TAB 3 GUIDELINE 1
ABDOMINAL AORTIC ANEURYSM

<table>
<thead>
<tr>
<th>HISTORY</th>
<th>SIGNS / SYMPTOMS</th>
<th>DIFFERENTIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Age</td>
<td>· Pain (paraspinal, spinous process)</td>
<td>· Muscle spasm / strain</td>
</tr>
<tr>
<td>· Past medical / surgical history</td>
<td>· Swelling</td>
<td>· Herniated disc with nerve compression</td>
</tr>
<tr>
<td>· Medications</td>
<td>· Pain with range of motion</td>
<td>· Sciatica</td>
</tr>
<tr>
<td>· Onset of pain / injury</td>
<td>· Extremity weakness</td>
<td>· Spine fracture</td>
</tr>
<tr>
<td>· Previous back injury</td>
<td>· Extremity numbness</td>
<td>· Kidney stone</td>
</tr>
<tr>
<td>· Location of pain</td>
<td>· Shooting pain into an extremity</td>
<td>· Pyelonephritis</td>
</tr>
<tr>
<td>· Palliation / Provocation</td>
<td>· Bowel / bladder dysfunction</td>
<td>· Aneurysm</td>
</tr>
<tr>
<td>· Region / Radiation / Referred</td>
<td></td>
<td></td>
</tr>
<tr>
<td>· Severity (1-10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>· Time (duration / repetition)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Universal Patient Care**

**IV / IO Access x 2**

SBP > 90 mmHg

**NO**

**Fluid Bolus**
250 – 1000 mL NS

**Tranexamic Acid Criteria**
Worsening abdominal pain with suspected / known rupture
Sustained Tachycardia \( \geq 110 \) BPM
And
Sustained Hypotension SBP \( \leq 90 \) mmHg
Not responsive to IV Hydration

**Tranexamic Acid (TXA)**
1 Gram IVPB over 10 minutes.
Administer in 100 ml or 250 ml NS

**Contact Medical Control**
Transport to appropriate facility

**YES**

**Labetolol 20 mg IV / IO**
Then 20 mg IV q 10 min
(Maximum dose 300 mg)
- or -

**Metoprolol 5 mg IV / IO**
(May repeat in 10 min)

Goal SBP = 90 mmHg
w/ HR = 60 BPM

**Nicardipine**
2.5 – 15 mg IV / IO
Titrated for
SBP 90 mm Hg

**Adult Pain Control Guideline**

**LEGEND**

- EMT-P
- Nurse
- MC Order
# TAB 3 GUIDELINE 2
## ABDOMINAL PAIN

### HISTORY
- Age
- Past medical / surgical history
- Medications
- Onset
- Palliation / Provocation
- Quality (crampy, constant, sharp, dull, etc)
- Region / Radiation / Referred
- Severity (1-10)
- Time (duration / repetition)
- Fever
- Last meal eaten
- Last bowel movement
- Menstrual history (pregnancy)

### SIGNS / SYMPTOMS
- Pain (location / migration)
- Tenderness
- Nausea
- Vomiting
- Diarrhea
- Dysuria
- Constipation
- Vaginal bleeding / discharge
- Pregnancy

### ASSOCIATED SYMPTOMS:
- Fever, headache, weakness, malaise, myalgias, cough, headache, mental status changes, rash

### DIFFERENTIAL
- Pneumonia or Pulmonary embolus
- Liver (hepatitis, CHF)
- Peptic ulcer disease / Gastritis
- Gallbladder / Pancreatitis
- Myocardial infarction
- Kidney stone
- Abdominal aneurysm
- Appendicitis / Diverticulitis
- Bladder / Prostate disorder
- Pelvic (PID, Ectopic pregnancy, Ovarian cyst)
- Spleen enlargement
- Bowel obstruction
- Gastroenteritis (infectious)

### Universal Patient Care
- Make NPO

### Known / Suspected Acute Abdominal Aneurysm
- Abdominal Aortic Aneurysm Guideline
  - NO
  - IV / IO Access

### Fluid Bolus
- 250 – 1000 mL NS (PRN)

### Hypotension / Signs of Dehydration
- NO
  - SBP ≥ 90 mmHg
  - YES
    - Consider Chest Pain Guideline
      - Obtain EKG in patient age ≥ 40
      - Contact Medical Control
      - Transport to appropriate facility
  - NO

### Nausea / Vomiting
- YES
  - Zofran 4 – 8 mg SL / PO / IV / IN / IM
  - Phenergan 12.5 – 25 mg IM / IV

### LEGEND
- EMT-P
- Nurse
- MC Order

---

NWO EMS ALS (LFML) – Tab 3 – Adult Medical Emergency Guidelines – Updated 2017_12_01

Page 3
SPECIAL CONSIDERATIONS:

1. The differential (causes) of abdominal pain is numerous, with origin rarely identified in a field setting. Assessment should be centered upon gathering as much information as possible related to the complaint of “abdominal pain.”

2. Consider internal hemorrhage with an associated shock presentation. For blood pressure < 90 mmHg, consider initial fluid bolus of 250 – 1000 mL NS (repeat PRN for perfusing BP). Elderly patients may have significant hypovolemic shock with blood pressures above 90 mmHg.

3. Abdominal pain in women of childbearing age should be treated as an ectopic pregnancy until proven otherwise.

4. The diagnosis of abdominal aneurysm should be considered with abdominal pain in patients over age 50.

5. Appendicitis presents with vague, peri-umbilical pain which migrates to the RLQ over time.

6. Symptoms of dehydration
   a. Increased thirst / dry mouth
   b. Headache
   c. Weakness / confusion
   d. Dizziness / light headed / fainting
   e. Palpitations
   f. Decreased urine output
# TAB 3 GUIDELINE 3
## ALCOHOL INTOXICATION

### HISTORY
- Known diabetic, medic alert tag
- Drugs, drug paraphernalia
- Report of illicit drug use or toxic ingestion
- Past medical history
- Medications
- History of trauma
- Change in condition

### SIGNS / SYMPTOMS
- Decreased mental status
- Change in baseline mental status
- Bizarre behavior
- Hypoglycemia (cool, diaphoretic skin)
- Hyperglycemia (warm, dry skin; fruity breath; Kussmaul respirations; signs of dehydration)

### DIFFERENTIAL
- Diabetes (hyper / hypoglycemia)
- Toxicologic
- Acidosis / Alkalosis
- Environmental exposure
- Electrolyte abnormality
- Trauma
- Sepsis

---

**Legend:**
- EMT-P
- Nurse
- MC Order

---

**Carbon Monoxide Intoxication:**
- Increased respiratory effort
- Unusual behavior
- Headache
- Hyperventilation

**Glucagon:**
1 mg IN / IM
(If no IV access)

**10% Dextrose:**
100 ml (10 grams) IV / IO
q 3 – 5 minutes
- D10 not available then
- 50% Dextrose
25 – 50 grams IV / IO

---

**Intoxicated patient with any of the following must be transported:**

**Incapacitating Intoxication**
- Inability to maintain airway
- Inability to stand from seated position and walk with minimal assistance
- At immediate risk of environmental exposure or trauma due to unsafe location

**Acute Illness or Injury**
- Abnormal vital signs
- Physical complaints that might indicate an underlying medical emergency (abdominal / chest pain)
- Seizure or hypoglycemia
- Signs of trauma or history of acute trauma
- Signs of head injury, e.g.: bruising, lacerations, abrasions

---

**Universal Patient Care**

**Clinical Alcohol Intoxication**

**Spinal Immobilization**
(if appropriate)

**Check Blood Glucose**

**Glucose ≤ 60**

**Does patient have evidence of Incapacitating Intoxication?**

**YES**
- Transport to ED

**NO**

**Does patient have signs of Acute Illness or Injury?**

**YES**
- Transport to ED

**NO**
- Contact Medical Control if considering release to other party (police, family)

**IMPORTANT:** individual agency policy may apply
# TAB 3 GUIDELINE 4

## ALLERGIC REACTION | ANAPHYLAXIS

### HISTORY
- Onset and location
- Insect sting or bite
- Food allergy / exposure
- Medication history / allergy / exposure
- New clothing, soap, detergent
- Past history of reactions
- Past medical history

### SIGNS / SYMPTOMS
- Itching or hives
- Coughing / wheezing or respiratory distress
- Chest or throat constriction
- Difficulty swallowing
- Hypotension or shock
- Hypotension or shock / Edema
- Abdominal cramps

### DIFFERENTIAL
- Urticaria (rash only)
- Anaphylaxis (systemic effect)
- Shock (vascular effect)
- Angioedema (drug induced)
- Aspiration / Airway obstruction
- Vasovagal event
- Asthma
- CHF

---

**Universal Patient Care**

- IV / IO Access
- Cardiac Monitor
- Assess Rhythm

**Respiratory Distress / Shock**

- Pulse Oximetry
- Airway Management

**Hives / Rash Only**

- No Respiratory Component

**Diphenhydramine**

- 25 – 50 mg IV / IO / IM / IN

**Reassess Patient**

- Patient Improved
- Patient Not Improved

**Indications for Use of Epinephrine**

- Albuterol
  - 2.5 – 5 mg nebulized
  - (May repeat x 2)

