Information for Transport/Referral

- Child’s name, age, weight
- Medical history and allergies
- Vital signs and assessment of ABCs
- Present condition
- Medical, nursing and EMS notes
- Laboratory results, x-rays
- Registration information and transfer document

Normal Vital Signs

<table>
<thead>
<tr>
<th>Age</th>
<th>Heart Rate</th>
<th>Respiratory Rate</th>
<th>Blood Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Systolic</td>
<td>Diastolic</td>
<td></td>
</tr>
<tr>
<td>Infant to 1 yr</td>
<td>100 - 160</td>
<td>30 - 60</td>
<td>70 - 105</td>
</tr>
<tr>
<td>Toddler</td>
<td>80 - 110</td>
<td>24 - 40</td>
<td>75 - 105</td>
</tr>
<tr>
<td>Preschooler</td>
<td>70 - 110</td>
<td>22 - 34</td>
<td>80 - 112</td>
</tr>
<tr>
<td>School Age</td>
<td>65 - 110</td>
<td>18 - 30</td>
<td>85 - 112</td>
</tr>
<tr>
<td>Adolescent</td>
<td>60 - 90</td>
<td>12 - 16</td>
<td>90 - 128</td>
</tr>
</tbody>
</table>

Lowest acceptable systolic blood pressure = 70 + (age in years x 2)

Airway Management

Endotracheal Tube Size: \(\frac{16 + (\text{age in years})}{4}\)

Depth of ETT Insertion: 3 x tube size = cm at lip line

Confirmation of ETT Placement:
- Auscultation of Bilateral Breath Sounds
- Visualization of Chest Rise and Fall
- Colorimetric CO2 Detection
- Chest X-Ray
Pediatric Trauma Score

<table>
<thead>
<tr>
<th>Component</th>
<th>+2</th>
<th>+1</th>
<th>-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>&gt;20 kg</td>
<td>10 - 20 kg</td>
<td>&lt;10 kg</td>
</tr>
<tr>
<td>Airway</td>
<td>Normal</td>
<td>O2 Adjunct: Mask, Cannula, or Oral/Nasal Airways</td>
<td>Assisted Ventilations/Intubated</td>
</tr>
<tr>
<td>Level of Consciousness</td>
<td>Awake</td>
<td>History of LOC or Altered Consciousness</td>
<td>Coma/Unresponsive</td>
</tr>
<tr>
<td>Circulation</td>
<td>SBP &gt;90 mmHg</td>
<td>SBP 50-90 mmHg</td>
<td>SBP &lt;50 mmHg</td>
</tr>
<tr>
<td>Fracture</td>
<td>Not Seen or Suspected</td>
<td>Single Closed Fracture</td>
<td>Any Open or Multiple Fractures</td>
</tr>
<tr>
<td>Cutaneous</td>
<td>No Visible Injury</td>
<td>Contusion, Abrasion or Laceration &lt;7cm, not through fascia</td>
<td>Tissue has laceration &gt;7cm; any penetrating injury through fascia</td>
</tr>
</tbody>
</table>

Transport children to a pediatric trauma center IMMEDIATELY if:
- Trauma score ≤ 8
- 2nd or 3rd degree burns involving >10% of TBSA
- Paralysis or suspected spinal cord injury
- Drowning or near drowning with injury
- Falls greater than 10 feet
- Altered mental status

Resuscitation Fluid Requirements

- 20 ml/kg of Normal Saline or Lactated Ringers

Maintenance Fluid Requirements

| Infants <10kg | 4 ml/kg/hr |
| Children 10-20 kg | 40 ml/hr |
|               | plus 2 ml/kg/hr for each kg >10kg |
| Children >20kg | 60 ml/hr |
|               | plus 1 ml/kg/hr for each kg >20kg |

