td>foreign body</td>
</tr>
<tr>
<td>FBO</td>
<td>foreign body obstruction</td>
</tr>
<tr>
<td>Fib</td>
<td>fibrillation</td>
</tr>
<tr>
<td>FHT</td>
<td>fetal heart tones</td>
</tr>
<tr>
<td>FUO</td>
<td>fever of unknown origin</td>
</tr>
<tr>
<td>FiO2</td>
<td>fraction of inspired O2 (% O2 delivered)</td>
</tr>
<tr>
<td>Fr</td>
<td>french (suction catheter diameter)</td>
</tr>
<tr>
<td>Fracture</td>
<td>fracture</td>
</tr>
<tr>
<td>GCS</td>
<td>Glasgow Coma Score</td>
</tr>
<tr>
<td>GERD</td>
<td>gastro-esophageal reflux disease</td>
</tr>
<tr>
<td>GI</td>
<td>gastrointestinal</td>
</tr>
<tr>
<td>gm</td>
<td>gram</td>
</tr>
<tr>
<td>gsw</td>
<td>gun shot wound</td>
</tr>
<tr>
<td>Gtt</td>
<td>drops</td>
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<tr>
<td>GU</td>
<td>genitourinary</td>
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<tr>
<td>Gyn</td>
<td>gynecological</td>
</tr>
<tr>
<td>h or hr</td>
<td>hour</td>
</tr>
<tr>
<td>H/A</td>
<td>headache</td>
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<tr>
<td>H2O</td>
<td>water</td>
</tr>
<tr>
<td>HCO3</td>
<td>bicarbonate</td>
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<tr>
<td>Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>HEPA</td>
<td>high efficiency particulate airborne mask</td>
</tr>
<tr>
<td>HF</td>
<td>heart failure</td>
</tr>
<tr>
<td>HHN</td>
<td>hand held nebulizer</td>
</tr>
<tr>
<td>HIV</td>
<td>human immunodeficiency virus</td>
</tr>
<tr>
<td>HR</td>
<td>heart rate</td>
</tr>
<tr>
<td>HTN</td>
<td>hypertension</td>
</tr>
<tr>
<td>Hx.</td>
<td>history</td>
</tr>
<tr>
<td>ICP</td>
<td>intracranial pressure</td>
</tr>
<tr>
<td>ICU</td>
<td>intensive care unit</td>
</tr>
<tr>
<td>i.d.</td>
<td>internal diameter</td>
</tr>
<tr>
<td>ID</td>
<td>infectious disease</td>
</tr>
<tr>
<td>IDDM</td>
<td>insulin dependent diabetes mellitus</td>
</tr>
<tr>
<td>DPH</td>
<td>Illinois Department of Public Health</td>
</tr>
<tr>
<td>IM</td>
<td>intramuscular</td>
</tr>
<tr>
<td>IN</td>
<td>intranasal</td>
</tr>
<tr>
<td>INH</td>
<td>inhalation</td>
</tr>
<tr>
<td>IO</td>
<td>intraosseous</td>
</tr>
<tr>
<td>IV</td>
<td>intravenous</td>
</tr>
<tr>
<td>IVF</td>
<td>intravenous fluids</td>
</tr>
<tr>
<td>IVP</td>
<td>intravenous push</td>
</tr>
<tr>
<td>IVPB</td>
<td>intravenous piggy back</td>
</tr>
<tr>
<td>IVR</td>
<td>idioventricular rhythm</td>
</tr>
<tr>
<td>J</td>
<td>joules</td>
</tr>
<tr>
<td>JDV</td>
<td>jugular venous distension</td>
</tr>
<tr>
<td>K</td>
<td>potassium</td>
</tr>
<tr>
<td>KED</td>
<td>Kendrick extrication device</td>
</tr>
<tr>
<td>Kg</td>
<td>kilogram</td>
</tr>
<tr>
<td>KVO</td>
<td>keep vein open</td>
</tr>
<tr>
<td>L</td>
<td>liter</td>
</tr>
<tr>
<td>Lbp</td>
<td>low back pain</td>
</tr>
<tr>
<td>lbs</td>
<td>pounds</td>
</tr>
<tr>
<td>LLE</td>
<td>left lower extremity</td>
</tr>
<tr>
<td>LLQ</td>
<td>left lower quadrant</td>
</tr>
<tr>
<td>L/min</td>
<td>liters per minute</td>
</tr>
<tr>
<td>LMP</td>
<td>last menstrual period</td>
</tr>
<tr>
<td>LOC</td>
<td>level of consciousness</td>
</tr>
<tr>
<td>L or Ll</td>
<td>left</td>
</tr>
<tr>
<td>LUE</td>
<td>left upper extremity</td>
</tr>
<tr>
<td>LUQ</td>
<td>left upper quadrant</td>
</tr>
<tr>
<td>LV</td>
<td>left ventricle</td>
</tr>
<tr>
<td>LVAD</td>
<td>left ventricular assist device</td>
</tr>
<tr>
<td>mA</td>
<td>milliamps (pacing)</td>
</tr>
<tr>
<td>MAD™</td>
<td>Mucosal Atomization Device</td>
</tr>
<tr>
<td>MAEW</td>
<td>moves all extremities well</td>
</tr>
<tr>
<td>mcg</td>
<td>microgram</td>
</tr>
<tr>
<td>mcgtts</td>
<td>microdrops</td>
</tr>
<tr>
<td>MCI</td>
<td>mass casualty incident</td>
</tr>
<tr>
<td>MERC</td>
<td>Medical Emergency Radio Comm. of Illinois</td>
</tr>
<tr>
<td>mEq</td>
<td>milliequivalents</td>
</tr>
<tr>
<td>mg</td>
<td>milligram(s)</td>
</tr>
<tr>
<td>min</td>
<td>minute</td>
</tr>
<tr>
<td>MI.</td>