- Atrovent
  - 0.5 mg nebulized

- Solu Medrol
  - 125 mg IV / IO

**Epinephrine**

- 0.3 – 0.5 mg IM
- 25 – 50 mcg / min IV
- 1 – 10 mcg / min IV

- For Patients age > 50, History of CAD, Heart rate is > 150 then contact medical control prior to Epi Drip Initiation

**SBP < 90 mmHg**

**Fluid Bolus**

- 20 mg / Kg IV / IO

**LEGEND**

- EMT-P
- Nurse
- MC Order

---

**Airway Management**

**Epinephrine**

- push dose
  - 5 – 10 mcg / min IV
- drip
  - 1 – 10 mcg / min IV

**Contact Medical Control**

**Transport to appropriate facility**

---

**Respiratory Compromise**

- Airway occlusion
- Breathy difficulty or inadequate breathing with possible wheezing, stridor, or crowing

**GI Complaint**

- Abdominal cramping
- Nausea / vomiting

**Shock**

- Absent or weak pulses
- Rapid heartbeat
- Decreased blood pressure (SBP < 90 mmHg)
- Deteriorating mental status
SPECIAL CONSIDERATIONS:

1. Patients with allergic reactions can deteriorate quickly. Airway is a prime concern.

2. Epinephrine should be administered for:
   a. **Respiratory Compromise**
      i. Airway occlusion
      ii. Breathy difficulty or inadequate breathing with possible wheezing, stridor, or crowing
   b. **GI Complaint**
      i. Abdominal cramping, nausea, vomiting
   c. **Shock**
      i. Absent or weak pulses
      ii. Rapid heartbeat
      iii. Decreased blood pressure (SBP < 90 mmHg)
      iv. Deteriorating mental status

3. Lethal edema may be localized to the tongue, uvula or other upper airway structures. Examine closely and be prepared to intubate early before swelling occurs. Nasal tracheal intubation may be preferred.

4. Any patient with respiratory symptoms or extensive reaction should receive IV or IM diphenhydramine (Benadryl)

5. Epinephrine
   a. **Drip**
      i. Mix 1 mg epinephrine (1:10,000 or 1:1000 concentration) in NS or D5W 250 ml bag to give 4:1 concentration, 500 ml bag to give 2:1 concentration, 1000 ml bag to give 1:1 concentration. Titrate 1 – 10 mcg / min
   b. **Push dose**
      i. Mix 0.1 mg (1 ml) epinephrine (1: 10,000) in 9 ml NS to give 10:1 concentration. Give 0.5 – 1 ml dose pushes every 1 – 2 minutes for blood pressure control
   c. **Contact On-Line Medical Control** prior to administering Epinephrine to patients who are > 50 years of age, have a history of cardiac disease, or if the patient’s heart rate is > 150. Epinephrine may precipitate cardiac ischemia.
TAB 3 GUIDELINE 5
ALTERED MENTAL STATUS | COMA

**HISTORY**
- Known diabetic, medic alert tag
- Drugs, drug paraphernalia
- Report of illicit drug use or toxic ingestion
- Past medical history
- Medications
- History of trauma
- Change in condition

**SIGNS / SYMPTOMS**
- Decreased mental status
- Change in baseline mental status
- Bizarre behavior
- Hypoglycemia
  - Cool, diaphoretic skin
  - Warm, dry skin
  - Fruity breath
  - Kussmaul respirations
  - Signs of dehydration

**DIFFERENTIAL**
- Head trauma
- CNS (stroke, tumor, seizure, infection)
- Cardiac (MI, CHF)
- Infection / Toxicologic
- Thyroid (hyper / hypo)
- Shock (septic, metabolic, traumatic)
- Diabetes (hyper / hypoglycemia)
- Electrolyte abnormality
- Acidosis / Alkalosis
- Environmental exposure
- Pulmonary (hypoxia)
- Psychiatric disorder

**LEGEND**
- EMT-P
- Nurse
- MC Order

**Universal Patient Care**

**Spinal Immobilization**
(if appropriate)

**IV / IO Access**
Fluid Bolus 250 – 1000 mL

**Check Blood Glucose**

**10% Dextrose**
100 ml (10 grams) IV / IO
- D10 not available then -
50% Dextrose
25 – 50 grams IV / IO

**If no IV / IO access**
Glucagon
1 mg IN / IM

**Return to Baseline**

**Glucose < 60**

**Glucose 60 – 250**

**Glucose > 250**

**Consider**
Naloxone
0.5 – 4 mg IV / IO / IM / IN

**Cardiac Monitor / 12-Lead ECG**

**EKG Interpretation**

**Consider other causes:**
Carbon Monoxide (CO) Poisoning
Head injury
Hypo / Hyperthermia
Hypoxia
Overdose
Stroke / Seizure

**Fluid Bolus**
250 – 1000 mL IV / IO

**Consider Use of Restraints**

**Consider**
10% Dextrose
100 ml (10 grams) IV / IO
- q 3 – 5 minutes

- D10 not available then -
50% Dextrose
25 – 50 grams IV / IO

**If no IV / IO access**
Glucagon
1 mg IN / IM

**Return to Baseline**

**NO**

**YES**

**Consider Airway Management**

**Combative Patient**
Consider Behavioral | Excited Delirium Guideline

**Check Blood Glucose**

**Legends**
- EMT-P
- Nurse
- MC Order

**Contact Medical Control**
Document Treat and Release, Against Medical Advice -or-
Transport to appropriate facility

**Consider**
Naloxone
0.5 – 4 mg IV / IO / IM / IN

**Cardiac Monitor / 12-Lead ECG**

**EKG Interpretation**

**Consider other causes:**
Carbon Monoxide (CO) Poisoning
Head injury
Hypo / Hyperthermia
Hypoxia
Overdose
Stroke / Seizure

**Fluid Bolus**
250 – 1000 mL IV / IO

**Consider Use of Restraints**

**Consider**
10% Dextrose
100 ml (10 grams) IV / IO
- q 3 – 5 minutes

- D10 not available then -
50% Dextrose
25 – 50 grams IV / IO

**If no IV / IO access**
Glucagon
1 mg IN / IM

**Return to Baseline**

**NO**

**YES**

**Release at Scene (RAS)**
- Refusal of transport
- Adult (caregiver) present
- Blood sugar > 100
- Patient has ability to eat meal
- Patient with history of diabetes
- No history of oral diabetic medication

**Contact Medical Control**
Document Treat and Release, Against Medical Advice -or-
Transport to appropriate facility

**Against Medical Advice (AMA) for transport of suspected opiate overdose**

**Criteria met for refusal**

**Universal Patient Care**

**Spinal Immobilization**
(if appropriate)

**IV / IO Access**
Fluid Bolus 250 – 1000 mL

**Check Blood Glucose**

**10% Dextrose**
100 ml (10 grams) IV / IO
- q 3 – 5 minutes

- D10 not available then -
50% Dextrose
25 – 50 grams IV / IO

**If no IV / IO access**
Glucagon
1 mg IN / IM

**Return to Baseline**

**NO**

**YES**

**Release at Scene (RAS)**
- Refusal of transport
- Adult (caregiver) present
- Blood sugar > 100
- Patient has ability to eat meal
- Patient with history of diabetes
- No history of oral diabetic medication

**Contact Medical Control**
Document Treat and Release, Against Medical Advice -or-
Transport to appropriate facility

**Against Medical Advice (AMA) for transport of suspected opiate overdose**

**Criteria met for refusal**
SPECIAL CONSIDERATIONS:

1. If the patient wishes to refuse transportation to a hospital and you have administered any medications, you must contact on-line MEDICAL CONTROL prior to leaving the patient or completing the Against Medical Advice / Release At Scene form.

   a. **Criteria:**
      i. Patient must be able to refuse transport as per patient exhibiting decisional capacity to make appropriate decisions.
      ii. Following treatment of a hypoglycemia state, patient is conscious, alert to time, date and place, and requests that they not be transported to the hospital.
      iii. Certain patients should be informed that their hypoglycemic state may not be an isolated issue and it is recommended that they be transported:
         1. Patients with other associated findings such as hypoglycemic episode, including excessive alcohol consumption, shortness of breath, chest pain, fever, etc.
         2. Patients on oral hypoglycemic medication such as glipizide, glyburide or chlorpropamide (hypoglycemic episode may last hours or days).
         3. Patients who when treated with IV Dextrose take greater than 10 minutes to return to a normal level of consciousness.
         4. Patient’s history does not reveal circumstances that may have contributed to the hypoglycemic episode.
      iv. Repeat rapid Glucose test is > 100 mg / dl.
      v. The patient has a repeat SBP > 90 mmHg, pulse rate > 60 BPM.
   b. **Guideline for Treat and Release:**
      i. If the criteria above are met then the patient is a candidate for Treat and Release.
      ii. The patient must be released to the care of a responsible individual who will remain with the patient as an observer for a reasonable time.
      iii. The patient should be given both verbal and written instructions for follow-up care prior to being released.
      iv. If another episode occurs, request medical assistance immediately.