Updated 01/08
### Pediatric Coma Scale

<table>
<thead>
<tr>
<th>Eye Opening</th>
<th>Score</th>
<th>&gt;1 year</th>
<th>&lt;1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>spontaneously</td>
<td>spontaneously</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>to verbal stimuli</td>
<td>to verbal stimuli</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>to pain only</td>
<td>to pain only</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>no response</td>
<td>no response</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verbal Response</th>
<th>Score</th>
<th>&gt;1 year</th>
<th>&lt;1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>oriented/appropriate</td>
<td>coos &amp; babble</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>confused</td>
<td>irritable &amp; cries</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>inappropriate words</td>
<td>cries to pain</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>incomprehensible</td>
<td>moans to pain</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>no response</td>
<td>no response</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Motor Response</th>
<th>Score</th>
<th>&gt;1 year</th>
<th>&lt;1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>obeys commands</td>
<td>moves spontaneously</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>localizes painful stimuli</td>
<td>localizes painful stimuli</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>withdraws to pain</td>
<td>withdraws to pain</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>decorticate</td>
<td>decorticate</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>decerebrate</td>
<td>decerebrate</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>no response</td>
<td>no response</td>
<td></td>
</tr>
</tbody>
</table>

### Defibrillation & Cardioversion

<table>
<thead>
<tr>
<th>Defibrillation</th>
<th>1st Dose: 2 J/kg</th>
<th>Use for VF and pulseless VT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardioversion</td>
<td>1st Dose: 0.5 - 1 J/kg</td>
<td>Use for unstable SVT and VT Consider use with stable SVT and VT after consultation with pediatric cardiologist</td>
</tr>
<tr>
<td>(synchronized)</td>
<td>Subsequent Doses: 1 - 2 J/kg</td>
<td></td>
</tr>
</tbody>
</table>

Updated 01/08
<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Comments</th>
</tr>
</thead>
</table>
| **Adenosine (Adenocard)** | 0.1 mg/kg IV/IO  
Maximum 1st Dose: 6 mg  
May double and repeat dose once  
Maximum 2nd Dose: 12 mg | Give rapidly.  
Follow immediately with 10ml NS flush. |
| **Atropine**          | 0.02 mg/kg IV/IO or ETT  
Minimum Dose: 0.1 mg  
Maximum dose for child: 0.5 mg  
Maximum dose for adolescent: 1 mg  
May repeat once | Use for symptomatic bradycardia. |
| **Amiodarone (Cordarone)** | 5 mg/kg IV/IO | May cause hypotension.  
Do not routinely give amiodarone and procainamide together. |
| **Calcium Chloride**  | 20 mg/kg IV/IO  
May be repeated in 10 minutes if necessary. | Give slowly.  
Do not mix with sodium bicarbonate.  
Indicated for hypocalcemia, hyperkalemia, hypermagnesemia and calcium channel blocker overdose. |
| **Epinephrine**       | IV or IO: 0.01 mg/kg of 1:10,000 solution  
ETT: 0.1 mg/kg of 1:1000 solution  
May repeat dose every 3 - 5 minutes. |  |
| **Lidocaine (Xylocaine)** | 1 mg/kg IV/IO or ETT  
May be repeated every 5 minutes x 3, followed by 20 - 50 mcg/kg/minute continuous infusion. |  |
| **Magnesium Sulfate** | 25 - 50 mg/kg IV/IO  
Maximum Dose: 2 GM | May cause hypotension with rapid bolus.  
Use for documented hypomagnesemia or torsades de pointes. |
| **Sodium Bicarbonate** | 1 mEq/kg IV/IO | Infuse slowly and only if ventilation is adequate.  
Do not mix with calcium. |
# Treatment Medications