<td>myocardial infarction</td>
</tr>
<tr>
<td>mL</td>
<td>milliliter(s)</td>
</tr>
<tr>
<td>mmHg</td>
<td>millimeters of mercury</td>
</tr>
<tr>
<td>MOI</td>
<td>mechanism of injury</td>
</tr>
<tr>
<td>MPMP</td>
<td>multiple patient management plan</td>
</tr>
<tr>
<td>m/s</td>
<td>musculoskeletal</td>
</tr>
<tr>
<td>MS</td>
<td>morphine sulfate</td>
</tr>
<tr>
<td>MVC</td>
<td>motor vehicle crash</td>
</tr>
<tr>
<td>n/a</td>
<td>not applicable</td>
</tr>
<tr>
<td>NAD</td>
<td>no apparent distress</td>
</tr>
<tr>
<td>NC</td>
<td>nasal cannula</td>
</tr>
<tr>
<td>NEB</td>
<td>nebulizer</td>
</tr>
<tr>
<td>NKA</td>
<td>no known allergies</td>
</tr>
<tr>
<td>NPA</td>
<td>nasopharyngeal airway</td>
</tr>
<tr>
<td>NPO</td>
<td>nothing by mouth</td>
</tr>
<tr>
<td>NRBM</td>
<td>non-rebreather mask</td>
</tr>
<tr>
<td>NS</td>
<td>normal saline</td>
</tr>
<tr>
<td>NSAID</td>
<td>nonsteroidal anti-inflammatory drug</td>
</tr>
<tr>
<td>NSR</td>
<td>normal sinus rhythm</td>
</tr>
<tr>
<td>NTG</td>
<td>nitroglycerine</td>
</tr>
<tr>
<td>N/V</td>
<td>nausea/vomiting</td>
</tr>
<tr>
<td>O2</td>
<td>oxygen</td>
</tr>
<tr>
<td>OB</td>
<td>obsteeric</td>
</tr>
<tr>
<td>OD</td>
<td>overdose</td>
</tr>
<tr>
<td>OP/OPA</td>
<td>oropharyngeal airway</td>
</tr>
<tr>
<td>Oriented X 1</td>
<td>oriented to person</td>
</tr>
<tr>
<td>Oriented X 2</td>
<td>oriented to person, place</td>
</tr>
<tr>
<td>Oriented X 3</td>
<td>oriented to person, place, time</td>
</tr>
<tr>
<td>Oriented X 4</td>
<td>oriented to person, place, time, event</td>
</tr>
<tr>
<td>P</td>
<td>pulse</td>
</tr>
<tr>
<td>PAC</td>
<td>premature atrial contraction</td>
</tr>
<tr>
<td>PALS</td>
<td>Pediatric Advanced Life Support</td>
</tr>
<tr>
<td>PAT</td>
<td>paroxysmal atrial tachycardia</td>
</tr>
<tr>
<td>PCN</td>
<td>penicillin</td>
</tr>
<tr>
<td>pCO2 or PaCO2</td>
<td>partial pressure of carbon dioxide</td>
</tr>
<tr>
<td>PCR</td>
<td>patient care record</td>
</tr>
<tr>
<td>PEA</td>
<td>pulseless electrical activity</td>
</tr>
<tr>
<td>PEEP</td>
<td>positive end expiratory pressure</td>
</tr>
<tr>
<td>PERL</td>
<td>pupils equal and reactive to light</td>
</tr>
<tr>
<td>PID</td>
<td>pelvic inflammatory disease</td>
</tr>
<tr>
<td>PJC</td>
<td>premature junctional contraction</td>
</tr>
<tr>
<td>Pnh</td>
<td>past medical history</td>
</tr>
<tr>
<td>PMS</td>
<td>pulses, motor, sensory</td>
</tr>
<tr>
<td>PO</td>
<td>per os (by mouth)</td>
</tr>
<tr>
<td>pO2</td>
<td>partial pressure of oxygen</td>
</tr>
<tr>
<td>POLST ... Practitioner Order for Life Sustaining Treatment</td>
<td></td>
</tr>
<tr>
<td>PPE</td>
<td>personal protective equipment</td>
</tr>
<tr>
<td>PPV</td>
<td>positive pressure ventilation</td>
</tr>
<tr>
<td>PR</td>
<td>per rectum</td>
</tr>
<tr>
<td>PRI</td>
<td>F-R interval</td>
</tr>
<tr>
<td>Pn.</td>
<td>pro re nata or as needed</td>
</tr>
<tr>
<td>Pt</td>
<td>patient</td>
</tr>
<tr>
<td>PTA</td>
<td>prior to arrival</td>
</tr>
<tr>
<td>PVC</td>
<td>premature ventricular contraction</td>
</tr>
<tr>
<td>Q</td>
<td>every</td>
</tr>
<tr>
<td>R</td>
<td>respirations</td>
</tr>
<tr>
<td>RA</td>
<td>room air</td>
</tr>
<tr>
<td>Resp</td>
<td>respiratory</td>
</tr>
<tr>
<td>RLE</td>
<td>right lower extremity</td>
</tr>
<tr>
<td>RLQ</td>
<td>right lower quadrant</td>
</tr>
<tr>
<td>RN</td>
<td>Registered Nurse</td>
</tr>
<tr>
<td>R/O</td>
<td>rule out</td>
</tr>
<tr>
<td>ROM</td>
<td>range of motion</td>
</tr>
<tr>
<td>RR</td>
<td>respiratory rate</td>
</tr>
<tr>
<td>RSV</td>
<td>respiratory syncytial virus</td>
</tr>
<tr>
<td>R or Rt</td>
<td>right</td>
</tr>
<tr>
<td>RTS</td>
<td>revised trauma score</td>
</tr>
<tr>
<td>RUE</td>
<td>right upper extremity</td>
</tr>
<tr>
<td>RUQ</td>
<td>right upper quadrant</td>
</tr>
</tbody>
</table>
SA .......................................................... sinoatrial node