3. Non-transport of opiate overdose, Against Medical Advice Guidelines
   a. When dealing with patients that are suspected opiate overdose it is in their best interest to receive an evaluation and monitoring from hospital personnel. Many opiate containing
medications have the potential of causing somnolence and decreased respirations necessitating reversal medication

b. **Criteria:**
   
   i. Patient responded immediately to administration of opiate reversal agents (naloxone)
   
   ii. Age > 18 years of age
   
   iii. Patient must be alert, oriented to person, place, time and event
   
   iv. Patient must be able to refuse transport as per patient exhibiting decisional capacity to make appropriate decisions
   
   v. Must have been an accidental (non-suicidal) opiate overdose and did not overdose on long acting opiates
   
   vi. Patient is no longer exhibiting any signs of overdose with normal pupil size and vital signs with HR < 100, SBP > 90 mmHg, respiratory rate > 12
   
   vii. Patient has to verbalize the understanding that they can die from the ingestion of opiate medication and that they are refusing transport to hospital for additional evaluation and monitoring by hospital personnel

c. **Guideline for Release Against Medical Advice**

   i. If the criteria above are met, then the patient is a candidate for Release Against Medical Advice.

   ii. The patient must be released to the care of a responsible individual who will remain with the patient as an observer for a reasonable time.

   iii. The patient should be given both verbal and written instructions for follow-up care prior to being released.

   iv. If another episode occurs, request medical assistance immediately.

   v. If the patient wishes to refuse transportation to a hospital and you have administered any medications, **you MUST contact on-line MEDICAL CONTROL** prior to leaving the patient or completing the Against Medical Advice / Release At Scene form.

      1. Document in the PCR the physician that you spoke with and that the patient has decisional capacity with the ability to refuse additional medical care.
### TAB 3 GUIDELINE 6
**AORTIC DISSECTION**

<table>
<thead>
<tr>
<th>HISTORY</th>
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<tbody>
<tr>
<td>- Age</td>
</tr>
<tr>
<td>- Past medical / surgical history</td>
</tr>
<tr>
<td>- Medications</td>
</tr>
<tr>
<td>- Onset of pain / injury</td>
</tr>
<tr>
<td>- Previous back injury</td>
</tr>
<tr>
<td>- Location of pain</td>
</tr>
<tr>
<td>- Palliation / Provocation</td>
</tr>
<tr>
<td>- Region / Radiation / Referred</td>
</tr>
<tr>
<td>- Severity (1-10)</td>
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<tr>
<th>DIFFERENTIAL</th>
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<tr>
<td>- Chest pain / Acute Coronary Syndrome</td>
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<tr>
<td>- Pneumothorax</td>
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<tr>
<td>- Pulmonary Embolism</td>
</tr>
<tr>
<td>- Muscle spasm / strain</td>
</tr>
<tr>
<td>- Herniated disc with nerve compression</td>
</tr>
<tr>
<td>- Aneurysm</td>
</tr>
</tbody>
</table>

#### Suspected or known Aortic Dissection

**Universal Patient Care**

Assess for:
- New heart murmurs
- Interarm SBP > 20 mmHg difference
- Chest pain with neurologic or abdominal symptoms

**IV / IO Access x 2**

**SBP > 90 mmHg**

- **NO**
  - **Fluid Bolus**
    - 250 – 1000 mL NS

- **Tranexamic Acid Criteria**
  - Sustained Tachycardia ≥ 110 BPM AND
  - Sustained Hypotension SBP ≤ 90 mmHg
  - Not responsive to IV Hydration

  - Tranexamic Acid (TXA)
    - 1 Gram IVPB over 10 minutes.
    - Administer in 100 ml or 250 ml NS

  - **Contact Medical Control**

- **Contact Medical Control**

- **Transport to appropriate facility**

- **YES**
  - **Labetolol 20 mg IV / IO**
    - Then 20 mg IV q 10 min (Maximum dose 300 mg)
    - -or-
    - **Metoprolol 5 mg IV / IO**
      - (May repeat in 10 min)

    - **Goal SBP = 90 mmHg w/ HR = 60 BPM**

    - **Nicardipine**
      - 2.5 – 15 mg IV / IO
      - Titrated for SBP 90 mm Hg

    - **Adult Pain Control Guideline**

---

NWO EMS ALS (LFML) – Tab 3 – Adult Medical Emergency Guidelines – Updated 2017_12_01
SPECIAL CONSIDERATIONS:

1. Aortic dissection begins with the formation of a tear in the aortic intima that directly exposes an underlying medial layer to the driving force (pulse pressure) of the intraluminal blood.

2. There are two types of aortic dissections
   a. Stanford type A
      i. Involves the ascending aorta and/or aortic arch, and possibly the descending aorta
      ii. The tear can originate in the ascending aorta, the aortic arch, or, more rarely, in the descending aorta
      iii. It includes DeBakey types I and II and requires emergent surgical repair
   b. The Stanford type B
      i. Involves the descending aorta or the arch (distal to the left subclavian artery), without involvement of the ascending aorta
      ii. It includes DeBakey type III and is typically managed medically until complications arise
### TAB 3 GUIDELINE 7

#### BACK PAIN

### HISTORY
- Age
- Past medical / surgical history
- Medications
- Onset of pain / injury
- Previous back injury
- Traumatic mechanism
- Location of pain
- Palliation / Provocation
- Region / Radiation / Referred
- Severity (1-10)
- Time (duration / repetition)
- Fever

### SIGNS / SYMPTOMS
- Pain (paraspinal, spinous process)
- Swelling
- Pain with range of motion
- Extremity weakness
- Extremity numbness
- Shooting pain into an extremity
- Bowel / bladder dysfunction

### DIFFERENTIAL
- Muscle spasms / strain
- Herniated disc with nerve compression
- Sciatica
- Spine fracture
- Kidney stone
- Pylonephritis
- Aneurysm
- Pneumonia
- Spinal epidural abscess
- Metastatic Cancer

---

**Universal Patient Care**
- Injury or traumatic mechanism

**Spinal Immobilization**

**Muscle Spasms Consider**
- Valium 2 – 5 mg IV
  - or-
- Valium 5 – 10 mg IM / IN
  - or-
- Alternative Benzodiazepine equivalent

**Consider**
- Abdominal aneurysm age > 50
- Kidney Stones with acute flank pain radiating to groin
- Epidural abscess with history of IV drug use / previous surgery

**Upper back pain with no history of injury obtain bilateral arm pressures**

**Consider Aortic Dissection**
- New heart murmurs
- Weaker pulse in one arm than the other
- Interarm SBP > 20 mmHg difference
- Chest pain with neurologic or abdominal symptoms

**Signs of Shock with SBP < 90 mmHg**

**IV / IO Access**
- Fluid Bolus 250 – 1000 mL

**Contact Medical Control**

**Transport to appropriate facility**

---

**Legend**
- EMT-P
- Nurse
- MC Order

**Diffusion**
- IV / IO Access
- Labetolol 20 mg IV / IO
  - Then 20 mg IV q 10
  - (Maximum dose 300 mg)
  - or-
- Metoprolol 5 mg IV / IO
  - (May repeat in 10 min)

- Nicardipine
  - 2.5 – 15 mg IV / IO
  - Titrated for SBP 90 mm Hg

**Goal SBP = 90 – 110 mmHg w/ HR = 60 BPM**
## TAB 3 GUIDELINE 8
### BEHAVIORAL | EXCITED DELIRIUM

<table>
<thead>
<tr>
<th>HISTORY</th>
<th>SIGNS / SYMPTOMS</th>
<th>DIFFERENTIAL</th>
</tr>
</thead>
</table>
| • Situational crisis  
• Psychiatric illness / medications  
• Injury to self or threats to others  
• Medic alert tag  
• Substance abuse / overdose  
• Diabetes | • Anxiety, agitation, confusion  
• Affect change, hallucinations  
• Delusional thoughts, bizarre behavior  
• Expression of suicidal / homicidal thoughts  
• Poor concentration, easily distracted, psychosis  
• Combative, violent  
• Large pupils / light sensitivity  
• Tachycardic / Hypertension | • See Altered Mental Status differential  
• Hypoxia  
• Alcohol intoxication  
• Medication effect / overdose  
• Withdrawal syndromes  
• Depression  
• Bipolar (manic-depressive)  
• Schizophrenia, anxiety disorders, etc. |

### LEGEND
- EMT-P
- Nurse
- MC Order

### 10% Dextrose
100 ml (10 grams) IV / IO  
q 3 – 5 minutes  
- D10 not available then -  
50% Dextrose  
25 – 50 grams IV / IO

### Glucagon
1 mg IN / IM  
(If no IV access)

### Universal Patient Care
- Treat suspected medical or trauma problems per appropriate protocol  
- Altered Mental Status  
- Poisoning and Overdose  
- Head Trauma

### Glucose ≤ 60
- Check Blood Glucose

### Remove patient from stressful environment
- Verbal techniques  
  (reassurance, calm, establish rapport)

### Rapid take-down w/ minimum
- (4) EMS crew members  
  (If necessary)

### Consider Restraints
- (for patient / personnel safety)

### Perform RASS with goal of (0) to (-2)
- Consider

### Ketamine
4 mg / Kg IM (max 400 mg)  
- or - 2 mg / Kg IV (max 200 mg)  
- If SBP > 180 mmHg then also give  
  Midazolam 2 – 5 mg IM / IN / IV