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Albuterol</strong></td>
<td>Nebulizer: 1 unit dose or 0.5 ml of 0.5% solution in 3 ml NS</td>
<td>May be repeated every 20 minutes for severe distress.</td>
</tr>
<tr>
<td><strong>Diazepam (Vallum)</strong></td>
<td>0.1 - 0.2 mg/kg IV/IO</td>
<td>May cause respiratory depression and hypotension.</td>
</tr>
<tr>
<td>Sedative, Anticonvulsant</td>
<td>Maximum Dose: 4 mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rectal Dose: 0.5 mg/kg/dose</td>
<td></td>
</tr>
<tr>
<td><strong>Diphenhydramine (Benadryl)</strong></td>
<td>1.25 mg/kg IV/IO</td>
<td>Give over 5 minutes.</td>
</tr>
<tr>
<td>Antihistamine</td>
<td>Maximum Single Dose: 50 mg</td>
<td></td>
</tr>
<tr>
<td><strong>Epinephrine, Racemic</strong></td>
<td>Nebulizer: 0.5 ml diluted in 3 ml NS</td>
<td>May be repeated every 20 minutes for severe distress.</td>
</tr>
<tr>
<td><strong>(Vaponefrin)</strong> Bronchospasm, Croup</td>
<td></td>
<td>Transient relief of subglottic edema and croup.</td>
</tr>
<tr>
<td><strong>Etomidate</strong></td>
<td>0.3 mg/kg IV/IO</td>
<td>Very short-acting. No analgesic properties. Decreases ICP.</td>
</tr>
<tr>
<td>Non-Barbiturate, Sedative-Hypnotic</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fentanyl (Sublimaze)</strong></td>
<td>1 - 2 mcg/kg IV/IO or IM</td>
<td>May cause respiratory depression, hypotension and elevated ICP.</td>
</tr>
<tr>
<td>Analgesic</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flumazenil (Romazicon)</strong></td>
<td>0.01 mg/kg</td>
<td>Short half-life, may need repeat dosages.</td>
</tr>
<tr>
<td>Benzodiazepine Antidote</td>
<td>Maximum Single Dose: 0.5 mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May give doses every 1 minute to a total cumulative dose of 4 mg</td>
<td></td>
</tr>
<tr>
<td><strong>Furosemide (Lasix)</strong></td>
<td>0.5 - 1 mg/kg IV/IO</td>
<td></td>
</tr>
<tr>
<td>Diuretic</td>
<td>Maximum Rate of Infusion: 0.5 mg/kg/minute</td>
<td></td>
</tr>
<tr>
<td><strong>Hydralazine (Apresoline)</strong></td>
<td>0.1 - 0.2 mg/kg IV/IO or IM</td>
<td>IV Onset: 5 - 20 minutes</td>
</tr>
<tr>
<td>Anthypertensive</td>
<td>Maximum Dose: 20 mg</td>
<td></td>
</tr>
<tr>
<td><strong>Insulin (Regular)</strong></td>
<td>Maintenance infusion of 0.05 - 0.1 units/kg/hr in DKA</td>
<td>Too rapid decrease of serum glucose may lead to cerebral edema. Optimum rate of serum glucose decrease is 30 - 100 mg/dl/hr.</td>
</tr>
<tr>
<td><strong>Ketamine (Ketalar)</strong></td>
<td>1 mg/kg IV/IO</td>
<td>May increase ICP and BP. Possible hallucinations and emergence reaction.</td>
</tr>
<tr>
<td>Dissociative Anesthetic</td>
<td>1 - 3 mg/kg IM</td>
<td></td>
</tr>
<tr>
<td><strong>Lorazepam (Ativan)</strong></td>
<td>Anxiety/Sedation: 0.05 - 0.1 mg/kg IV</td>
<td>Give slowly. May cause respiratory depression.</td>
</tr>
<tr>
<td>Sedative, Anticonvulsant</td>
<td>q 4 - 8 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Status Epilepticus: 0.1 mg/kg IV/IO</td>
<td></td>
</tr>
</tbody>
</table>