SAMPLE............................................ symptoms, allergies, medications,
.... past history, last oral intake, events leading up to illness
SB.......................................................... sinus bradycardia
SBP ....................................................... systolic blood pressure
SCI ....................................................... spinal cord injury
SIDS ..................................................... sudden infant death syndrome
SL ........................................................ sublingual
SMV ..................................................... sensation, motor, vascular
SOB .................................................... shortness of breath
SOP ...................................................... Standard Operating Procedure
SpO2 ..................................................... pulse oximetry
SQ ....................................................... subcutaneous
S&S ...................................................... signs & symptoms
STAT .................................................... immediately
STD ..................................................... sexually transmitted disease
SubQ or SQ .......................................... subcutaneous
SVT ..................................................... supraventricular tachycardia
T ........................................................... temperature
Tab ....................................................... tablet
TB ........................................................ tuberculosis
TBI ....................................................... traumatic brain injury
TIA ....................................................... transient ischemic attack
TIC ...................................................... tenderness, instability, crepitus
TKO/KVO ............................................ to keep open
TPN ..................................................... total parenteral nutrition
Tx ........................................................ treatment
Unk ..................................................... unknown
URI ..................................................... upper respiratory infection
UTI ..................................................... urinary tract infection
V-fib or VF .......................................... ventricular fibrillation
VO ....................................................... verbal order
VS ....................................................... vital signs
VSD ..................................................... ventricular septal defect
V-tach or VT ....................................... ventricular tachycardia
w/........................................................ with
w/d ...................................................... warm and dry
WPW ... Wolff-Parkinson White Syndrome
Wt ........................................................ weight
WNL ..................................................... within normal limits
w/o ..................................................... without
WOB .................................................... work of breathing
Ws ...................................................... watt seconds
y/o ....................................................... year old
@ ........................................................ at
° ........................................................ degree
# ........................................................ number
↑ or ↓ ............................................... increased or decreased
< ........................................................ less than
> ........................................................ greater than
≥ ......................................................... equal to or greater than
≤ ......................................................... equal to or less than
+ ....................................................... positive or plus