### Haloperidol 5 mg IM  
(may repeat in 5 min)

### Diphenhydramine
25 – 50 mg IM / IV / IN

### Midazolam 2 – 5 mg IM / IV / IN  
(may repeat q 5 max 10 mg)

### 10% Dextrose  
100 ml (10 grams) IV / IO  
q 3 – 5 minutes

### IV / IO Access
- Fluid Bolus 250 – 1000 mL

### Repeat RASS with goal of (0) to (-2)
- Cardiac Monitor / 12-Lead EKG  
  - Assess Rhythm
- Monitor Respiratory status, consider EtCO₂

### Contact Medical Control
- Transport to appropriate facility

### Restraints
- No transport in hobble or prone position.  
- Do not inhibit patient breathing, ventilations
SPECIAL CONSIDERATIONS:

1. Excited delirium is an extreme disturbance of consciousness and mental status that occurs in individuals especially when under the influence of stimulants or anti-psychotic medications and it represents an acute **LIFE THREATENING MEDICAL EMERGENCY**
   a. Combination of delirium, psychomotor agitation, anxiety, hallucinations, speech disturbances, disorientation, violent / bizarre behavior, insensitivity to pain, hyperthermia and increased strength. Potentially life-threatening and associated with use of physical control measures, including physical restraints and Tasers
      i. Need rapid take down, sedation, cooling measures and IV fluid replacement. These patients often suffer respiratory or cardiac arrest once subdued and should be closely monitored and transported by an ALS Unit to closest appropriate facility
   b. Most commonly seen in male subjects with a history of serious mental illness and/or acute or chronic drug abuse, particularly stimulant drugs such as cocaine, crack cocaine, methamphetamine, amphetamines or similar agents
   c. Alcohol withdrawal or head trauma may also contribute to the condition

2. Maintain objectivity during evaluation and treatment. Verbal aggression exhibited by patients can quickly escalate to physical violence. Always proceed with calm, reassuring directions for the patient. If a situation appears threatening, sufficient law enforcement presence may be necessary before patient restraint is attempted
   a. If needing to take the patient down, at minimum, utilize (4) ems crew members / police officers to secure each limb
   b. **If a patient suspected of excited delirium suffers cardiac arrest, consider a fluid bolus and sodium bicarbonate early**

3. Patients requiring physical restraint should be placed in the lateral recumbent position when possible. Consider your own safety and limitations when physical restraint is required.
   a. Restrained patients should never be left unattended. Continue to evaluate effectiveness of restraints and any compromise that may be caused by the restraint process (i.e., airway, breathing, circulation)
   b. Positional asphyxia – very large ventilation volumes are needed to oxygenate and blow off carbon dioxide overload. They should never be left prone or face down in handcuffs and should never by “hog-tied”

4. Do not overlook the possibility of associated domestic violence or abuse

5. Richmond Agitation-Sedation Scale
a. Validated agitation-sedation scale from age 2 months and older
b. Goal is for RASS between (0) to (-1)

<table>
<thead>
<tr>
<th>Score</th>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 4</td>
<td>Combative</td>
<td>Overtly combative or violent; immediate danger to staff</td>
</tr>
<tr>
<td>+ 3</td>
<td>Very agitated</td>
<td>Pulls on or removes tube(s) or catheter(s) or has aggressive behavior toward staff</td>
</tr>
<tr>
<td>+ 2</td>
<td>Agitated</td>
<td>Frequent nonpurposeful movement or patient–ventilator dyssynchrony</td>
</tr>
<tr>
<td>+ 1</td>
<td>Restless</td>
<td>Anxious or apprehensive but movements not aggressive or vigorous</td>
</tr>
<tr>
<td>0</td>
<td>Alert and Calm</td>
<td>Spontaneously pays attention to caregiver</td>
</tr>
<tr>
<td>- 1</td>
<td>Drowsy</td>
<td>Not fully alert, but has sustained (more than 10 seconds) awakening, with eye contact, to voice</td>
</tr>
<tr>
<td>- 2</td>
<td>Light Sedation</td>
<td>Briefly (less than 10 seconds) awakens with eye contact to voice</td>
</tr>
<tr>
<td>- 3</td>
<td>Moderate Sedation</td>
<td>Any movement (but no eye contact) to voice</td>
</tr>
<tr>
<td>- 4</td>
<td>Deep Sedation</td>
<td>No response to voice, but any movement to physical stimulation</td>
</tr>
<tr>
<td>- 5</td>
<td>Unarousable</td>
<td>No response to voice or physical stimulation</td>
</tr>
</tbody>
</table>
### DENTAL PAIN

#### HISTORY
- Age
- Past medical history
- Medications
- Onset of pain / injury
- Trauma with "knocked out" tooth
- Location of tooth
- Whole vs. partial tooth injury

#### SIGNS / SYMPTOMS
- Bleeding
- Pain
- Fever
- Swelling of face / buccal mucosa
- Tooth missing or fractured

#### DIFFERENTIAL
- Decay
- Infection
- Fracture
- Avulsion
- Abscess
- Facial cellulitis
- Impacted tooth (wisdom)
- TMJ syndrome
- Myocardial infarction

---

**LEGEND**
- **EMT-P**
- **Nurse**
- **MC Order**

**Universal Patient Care**
- **Cardiac Monitor / 12-Lead EKG**
  - **Assess Rhythm**
  - **EKG Interpretation**
  - **Go to Chest Pain Guideline**

- **Dental or Jaw Pain suspicious for Cardiac**

- **Go to Appropriate Trauma Guideline**

- **Control Bleeding with Direct Pressure** (Small gauze rolled into a square and placed into socket with patient closing teeth to exert pressure)

- **Place tooth in Milk -or- Normal Saline -or- Commercial Preparation**
  - **May rinse gross contamination**
  - **Do not rub or scrub tooth**

- **Dental Avulsion**
  - **Contact Medical Control**
  - **Transport to appropriate facility**

**Significant or Multi-System Trauma**

**Bleeding**
- **YES**
- **NO**

**Adult Pain Control Guideline**
SPECIAL CONSIDERATIONS:
1. Recommended Exam: Mental Status, HEENT, Neck, Chest, Lungs, Neurology
2. Significant soft tissue swelling to the face or oral cavity can represent a cellulitis or abscess.
3. Scene and transport times should be minimized in complete tooth avulsions. Re-implantation is possible within 4 hours if the tooth is properly cared for.
4. All pain associated with teeth should be associated with a tooth which is tender to tapping or touch (or sensitivity to cold or hot).
TAB 3 GUIDELINE 10
DIALYSIS | RENAL FAILURE | HYPERKALEMIA

**HISTORY**
- Past medical history
- Medications
- Peritoneal or Hemodialysis
- Shunt access noted
- Crush Injury
- Prolonged immobility

**SIGNs / SYMPTOMs**
- EKG abnormality
- Peaked T waves
- Wide complex, bizarre appearance with slow rhythm
- Shortness of breath
- Hypotension
- Bleeding
- Seizure
- Altered Mental Status

**DIFFERENTIAL**
- End Stage Renal Disease
- Electrolyte imbalance
- Crush Injury
- Prolonged immobilization
- Rhabdomyolysis
- Congestive Heart Failure

---

**LEGEND**
- EMT-P
- Nurse
- MC Order

---

**HISTORY**

**SIGNs / SYMPTOMs**

**DIFFERENTIAL**

---

**Universal Patient Care**

**Shunt / Fistula Bleeding**

**CHF / Pulmonary Edema**

**Cardiac Arrest**

**serious Signs / Symptoms**

---

**Check Blood Glucose**

**AMS / Coma Guideline**

**Blood Sugar < 60 or > 250**

---

**SBP < 90 mmHg**

**Hemodialysis in past 4 hours**

---

**Fluid Bolus 250 ml, repeat to max 1 liter**

**Known Potassium Level > 5**

---

**Calcium Chloride** 20 mg / Kg (max 1 gram) IV / IO

**Calcium Gluconate** 60 mg / Kg (max 3 gram) IV / IO

**Over 2 – 3 minutes**

**Calcium Gluconate** 60 mg / Kg (max 3 gram) IV / IO

**Over 2 – 3 minutes**

---

**Albuterol** 10 – 20 mg Nebulized

**Sodium Bicarbonate** 1 mEq / Kg IV / IO (max 50 mEq)
SPECIAL CONSIDERATIONS:

1. Do not take blood pressure or start IV in extremity which has a shunt / fistula in place.

2. Access of shunt or dialysis catheter is indicated in the dead or near-dead patient only with no other available access. Utilize IO if available.