*Updated 01/08*
# Treatment Medications

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mannitol</strong></td>
<td>Reduction of increased ICP associated with cerebral edema</td>
<td>0.25 – 1 gm/kg IV/IO over 20 - 30 minutes Use a filter when administering.</td>
</tr>
<tr>
<td><strong>Methylprednisolone (Solumedrol)</strong></td>
<td>Antiinflammatory</td>
<td>Status Asthmaticus: 1-2 mg/kg IV/IO loading dose</td>
</tr>
<tr>
<td><strong>Midazolam (Versed)</strong></td>
<td>Sedative, Anticonvulsant</td>
<td>0.1 - 0.2 mg/kg IV/IO</td>
</tr>
<tr>
<td><strong>Naloxone (Narcan)</strong></td>
<td>Narcotic Antagonist</td>
<td>0.1 mg/kg IV,IM,SC or ETT Maximum Dose: 2 mg May repeat every 3 - 5 minutes</td>
</tr>
<tr>
<td><strong>Phenytoin (Dilantin)</strong></td>
<td>Anticonvulsant</td>
<td>Loading Dose: 15 - 20 mg/kg IV/IO</td>
</tr>
<tr>
<td><strong>Rocuronium (Zemuron)</strong></td>
<td>Neuromuscular Blocking Agent</td>
<td>0.6 - 1.2 mg/kg IV/IO</td>
</tr>
<tr>
<td><strong>Succinylcholine (Anectine)</strong></td>
<td>Neuromuscular Blocking Agent</td>
<td>Children: 1 - 1.5 mg/kg IV/IO Infants: 2 mg/kg IV/IO</td>
</tr>
<tr>
<td><strong>Thiopental (Pentothal)</strong></td>
<td>Sedative</td>
<td>2 - 4 mg/kg IV/IO</td>
</tr>
<tr>
<td><strong>Vecuronium (Norcuron)</strong></td>
<td>Neuromuscular Blocking Agent</td>
<td>0.1 mg/kg IV/IO</td>
</tr>
</tbody>
</table>
Bradycardia with a Pulse

ECC Handbook p.76

- ABCs: rapid head-to-toe assessment (refer back to p. 3 of this guide)
- Give oxygen: hypoxia is #1 cause of bradycardia in infants/children
- Attach monitor/defibrillator

Is bradycardia still causing symptoms?
- Such as altered level of consciousness, respiratory distress, poor perfusion

**NO**
- Give oxygen if needed
- Observe, reassess
- Consider expert consult

**YES**
- Give oxygen
- If HR < 60 with poor perfusion, start CPR

- Give epinephrine:
  - IV/IO: 0.01 mg/kg of 1:10000 (0.1 mL/kg)
  - ET: 0.1 mg/kg of 1:1000 (0.1 mL/kg)
- Repeat every 3 to 5 minutes at same dose

- Consider atropine:
  - IV/IO: 0.02 mg/kg may repeat
    - minimum dose: 0.1 mg
    - max dose, child: 1 mg
- Consider cardiac pacing

Consider and treat possible causes: 6Hs and 5Ts

Reference page 10

Updated 01/08
Pulseless Arrest – VF and Pulseless VT

ABCs: Give CPR
- Give oxygen as soon as available
- Attach monitor/defibrillator

Check rhythm: VF/VT
Check pulse: none
Resume CPR until defibrillator is charged

- Give 1 shock at 4 J/kg
- Resume CPR immediately
- Give 5 cycles of CPR

Check rhythm: VF/VT
Check pulse: none
Resume CPR until defibrillator is charged

- Give 1 shock at 4 J/kg
- Resume CPR immediately
- Give epinephrine:
  - IV/IO: 0.01 mg/kg of 1:10000 (0.1 mL/kg)
  - ET: 0.1 mg/kg of 1:1000 (0.1 mL/kg)
  - Repeat: every 3-5 min
- Give 5 cycles of CPR

Check rhythm: VF/VT
Check pulse: none
Resume CPR until defibrillator is charged

- Give 1 shock at 2 J/kg
- Resume CPR immediately
- Give 5 cycles of CPR

Consider:
- amiodarone 5 mg/kg IV
- lidocaine 1 mg/kg IV
- magnesium 25-50 mg/kg IV/IO if Torsade
- Give 5 cycles of CPR

Consider and treat possible causes: 6Hs and 5Ts
Reference page 10

Updated 01/08
Pulseless Arrest – Asystole and PEA

Consider and Treat Possible Causes

<table>
<thead>
<tr>
<th>6 Hs</th>
<th>5 Ts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoxia</td>
<td>T amponade</td>
</tr>
<tr>
<td>Hypovolemia</td>
<td>T tension pneumothorax</td>
</tr>
<tr>
<td>Hypothermia</td>
<td>T oxins – poisons, drugs</td>
</tr>
<tr>
<td>Hypoglycemia</td>
<td>T thrombosis – coronary (AMI)</td>
</tr>
<tr>
<td>Hypo / hyperkalemia</td>
<td>– pulmonary (PE)</td>
</tr>
<tr>
<td>Hydrogen ion (acidosis)</td>
<td>T trauma</td>
</tr>
</tbody>
</table>

ABCs: Give CPR
Give oxygen as soon as available
Attach monitor/defibrillator

Check rhythm: Asystole/PEA
Check pulse: none
Resume CPR immediately

Give epinephrine:
IV/IO: 0.01 mg/kg of 1:10 000 (0.1 mL/kg)
ET: 0.1 mg/kg of 1:1000 (0.1 mL/kg)
Repeat: every 3-5 min
Give 5 cycles of CPR

Check rhythm: Asystole/PEA
Check pulse: none
Resume CPR immediately

Updated 01/08
Tachycardia with Poor Perfusion

ECC Handbook p.78

Narrow QRS

Sinus Tachycardia
- Infants: HR < 220 bpm
- Children: HR < 180 bpm
- History makes sense for HR
- HR varies
- P waves present and normal

- Give oxygen if needed
- Treat the cause

SVT
- Infants: HR > 220 bpm
- Children: HR > 180 bpm
- History is vague, nonspecific
- HR does not vary
- HR changes abruptly
- P waves absent or abnormal

- Give oxygen
- Consider vagal maneuvers but do not delay

If IV access is present:
- Adenosine IV SLAM!
  - first dose: 0.1 mg/kg
  - repeat dose: 0.2 mg/kg

  or

- Synchronized cardioversion:
  - first dose: 0.5 – 1J/kg
  - next dose: 2J/kg

  - Sedate before cardioversion but do not delay

Wide QRS

Ventricular Tachycardia

- Synchronized cardioversion:
  - first dose: 0.5 – 1J/kg
  - next dose: 2J/kg

- Sedate before cardioversion but do not delay

Expert consultation advised
- Consider:
  - Amiodarone 5 mg/kg IV over 30-60 min
  - Procainamide 15 mg/kg IV over 30-60 min

Consider and treat possible causes: 6Hs and 5Ts
Reference page 10

Updated 01/08
**Narrow QRS**

- Obtain IV access
- Give adenosine IV SLAM!
  - first dose: 0.1 mg/kg
  - repeat dose: 0.2 mg/kg
- Consider:
  - amiodarone 5 mg/kg IV over 30-60 min
  - procainamide 15 mg/kg IV over 30-60 min
  - lidocaine 1 mg/kg IV bolus

**Wide QRS**

- Ventricular Tachycardia
  - Give oxygen if needed
  - Obtain IV access
  - Consider:
    - amiodarone 5 mg/kg IV over 30-60 min
    - procainamide 15 mg/kg IV over 30-60 min
    - lidocaine 1 mg/kg IV bolus
  - Consult pediatric cardiologist
  - Consider synchronized cardioversion
    - first dose: 0.5 – 1J/kg
    - next dose: 2J/kg
  - Sedate before cardioversion
  - Obtain 12-lead ECG

**Sinus Tachycardia**

- Infants: HR < 220 bpm
- Children: HR < 180 bpm
- History makes sense for HR
- HR varies
- P waves present and normal
- Give oxygen if needed
- Treat the cause

**SVT**

- Infants: HR > 220 bpm
- Children: HR > 180 bpm
- History is vague, nonspecific
- HR does not vary
- HR changes abruptly
- P waves absent or abnormal
- Give oxygen if needed
- Consider vagal maneuvers
- Obtain IV access