3. Always consider Hyperkalemia in all dialysis or renal failure patients.
# TAB 3 GUIDELINE 11

**EPISTAXIS**

## HISTORY
- Age
- Past medical history
- Medications (HTN, anticoagulants, ibuprofen / OTC headache relief powder)
- Previous episodes of epistaxis
- Trauma
- Duration of bleeding
- Quantity of bleeding

## SIGNS / SYMPTOMS
- Bleeding from nasal passage
- Pain
- Nausea
- Vomiting

## DIFFERENTIAL
- Trauma
- Infection (viral URI or Sinusitis)
- Allergic rhinitis
- Lesions (polyps, ulcers)
- Hypertension

---

- Most nose bleeding is from an anterior source and may be easily controlled
- Avoid phenylephrine in pts with known CAD
- Anticoagulation with aspirin, clopidogrel (Plavix), warfarin (Coumadin) will make epistaxis much harder to control. Note if your patient is taking these or other anticoagulant medications
- Posterior epistaxis is a true emergency and may require advanced ED techniques. Do not delay transport. Be prepared for potential airway issues.
- Patients using nasal cannula oxygen may have cannula placed in mouth while nares are clamped or compressed for nosebleed

---

**LEGEND**
- EMT-P
- Nurse
- MC Order

---

1. **Universal Patient Care**
   - Tilt head forward
   - Have Patient Blow Nose to expel clot
   - Ice pack to nose

2. **Compress nostrils with clamp or fingers, pinching over fleshy part of nose, not nasal bridge**

3. **Hypotension and / or tachycardia**
   - YES
   - NO

4. **IV / IO Access**
   - Fluid Bolus
   - 250 – 1000 mL
   - (repeat PRN)

5. **Consider Hypertensive Emergency Guideline**
   - Anxious
   - YES
   - NO

6. **IV / IO Access**
   - Midazolam 2 – 5 mg
   - IV / IO / IM

7. **Contact Medical Control**
   - Transport to appropriate facility
TAB 3 GUIDELINE 12
FOREIGN BODY AIRWAY OBSTRUCTION - ADULT

HISTORY
- Events leading up to incident
- Trauma
- Aspiration
- Medication
- Allergic reaction

SIGNs / SYMPTOMs
- Anxiety
- No air movement
- Clutching throat
- Unresponsive
- Sore throat, fever,
  “Hot potato” voice, drooling

DIFFERENTIAL
- Foreign Body
- Infection
- Trauma
- Laryngeal or tracheal fracture
- Oropharyngeal laceration

Universal Patient Care

Legends
- EMT-P
- Nurse
- MC Order

HISTORY
- Events leading up to incident
- Trauma
- Aspiration
- Medication
- Allergic reaction

SIGNs / SYMPTOMs
- Anxiety
- No air movement
- Clutching throat
- Unresponsive
- Sore throat, fever,
  “Hot potato” voice, drooling

DIFFERENTIAL
- Foreign Body
- Infection
- Trauma
- Laryngeal or tracheal fracture
- Oropharyngeal laceration

Universal Patient Care

Legends
- EMT-P
- Nurse
- MC Order

Mild Airway Obstruction Signs
- Good air exchange
- Responsive and can cough forcefully
- May wheeze between coughs

Severe Airway Obstruction Signs
- Poor or no air exchange
- Weak, ineffective cough or no cough at all
- High-pitched noise while inhaling or no noise at all
- Increased respiratory difficulty
- Possible cyanosis (turning blue)
- Unable to speak or move air
- Clutching the neck with the thumb and fingers
- Unresponsive

Transport to appropriate facility
### TAB 3 GUIDELINE 13

**HYPERGLYCEMIA | DKA**

#### HISTORY
- Known diabetic, medic alert tag
- Drugs, drug paraphernalia
- Report of illicit drug use or toxic ingestion
- Past medical history
- Medications
- History of trauma
- Change in condition

#### SIGNS / SYMPTOMS
- Decreased mental status
- Change in baseline mental status
- Bizarre behavior
- Hypoglycemia
  - Cool, diaphoretic skin
- Hyperglycemia | Diabetic Ketoacidosis
  - Warm, dry skin
  - Fruity breath
  - Kussmaul respirations
  - Signs of dehydration

#### DIFFERENTIAL
- Head trauma
- CNS (stroke, tumor, seizure, infection)
- Cardiac (MI, CHF)
- Infection / Toxicologic
- Thyroid (hyper / hypo)
- Shock (septic, metabolic, traumatic)
- Diabetes (hyper / hypoglycemia)
- Electrolyte abnormality
- Acidosis / Alkalosis
- Environmental exposure
- Pulmonary (hypoxia)
- Psychiatric disorder

#### Universal Patient Care

#### Spinal Immobilization (if appropriate)

#### IV / IO Access

#### Check Blood Glucose

#### Review lab values / EKG
- CBC, CMP, Mg, serum ketones, venous blood gas, urinalysis
- Calculate anion gap
  - (Na – (Cl + HCO3)
- EKG

#### Fluid Administration
- IV / IO
  - Initiate or maintain IV insulin infusion based upon appropriate algorithm
  - Check Blood Glucose ever 30 minutes while on insulin drip or as necessary
  - Adjust insulin infusion based upon glucose reading

#### STOP Insulin infusion
- Glucose < 60

#### INITIATE or maintain IV potassium infusion based upon serum potassium level

#### Contact Medical Control
transport to appropriate facility
SPECIAL CONSIDERATIONS:

1. Diabetic ketoacidosis
   a. Whote blood glucose level > 200 mg/dl
   b. Venous Ph < 7.3
   c. Serum bicarbonate (HCO3) < 15 mmol/L
   d. UA or Serum ketones (beta-hydroxybuterate) positive
   e. Anion Gap > 12
      i. Sodium minus (Chloride plus Bicarbonate)

2. Fluid therapy **SHOULD BE** with lactated ringers unless the potassium level is > 5.5. Normal saline administration > 2 liters can potentiate a hyperchloric metabolic acidosis and worsen the pH of the patient
   a. Administer 1000 ml / hour for (1) hour, then 500 ml / hour for (2) hours then maintain maintenance at 200 ml / hour (total fluid)
   b. Fluid therapy should be changed to **D5W** at 200 ml / hr when Serum Glucose < 250 mg/dl
   c. IF the patient has a history of heart failure or an alternative diagnosis where fluid overload is a concern, consult medical control or receiving physician

3. Prior to initiating or continuing insulin ensure that the potassium level has been assessed. Do not initiate insulin drip without knowing the level

4. Potassium replacement for patients in Diabetic Ketoacidosis. Infuse potassium replacement **CONCURRENTLY** with insulin

<table>
<thead>
<tr>
<th>Serum Potassium</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium &gt; 5</td>
<td>Add insulin</td>
</tr>
<tr>
<td>Potassium between 4 and 5</td>
<td>Infuse KCL at 10 mEq / hr IV x 2 hour</td>
</tr>
<tr>
<td>Potassium between 3 and 4</td>
<td>Infuse KCL at 10 mEq / hr IV x 3 hour</td>
</tr>
<tr>
<td>Potassium &lt; 3</td>
<td>Infuse KCL at 10 mEq / hr IV x 4 hour</td>
</tr>
</tbody>
</table>

5. Adjusting the infusion:
   a. Algorithm 1
      i. Start here for most patients
   b. Algorithm 2
      i. For patients not controlled with Algorithm 1
      ii. Status post CABG, solid organ or islet cell transplant
      iii. Receiving glucocorticoids or other steroids
      iv. Patient with diabetes receiving > 80 units / day of insulin as an outpatient
c. Algorithm 3
   i. For patients not controlled with Algorithm 2
   ii. **Must contact medical control before initiate of Algorithm 3**

<table>
<thead>
<tr>
<th>Glucose</th>
<th>Units / Hr</th>
<th>Algorithm 1</th>
<th>Glucose</th>
<th>Units / Hr</th>
<th>Algorithm 2</th>
<th>Glucose</th>
<th>Units / Hr</th>
<th>Algorithm 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 70</td>
<td>OFF **</td>
<td>&lt; 70</td>
<td>OFF **</td>
<td>&lt; 70</td>
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<tr>
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<td>1</td>
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<td>2</td>
<td>150 – 179</td>
<td>6</td>
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<td></td>
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<tr>
<td>180 – 209</td>
<td>1.5</td>
<td>180 – 209</td>
<td>3</td>
<td>180 – 209</td>
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<tr>
<td>270 – 299</td>
<td>3</td>
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<td>6</td>
<td>270 – 299</td>
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<td>300 – 329</td>
<td>6</td>
<td>300 – 329</td>
<td>24</td>
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<td>&gt; 360</td>
<td>6</td>
<td>&gt; 360</td>
<td>12</td>
<td>&gt; 360</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Current Whole Blood Glucose

<table>
<thead>
<tr>
<th>Current Whole Blood Glucose</th>
<th>Change in Whole Blood Glucose from previous value</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 mg / dl and above</td>
<td>Increased by 50 mg / dl or more</td>
<td>Verify insulin infusion is running at prescribed rate. Titrate level to Algorithm chart based upon level. If in algorithm (1) then switch to algorithm (2). If not controlled with algorithm (2) then contact medical control and consider switching to algorithm (3)</td>
</tr>
<tr>
<td>250 mg / dl and above</td>
<td>Increased 1 – 49 mg / dl or Decreased by any amount</td>
<td>No Change</td>
</tr>
<tr>
<td>Below 250 mg / dl</td>
<td>Decreased by 100 mg / dl or more</td>
<td>Change IV fluid to D5W and Decrease infusion rate by 50% (1/2) and recheck WBG in 30 minutes. Contact medical control if WBG still decreasing</td>
</tr>
<tr>
<td>Below 250 mg / dl</td>
<td>Decreased by 1 – 99 mg / dl or increased by any amount</td>
<td>Change IV fluid to D5W and No change in insulin drip rate</td>
</tr>
<tr>
<td>Below 200 mg / dl</td>
<td>Decreased by 60 mg / dl or more over the previous TWO hours</td>
<td>Change IV fluid to D5W and decrease insulin infusion rate by 50% (1/2) and contact medical control to re-evaluate insulin / IV fluids</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Below 200 mg / dl</td>
<td>Decreased by 1 – 59 mg / dl over the previous TWO hours or increased by any amount</td>
<td>Change IV fluid to D5W. No change in Insulin drip rate</td>
</tr>
<tr>
<td>Below 100 mg / dl</td>
<td>Not Applicable</td>
<td>Decrease insulin rate by 50% (1/2) and change IV fluid to D10 at current rate. Contact medical control to re-evaluate insulin / IV fluids</td>
</tr>
</tbody>
</table>
TAB 3 GUIDELINE 14
HYPERTENSIVE EMERGENCY