**Consider and treat possible causes: 6Hs and 5Ts**

*Reference page 10*
**Guidelines for Potassium Iodine (KI) Dose Administration**

- Atropine 0.02-0.05 mg/kg IV/IO every 10-20 minutes until atropine effect (dry flushed skin, tachycardia, mydriasis, fever) is observed.
- Pralidoxime 20-50 mg/kg IV/IO or IM
- Diazepam 0.05-0.3 mg/kg (maximum dose: 10 mg) IV/IO or IM
- Lorazepam 0.1 mg/kg (maximum dose: 4 mg) IV/IO or IM
- Midazolam 0.1 mg-0.2mg/kg (maximum dose: 10 mg) IV/IO or IM

While Mark 1 is not approved for pediatric use, it should be used for initial treatment in circumstances for children with severe, life-threatening nerve agent toxicity for whom IV treatment is not possible or available or for whom more precise IM (mg/kg) dosing would be logistically impossible. If a Mark 1 kit is the only available source of atropine and pralidoxime after a nerve agent exposure, it should not be withheld from even the youngest child.

**Precise Dosing for Atropine and Pralidoxime**

- Atropine 0.02-0.05 mg/kg IV/IO every 10-20 minutes until atropine effect (dry flushed skin, tachycardia, mydriasis, fever) is observed.
- Pralidoxime 20-50 mg/kg IV/IO or IM

**The anticonvulsants and the dosage guidelines which can be used to treat children exposed to a nerve agent who have either a severe exposure or who are experiencing a seizure are:**

- Diazepam 0.05-0.3 mg/kg (maximum dose: 10 mg) IV/IO or IM
- Lorazepam 0.1 mg/kg (maximum dose: 4 mg) IV/IO or IM
- Midazolam 0.1 mg-0.2mg/kg (maximum dose: 10 mg) IV/IO or IM

Data indicate that Phenytion, Phenobarbital, Tegretol and Valproic Acid do NOT work for nerve agent-induced seizures.

**Guidelines for Potassium Iodine (KI) Dose Administration**

<table>
<thead>
<tr>
<th>Patient Age</th>
<th>Exposure, GY(RAD)</th>
<th>KI Dose*(mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 40 years</td>
<td>&gt;5 (500)</td>
<td>130</td>
</tr>
<tr>
<td>18-40 years</td>
<td>0.1 (10)</td>
<td>130</td>
</tr>
<tr>
<td>12-17 years</td>
<td>0.05 (5)</td>
<td>65</td>
</tr>
<tr>
<td>4-11 years</td>
<td>0.05 (5)</td>
<td>65</td>
</tr>
<tr>
<td>1 month-3 years</td>
<td>0.05 (5)</td>
<td>32</td>
</tr>
<tr>
<td>Birth-1 month</td>
<td>0.05 (5)</td>
<td>16</td>
</tr>
<tr>
<td>Pregnant or Lactating Women</td>
<td>0.05 (5)</td>
<td>130</td>
</tr>
</tbody>
</table>

Children/adolescents weighing more than 70 kg should receive the adult dose (130 mg).

---

Program for Pediatric Preparedness of the National Center for Disaster Preparedness
Columbia University Mailman School of Public Health

Updated 01/08
JumpSTART Pediatric MCI Triage

Able to walk?  
- NO  
  - Breathing?  
    - NO  
      - Position upper airway  
        - APNEIC  
          - Palpable pulse?  
            - NO  
              - DECEASED  
            - YES  
              - 5 rescue breaths  
                - APNEIC  
                  - DECEASED  
                - BREATHING  
                  - IMMEDIATE  
    - YES  
      - Respiratory Rate  
        - <15 OR >45  
          - IMMEDIATE  
        - 15-45  
          - Palpable Pulse?  
            - NO  
              - IMMEDIATE  
            - YES  
              - AVPU  
                - "P" (inappropriate), posturing or "U"  
                  - IMMEDIATE  
                - "A", "V" or "P" (appropriate)  
                  - DELAYED  

* Evaluate infants first in secondary triage using the entire JS algorithm

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Updated 01/08
<table>
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<tr>
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</table>
| Anthrax  | 1-6 days   | No                     | Fever, Fatigue, Chills, Cough, Chest pain, Followed by Severe Respiratory Distress and Shock | * Children  
Cipro 10-15mg/kg/day IV q 12 hrs (not to exceed 1g/d)  
or Doxycycline 2.2mg/kg IV q 12 hrs for patients < 45kg, adult dose for > 45 kg  
Plus 1 or 2 other antibiotics (including penicillin, rifampin, clindamycin, vancomycin, imipenem, and chloramphenicol)  
* Adult  
Cipro 400mg IV BID or Doxycycline 200mg IV, then 100mg IV Bid or PCN 4 mill units IV 4 hr  
Cutaneous same as Inhalational |
| Inhalational |           |                        | Children with inhalational dx may have “atypical” presentations including primary meningoencephalitis.  
Children may have an abnormal chest x-ray but with other forms of anthrax usually have normal x-ray. |                                                                             |
| Cutaneous |            |                        | Papule, fluid-filled vesicle, black eschar                                |                                                                             |
| Botulism  | 12-72 hrs  | No                     | Dizziness, Dry mouth and throat, Difficult speaking or swallowing, Blurred vision, Eventual respiratory failure. | * Children Same as adult regime: Reverse Trendelenburg (20-25°) with support of cervical spine for infants not on a ventilator.  
* Adult  
One vial trivalent botulism or heptavalent antitoxin, mechanical ventilation |
|          |            |                        |                                                                           |                                                                             |

| Isolation Precaution Standard |

* Post Exposure Prophylaxis & Vaccination
  Cipro 500mg PO bid or Doxycyclin 100mg PO bid in conjunction with vaccine
  Women who are or might be pregnant should use Ciprofloxacin, or if otherwise contraindicated, Amoxicillin 500mg PO tid as Doxycycline may have more potential for adverse fetal and maternal effects
  Everyone that is known or suspected of having been exposed should be closely monitored and treated with antitoxin at the first sign of disease
# Category A – Biological Agents

<table>
<thead>
<tr>
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</tr>
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</table>
| **Pneumonic Plague** | 2-3 days   | Yes                    | Headache, High fever, General weakness, Glandular swelling, Painful buboes, Pneumonia | *Children*  
Streptomycin 15 mg/kg/day IM q 12 hrs (not to exceed 2 g/day)  
or Gentamicin 2.5 mg/kg IV/IM q 8 hrs (q 12 hrs for <1 wk or premature infants) | *Children*  
Doxycycline 2.2 mg/kg for patients ≤45 kg or Tetracycline 6.25-12.5 mg/kg PO qid for patients ≥8 yrs or ciprofloxacin 20 mg/kg PD bid – MAX 1 g/day  
* Adults  
Streptomycin 1 g IM q 12 hrs (should be avoided in pregnant or lactating women)  
or Gentamicin 2 mg/kg IV/IM load dose then 1-1.75 mg/kg IV/IM q 8 hrs per renal function |
| **Smallpox**    | 7-17 Days  | No                     | High fever, Small blister which develop into pustular vesicles usually more prevalent of the extremities and face, May develop hemorrhages on skin and mucous membranes | Supportive  
Vaccination recommended within 3-5 days for those exposed. VIG or cidofovir, an antiviral drug with substantial renal toxicity, may improve outcomes if given within 1-2 days after exposure; however there is no definitive evidence to suggest that they are better than vaccine alone. | Vaccinia immune globulin and or vaccine  
Adults:  
Doxycycline 100 mg PO bid or Tetracycline 250 mg PO qid (should be avoided in pregnant or lactating woman or Ciprofloxacin 500 mg PO bid |
| **Tularemia**   | 1-21 days  | No                     | Fever, chills, Malaise, Headache                                          | *Children*  
Streptomycin 15 mg/kg/day IM q 12 hrs (not to exceed 2 g/day) or Gentamicin 2.5 mg/kg IV/IM q 8 hrs | * Adults  
Streptomycin 1 g IM q 12 hrs (should be avoided in pregnant or lactating women) or Gentamicin 3-5 mg/kg IV/IM q day  
Doxycycline 100 mg PO bid  
or Tetracycline 500 mg PO qid  
or Ciprofloxacin 500 mg PO bid |
Category A – Biological Agents