HISTORY
- Documented hypertension
- Related diseases: diabetes, CVA, renal failure, cardiac
- Medications (compliance?)
- Viagra, Levitra, Cialis
- Pregnancy

SIGNS / SYMPTOMS
One of these:
- Systolic BP 180 or greater
- Diastolic BP 110 or greater
And at least one of these:
- Chest Pain
- Headache / Blurred Vision
- Nosebleed
- Dizziness

DIFFERENTIAL
- Hypertensive encephalopathy
- Primary CNS injury (Cushing's response = bradycardia with hypertension
- Myocardial infarction
- Aortic dissection (aneurysm)
- Pre-eclampsia / Eclampsia

Universal Patient Care
Bilateral Blood Pressures
SBP > 180 mmHg or DBP > 110 mm Hg

NO
YES

IV / IO Access
Cardiac Monitor / 12-Lead ECG
Assess Rhythm

NO
YES

HR > 60 BPM

Nitroglycerin 0.4 mg SL
/ IV titrate q 5 min
(SL max 3 doses)

Enalapril
1.25 mg IV / IO
-or-
Nicardipine
2.5 – 15 mg / Hr IV / IO
Titrates SBP 140 – 180 mm Hg

Nitroglycerin SL
(Spray or tablet)
Repeat x 1 in 5 min. (PRN)

Labetolol 20 mg IV / IO
Then 20 mg IV q 10 min
(Maximum dose 300 mg)
-or-
Metoprolol 5 mg IV / IO
(May repeat in 10 min)
-or-
Nicardipine
2.5 – 15 mg / Hr IV / IO
Titrates SBP 140 – 180 mm Hg

Contact Medical Control
Transport to appropriate facility

LEGEND
EMT-P
Nurse
MC Order
SPECIAL CONSIDERATIONS:

1. Elevated blood pressure of itself rarely requires emergency therapy.
   a. Initial triage should quickly identify those patients who have an elevated BP without any evidence of significant target organ damage or any other impending cardiovascular events.
      i. Secondary hypertension in response to stress or pain is a common field finding. It does not require field treatment.
      ii. Hypertension can also be from a severe head injury and intracranial bleeding. Treatment should be for the actual intracranial problem and not the blood pressure problem.
   b. A careful cardiovascular examination, as well as a thorough neurologic examination, including mental status, should be conducted.
   c. Improper BP cuff size can produce falsely high or low blood pressure measurements.

2. Initial goal for BP reduction is not to obtain a normal BP, but to achieve a progressive controlled reduction to minimize the risk of hypoperfusion to vital organs.
   a. Initial reduction in mean arterial pressure should not exceed 20 – 25% below the pretreatment BP. As an alternative, mean arterial pressure can be reduced within the first 30 – 60 minutes to 110 – 115mmHg.
   b. Excessively rapid reductions in BP have been associated with acute deterioration in renal function, ischemic cardiac or cerebral events, and occasional retinal artery occlusion and acute blindness.

3. Signs and symptoms of a hypertensive emergency:
   a. Rapid rise in diastolic pressure over 130mmHg
   b. New onset symptoms that accompany rise in BP:
      i. Chest pressure / Difficulty breathing.
      ii. Mental confusion / Agitation.
      iii. Severe headache.
      iv. Light-headed / Dizziness.
      v. Nausea / vomiting.
      vi. Visual impairment (may include transient blindness).
HYPOTENSION (SHOCK)

**HISTORY**
- Blood loss - vaginal or gastrointestinal bleeding, AAA, ectopic pregnancy
- Fluid loss - vomiting, diarrhea, fever
- Infection
- Cardiac ischemia (MI, CHF)
- Medications
- Allergic reaction
- Pregnancy
- History of poor oral intake

**SIGNS / SYMPTOMS**
- Restlessness, confusion
- Weakness, dizziness
- Weak, rapid pulse
- Pale, cool, clammy skin
- Delayed capillary refill
- Hypotension
- Coffee-ground emesis
- Tarry stools

**DIFFERENTIAL**
- Shock
- Hypovolemia
- Cardiogenic
- Septic
- Neurogenic
- Anaphylactic
- Ectopic pregnancy
- Dysrhythmias
- Pulmonary embolus
- Tension pneumothorax
- Medication effect / overdose
- Vasovagal
- Physiologic (pregnancy)

**LEGEND**
- EMT-P
- Nurse
- MC Order

**Universal Patient Care**

- Symptomatic
  - **YES**
    - IV / IO Access
      - Cardiac Monitor / 12-Lead EKG
        - Assess Rhythm
        - EKG Interpretation

- **NO**
  - Observe and Reassess

**Trauma**

- Treatment per appropriate Trauma Guideline
- Fluid Bolus
  - 250 – 1000 mL
  - (repeat PRN)

**Undifferentiated**

- Fluid Bolus
  - 250 – 1000 mL
  - (repeat PRN)
- SBP < 90 mmHg
- Norepinephrine
  - 0.5 – 30 mcg / min IV / IO
  - or
- Dopamine
  - 5 – 20 mcg / Kg / min IV / IO
  - Titrate for SBP > 90 mmHg

- Remains hypotensive
  - Solu Medrol 125 mg IV / IO

**Cardiac**

- Treatment per appropriate Cardiac Guideline
  - No rales present
    - Fluid Bolus
      - 250 – 1000 mL
  - SBP < 90 mmHg
    - Norepinephrine
      - 0.5 – 30 mcg / min IV / IO
      - or
    - Dopamine
      - 5 – 20 mcg / Kg / min IV / IO
      - Titrate for SBP > 90 mmHg

- Remains hypotensive
  - Epinephrine push dose
    - 5 – 10 mcg / min IV
  - Epinephrine drip
    - 0.5 – 20 mcg / min IV
  - Epinephrine drip
    - dose 20 – 40 mcg / min IV

- Contact Medical Control
- Transport to appropriate facility
SPECIAL CONSIDERATIONS:

1. Hypotension can be defined as a mean arterial pressure (MAP) < 65 mmHg
2. Consider all possible causes of shock and treat per appropriate guideline
   a. Anaphylactic – reaction to substance to which patient is hypersensitive or allergic
   b. Cardiogenic – myocardial infarction with damage to heart muscle
   c. Hemorrhagic – severe bleeding or loss of body fluid from trauma, burns, surgery or dehydration from severe nausea and vomiting
   d. Metabolic – body homeostasis impaired; have disturbance in acid-base balance
   e. Neurogenic – injury or trauma to the nervous system
   f. Obstructive – compression of the great vessels leading back to the heart or compression on the heart itself by masses, fluid, etc that causes a limitation on preload
   g. Septic – acute infection
3. If no evidence of cardiogenic cause, institute general treatment measures.
   a. Patients should **always** have adequate intravascular fluid load **prior** to the use of vasopressors
   b. Limit normal saline or lacted ringer bolus to 2 liters unless septic shock suspected
4. Epinephrine
   a. Drip
      i. Mix 1 mg epinephrine (1:10,000 or 1:1000 concentration) in 250 ml bag normal saline or D5W to give 4:1 concentration, mix in 500 ml bag normal saline or D5W to give 2:1 concentration. **Titrate 2 – 10 mcg / min**
   b. Push dose
      i. Mix 0.1 mg (1 ml) epinephrine (1:10,000) in 9 ml NS to give 10:1 concentration. Give 0.5 – 1 ml dose pushes every 1 – 2 minutes for blood pressure control
TAB 3 GUIDELINE 16
INFLUENZA LIKE ILLNESS (ILI)

**HISTORY**
- Immunization
- Previous influenza
- Pregnancy
- Diabetic
- HIV / Immunocompromised
- Medication – chemotherapy, steroids, immunosuppressant

**SIGNs / SYMPTOMs**
- Fever / Chills
- Coughing
- Sore throat
- Runny or stuffy nose
- Headaches
- Body aches
- Fatigue
- Vomiting / Diarrhea

**DIFFERENTIAL**
- Common cold
- Carbon monoxide poisoning
- Other viral syndromes
- Pneumonia
- Meningitis
- Mononucleosis
- HIV