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<tbody>
<tr>
<td>Viral Hemorrhagic Fevers</td>
<td>2-21 days</td>
<td>Yes</td>
<td>Headache Fever Chills Malaise Myalgia</td>
<td>CCHF/arenaviruses: Ribavirin</td>
<td>Everyone that is known or suspected of having been exposed should be closely monitored and treated with arenaviruses at the first sign of disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Diarrhea begins within 3-5 days of infection, Bleeding Petechiae Hypotension, Shock</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Isolation Precautions:**

**Standard:** Gown, gloves and if body fluid splash or spray possible wear eye protection. Wash hands with antimicrobial soap or waterless antiseptic agent

**Contact:** Same as Standard Precautions but includes, private room, limit patient movement to essential purpose only and use of dedicated equipment or disinfect between pts

**Droplet:** Same as Standard Precautions but includes, private room, surgical mask on patient transport and limit movement to essential purposes only

**Airborne:** Same as Standard Precautions but includes, private negative pressure room, N95 respirator, surgical mask on pt during transport, door closed at all times

**FYI:** If you are NOT sure whether a bioterrorism report is true or not, check with credible sources such as CDC’s Health-Related Hoaxes and Rumors Web site at [http://www.cdc.gov/hoax rumor.htm](http://www.cdc.gov/hoax rumor.htm).

**Anthrax**

* Transmission of anthrax infection from person to person is unlikely.
* Symptoms of anthrax and the flu are similar. A runny nose is a rare symptom of anthrax. A person who has a runny nose along with other common flu-like symptoms is far more likely to have the common cold or flu than to have anthrax.

**Smallpox**

* When transport is necessary, minimize the dispersal of respiratory droplets by placing a mask on the patient.
* Vaccination within 3 days of exposure will completely prevent or significantly reduce the severity of the disease in the vast majority of people.
* Vaccination 4-7 days after exposure likely offers some protection from disease or may modify the severity of disease.
<table>
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<th>Category</th>
<th>Characteristics</th>
<th>Body Part Affected</th>
<th>Type of Injuries</th>
</tr>
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</table>
| Primary  | **Unique to HE**, results from the impact of over-pressurization wave with body surfaces | Gas filled structures are most susceptible – lungs, GI tract, and middle ear        | • Blast lung – pulmonary barotrauma  
• TM rupture and middle ear damage  
• Abdominal hemorrhage and perforation  
• Globe (eye) rupture  
• Concussion (TBI without physical signs of head injury) |
| Secondary | Results from flying debris and bomb fragments                                      | Any body part may be affected                                                      | • Penetrating ballistic (fragmentation) or blunt injuries  
• Eye penetration (can be occult)                                                                                                           |
| Tertiary | Results from individuals being thrown by the blast wind                            | Any body part may be affected                                                      | • Fracture and traumatic amputation  
• Closed and open brain injury                                                                                                              |
| Quaternary| All explosion related injuries not due to 1°, 2° or 3° mechanisms                  | Any body part may be affected                                                      | • Burns (flash, partial and full thickness)  
• Crush injuries  
• Closed and open brain injury  
• Asthma, COPD, or other breathing problems from dust, smoke, toxic fumes  
• Angina, hypertension  
• Hyperglycemia, other chronic diseases worsened |

LE are classified differently because they lack the self-defining HE over-pressurization wave. LE’s mechanisms of injuries are characterized as due to ballistics (fragmentation), blast wind (not blast wave) and thermal forces. There is some overlap between LE and HE 2°, 3°, and 4°.