---

**Universal Patient Care**

**Exposure control**
(PPE = Gown / Glove / Mask)

**Airway Management**
- YES
- Respiratory Insufficiency?
- NO

**Use HEPA filter on expiratory end of aerosol circuit**

**Albuterol**
2.5 – 5 mg nebulized
(May repeat x 2)

**Atrovent**
0.5 mg nebulized with 1st or 2nd Albuterol dose

**Wheezing**
- YES
- NO

**Nausea / Vomiting**

**Check Blood Glucose**
- Glucose ≤ 60
- NO
- YES

**10% Dextrose**
100 ml (10 grams) IV / IO
q 3 – 5 minutes
- D10 not available then –
50% Dextrose
25 – 50 grams IV / IO

**Glucagon**
1 mg IN / IM
(If no IV access)

**Zofran 4 – 8 mg**
SL / PO / IV / IN / IM

**Phenergan**
12.5 – 25 mg IM / IV

**Position of patient comfort**

**Pulse Oximetry**

**Cardiac Monitor**

**Assess Rhythm**

**EKG Interpretation**

**Hypotension / Signs of Dehydration**

**IV / IO Access**
 Fluid Bolus
250 – 1000 mL

**Contact Medical Control**
**Transport to appropriate facility**

LEGEND
- EMT-P
- Nurse
- MC Order

**HISTORY**
- Immunization
- Previous influenza
- Pregnancy
- Diabetic
- HIV / Immunocompromised
- Medication – chemotherapy, steroids, immunosuppressant

**SIGNs / SYMPTOMs**
- Fever / Chills
- Coughing
- Sore throat
- Runny or stuffy nose
- Headaches
- Body aches
- Fatigue
- Vomiting / Diarrhea

**DIFFERENTIAL**
- Common cold
- Carbon monoxide poisoning
- Other viral syndromes
- Pneumonia
- Meningitis
- Mononucleosis
- HIV
SPECIAL CONSIDERATIONS:

1. Influenza or “the flu” is caused by a number of unique influenza viruses. The patient is contagious for 48 hours prior to the onset of symptoms and as long as febrile or coughing which may be over 1 week after onset of symptoms.

2. Required personal protective equipment (PPE).
   a. Gloves / Goggles or eye shields.
   b. Fit tested N-95 respirator or Air Purifying Respirator (APR) or Powered APR (PAPR).
   c. Gown if gross contamination possible.
   d. Place plain surgical mask on patient and apply oxygen on top (patients never use N-95 respirators).

3. Disinfection.
   a. Vehicle will be left open for 5 – 10 minutes with ventilation running and doors and windows open.
   b. Fully recommended PPE will be used during decontamination process.
   c. Gross contamination will be removed and washed with soap / water.
   d. All exposed surfaces will be cleaned with approved hospital grade disinfectant and allowed to air dry to include benches, cots, counters and exposed walls.
   e. PPE will be removed with no cross contamination (remove one glove, remove mask by straps).
   f. Strict hand washing from elbows down with soap and water for minimal of 20 seconds or if unavailable waterless hand cleaner will be used.
### TAB 3 GUIDELINE 17
### POISONING | OVERDOSE | TOXIC INGESTION

<table>
<thead>
<tr>
<th>HISTORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>What type of ingestion</td>
</tr>
<tr>
<td>When did ingestion occur</td>
</tr>
<tr>
<td>How Much</td>
</tr>
<tr>
<td>Reason for ingestion</td>
</tr>
<tr>
<td>Actions of bystanders</td>
</tr>
<tr>
<td>Previous psychiatric disorders</td>
</tr>
<tr>
<td>Diseases / Medications: ie depressants</td>
</tr>
<tr>
<td>Medical alert tags</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIGNS / SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased salivation</td>
</tr>
<tr>
<td>Soot or burns in mouth</td>
</tr>
<tr>
<td>Irritation of the eyes</td>
</tr>
<tr>
<td>Sweating and skin burns</td>
</tr>
<tr>
<td>Decreased respiratory rate</td>
</tr>
<tr>
<td>Lung findings (ie edema)</td>
</tr>
<tr>
<td>Delayed capillary refill</td>
</tr>
<tr>
<td>Tachycardia / Arrhythmias</td>
</tr>
<tr>
<td>Seizures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENVIRONMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
</tr>
<tr>
<td>Anticholinergic</td>
</tr>
<tr>
<td>Aspirin</td>
</tr>
<tr>
<td>Cardiac medications</td>
</tr>
<tr>
<td>Insecticides (organophosphates)</td>
</tr>
<tr>
<td>Solvents, alcohols, cleaning agents</td>
</tr>
<tr>
<td>Stimulants</td>
</tr>
</tbody>
</table>

---

**Universal Patient Care**
- Cardiac Monitor
- IV / IO Access
  - Fluid Bolus 250 – 1000 mL
  - Naloxone 0.5 – 4 mg IV / IO / IN
  - Amyl Nitrite 0.3 ml in 4 x 4
    - Hold q 30 sec / minute
  - Hydroxycobalamin 5 grams IV / IO over 10 min
  - 10% Dextrose 100 ml (10 grams) IV / IO
  - Glucagon 1 mg IN / IM
  - NRB Mask @ 15 L O2
  - CPAP with PEEP @ 5 cm H2O
  - Calcium Gluconate (10%) 20 mg / Kg slow IV / IO
  - Calcium Channel Blocker
  - Atropine 2 – 5 mg
  - IV / IO q 15 min
  - Tricyclic Antidepressant (Cardiac Arrhythmia???)
  - Hydrofluoric Acid
  - 2.5% Calcium Gluconate gel applied to skin q 10 – 15 min
  - Duodote IM 1 – 3 injectors
  - Atropine 2 – 5 mg
  - IV / IO q 15 min
  - Hypertension, Seizures, Ventricular dysrhythmias, or Mental status changes
  - Transport to appropriate facility

**LEGEND**
- EMT-P
- Nurse
- MC Order

---

**HISTORY**
- What type of ingestion
- When did ingestion occur
- How Much
- Reason for ingestion
- Actions of bystanders
- Previous psychiatric disorders
- Diseases / Medications: ie depressants
- Medical alert tags

**SIGNS / SYMPTOMS**
- Increased salivation
- Soot or burns in mouth
- Irritation of the eyes
- Sweating and skin burns
- Decreased respiratory rate
- Lung findings (ie edema)
- Delayed capillary refill
- Tachycardia / Arrhythmias
- Seizures

**ENVIRONMENT**
- Acetaminophen
- Anticholinergic
- Aspirin
- Cardiac medications
- Insecticides (organophosphates)
- Solvents, alcohols, cleaning agents
- Stimulants

---

**HISTORY**
- What type of ingestion
- When did ingestion occur
- How Much
- Reason for ingestion
- Actions of bystanders
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- Diseases / Medications: ie depressants
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- Solvents, alcohols, cleaning agents
- Stimulants

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**HISTORY**
- What type of ingestion
- When did ingestion occur
- How Much
- Reason for ingestion
- Actions of bystanders
- Previous psychiatric disorders
- Diseases / Medications: ie depressants
- Medical alert tags

**SIGNS / SYMPTOMS**
- Increased salivation
- Soot or burns in mouth
- Irritation of the eyes
- Sweating and skin burns
- Decreased respiratory rate
- Lung findings (ie edema)
- Delayed capillary refill
- Tachycardia / Arrhythmias
- Seizures

**ENVIRONMENT**
- Acetaminophen
- Anticholinergic
- Aspirin
- Cardiac medications
- Insecticides (organophosphates)
- Solvents, alcohols, cleaning agents
- Stimulants
SPECIAL CONSIDERATIONS:

1. General:
   a. Contact Poison Control Center 1-800-222-1222 if necessary.
   b. Do not induce vomiting for.
      i. Hydrocarbons.
      ii. Strong acids.
      iii. Strong base iodides.
      iv. Silver nitrate.
      v. Strychnine.
      vi. Who are not alert.
   c. Do not neutralize acids with alkali or Do not neutralize alkali with acids.
   d. Product labels and home kits may be misleading and dangerous.

2. Overdose / Ingestion concerns:
   a. Acetaminophen – Initial presentation normal or nausea/vomiting. If not detected and treated, will cause irreversible liver failure.
   b. Anticholinergic – increased HR, increased temperature, dilated pupils, mental status changes.
   c. Cardiac Meds – dysrhythmias and mental status changes.
   d. Depressants – decreased HR, decreased BP, decreased temperature, decreased respirations, non-specific pupils.
   e. Insecticides – increased or decreased HR, increased secretions, nausea, vomiting, diarrhea, pinpoint pupils.
   f. Solvents – nausea, vomiting, and mental status changes.
   g. Stimulants – increased HR increased BP, increased temperature, dilated pupils, and seizures.
   h. Tricyclics – 4 major areas of toxicity: seizures; dysrhythmias; hypotension; decreased mental status or coma; rapid progression from alert mental status to death.
<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
</thead>
</table>
| Carbon Monoxide | • Carbon monoxide is produced from a variety of sources such as vehicles, gasoline engines, camp stoves, lanterns, burning charcoal and wood, gas ranges, heating systems and poorly vented chimneys. Structural fires are another common source of CO exposure.  
• Normal Carbon Monoxide Levels (ages 3 – 74).  
  • Nonsmokers = 0.83 ± 0.67%.  
  • Smokers = 4.30 ± 2.55%.  
• Factors which may reduce the reliability of carbon monoxide readings:  
  • Poor peripheral circulation (hypovolemia, hypotension, hypothermia).  
  • Excessive sensor motion.  
  • Fingernail polish (may be removed with finger nail polish remover).  
  • Irregular heart rhythms (atrial fibrillation, SVT, etc.).  
  • Jaundice.  
• **Consider transport to hospital with hyperbaric chamber for potential hyper oxygen therapy. Consult with On-Line Medical Control for diversion approval.** |
| Cyanide       | • Any smoke inhalation victim with mental status changes should also be treated for Cyanide Poisoning if medication is available, or if known exposure to Cyanide. Any patient or firefighter that goes into cardiac arrest after exposure to smoke from a fire.  
• Present history: when last well, progression of present state, prior symptoms such as increase in respirations, convulsions, coma.  
• Check for bottles and read ingredient label. If patient is in an industrial setting, ask if they use Cyanide.  
• Principal manifestations of poisoning with these compounds are rapid respirations, blood pressure fall, convulsions and coma; may also cause lightheadedness, vomiting, flushing, headache, drowsiness, hypotension, rapid pulse and unconsciousness.  
• Check for odor of “BITTER ALMONDS”.  
• Alternative therapy includes Hydroxocobalamin (5 grams in 200 ml NS / D5W) |
| Hydrofluoric Acid | • Skin exposure - 2.5% Calcium Gluconate gel applied to affected area, may be reapplied every 10-15 minutes.  
• Inhalation exposure - 2.5% Calcium Gluconate may be administered by aerosol.  
• Eye exposure - 1% Calcium Gluconate continuous irrigation.  
• EMT or Advanced EMT should continue the therapy initiated by previous EMS providers in regards to dermal or inhalation therapy of Calcium Gluconate. |
| Nerve Agent Exposure / Organophosphate Poisoning | • Mild symptoms:  
• 1 Duodote  
• Atropine 1mg IVP every 15 min until heart rate reaches 180  
• Moderate: Unable to ambulate but still conscious  
• 1 Duodote  
• **Atropine 2mg IVP** every 15min until heart rate reaches 180  
• Severe: Unconscious / seizures  
• 3 Duodote  
• **Atropine 5mg IVP** every 15min until heart rate reaches 180

**Do not administer more than three (3) DuoDote Auto-Injectors or three (3) Mark 1 Kits** unless definitive medical care is available. The limit of 3 doses is specific to the pralidoxime component of the DuoDote and Mark 1 Kit. **If necessary, additional doses of atropine can be administered if the 3 doses of DuoDote or Mark 1 Kit injections do not produce an adequate response.**
**TAB 3 GUIDELINE 18**

**POISONING | OVERDOSE | OPIATE**

### HISTORY
- What type of ingestion
- When did ingestion occur
- How Much
- Reason for ingestion
- Actions of bystanders
- Previous psychiatric disorders
- Diseases / Medications: ie depressants
- Medical alert tags

### SIGNS / SYMPTOMS
- Increased salivation
- Soot or burns in mouth
- Irritation of the eyes
- Sweating and skin burns
- Decreased respiratory rate
- Lung findings (ie edema)
- Delayed capillary refill
- Tachycardia / Arrhythmias
- Seizures

### ENVIRONMENT
- Acetaminophen
- Anticholinergic
- Aspirin
- Cardiac medications
- Insecticides (organophosphates)
- Solvents, alcohols, cleaning agents
- Stimulants

---

**Universal Patient Care**

**Exposure control**
(PPE = Non-Porous Gloves / Eye Protection / N95 Mask / Gown)

**Ensure crew safety**
Avoid evidence tampering

**Respiratory Rate ≤ 12**

**Apply Pulse Ox**
**Administer Oxygen for Saturation < 94%**

**Airway Management**

**Check Blood Glucose**

Glucose ≤ 60

**Cardiac Monitor / 12-Lead ECG**

**Assess Rhythm**

**IV / IO Access**

**Altered Mental Status**
Presumed Opiate Overdose
Respiratory Rate ≤ 8

**Against Medical Advice (AMA) for transport of suspected opiate overdose**
Criteria met for refusal

**10% Dextrose**
100 ml (10 grams) IV / IO
q 3 – 5 minutes
- D10 not available then -
  50% Dextrose
  25 – 50 grams IV / IO

**Glucagon 1 mg IN / IM**

**Naloxone 0.5 – 4 mg IN**
(administer at 0.5 mg / dose every 1 – 2 minutes)

**Naloxone 0.5 – 4 mg IV / IO**
(administer at 0.5 mg / dose every 1 – 2 minutes)
May repeat to max 8 mg

**Contact Medical Control**

**Transport to appropriate facility**

**Decontaminate Ambulance and Equipment after Transport**
SPECIAL CONSIDERATIONS:

1. The main focus for treatment is to ensure proper respiratory and oxygen saturation status. The goal is “NOT TO WAKE” the patient up. Naloxone administration should be at no more than 0.5 mg aliquots every 1 – 2 minutes. While naloxone is being administered ensure that proper ventilation is being performed with bag-valve mask and oxygen.

2. All suspected patients with opiate overdose should be handled using non-porous type gloves (nitrile style, non-latex) and eye protection. Consider wearing N-95 mask and gowns for any patient that has visible powder on body, or if there is visible powder in patient care area.

3. Non-transport of opiate overdose, Against Medical Advice Guidelines
   a. When dealing with patients that are suspected opiate overdose it is in their best interest to receive an evaluation and monitoring from hospital personnel. Many opiate containing medications have the potential of causing somnolence and decreased respirations necessitating reversal medication.
   b. **Criteria:**
      i. Patient responded immediately to administration of opiate reversal agents (naloxone)
      ii. Age > 18 years of age
      iii. Patient must be alert, oriented to person, place, time and event
      iv. Patient must be able to refuse transport as per patient exhibiting decisional capacity to make appropriate decisions
      v. Must have been an accidental (non-suicidal) opiate overdose and **DID NOT** overdose on long acting opiates (methadone,oxycontin,buprenorphine,long acting morphine)
      vi. Patient is no longer exhibiting any signs of overdose with normal pupil size and vital signs with HR < 100, SBP > 90 mmHg, respiratory rate > 12
      vii. Patient **MUST** verbalize the understanding that they can die from the ingestion of opiate medication and that they are refusing transport to hospital for additional evaluation and monitoring by hospital personnel
   c. **Guideline for Release Against Medical Advice**
      i. If the criteria above are met, then the patient is a candidate for Release Against Medical Advice
      ii. The patient must be released to the care of a responsible individual who will remain with the patient as an observer for a reasonable time
iii. The patient should be given both verbal and written instructions for follow-up care prior to being released.

iv. If another episode occurs, request medical assistance immediately.

v. If the patient wishes to refuse transportation to a hospital and you have administered any medications, you MUST contact on-line MEDICAL CONTROL prior to leaving the patient or completing the Against Medical Advice / Release At Scene form.

vi. Document in the PCR the physician that you spoke with and that the patient has decisional capacity with the ability to refuse additional medical care.

4. Vehicle and Equipment Decontamination
   a. Any concern for opiate contamination within the vehicle or on the equipment should be cleaned using N95 mask with non-porous type gloves (nitrile style, non-latex) and eye protection.
   b. Spill Clean Up Instructions
      i. Wear appropriate PPE
      ii. Add one teaspoon full of powder OxiClean™ to 500 mL water
      iii. Shake gently until all powder is in solution
      iv. Completely cover spill with spray
      v. Within 15 minutes, scrub with a paper towel until dry (solution evaporates over time and this decreases the effectiveness of decontamination)
      vi. All PPE (except goggles) and paper towels must be disposed of in a biohazardous waste bin.
### PSYCHIATRIC PATIENT

#### HISTORY
- Situational crisis
- Psychiatric illness / medications
- Injury to self or threats to others
- Medic alert tag
- Substance abuse / overdose
- Diabetes

#### SIGNS / SYMPTOMS
- Anxiety, agitation, confusion
- Affect change, hallucinations
- Delusional thoughts, bizarre behavior
- Expression of suicidal / homicidal thoughts
- Poor concentration, easily distracted, psychosis
- Combative, violent

#### DIFFERENTIAL
- See Altered Mental Status differential
- Hypoxia
- Alcohol intoxication
- Medication effect / overdose
- Withdrawal syndromes
- Depression
- Bipolar (manic-depressive)
- Schizophrenia, anxiety disorders, etc.

---

#### Universal Patient Care

Remove patient from stressful environment

---

#### Verbal techniques
(reassurance, calm, establish rapport)

Consider Use of Restraints
(for patient / personnel safety)

Rapid take-down w/ minimum (4) EMS crew members
(If necessary)

---

#### Patient Agitated / Aggressive

---

#### Patient having anxiety attack

---

#### Patient Depressed / Suicidal / Homicidal

Verbal techniques (reassurance, calm, establish rapport)

Consider Use of Restraints (for patient / personnel safety)

---

#### Check Blood Glucose

Glucose ≤ 60

---

#### IV / IO Access

Fluid Bolus 250 – 1000 mL

Repeat RASS with goal of (0) to (-2)

---

#### Cardiac Monitor / 12-Lead EKG

Assess Rhythm

Monitor Respiratory status, consider EtCO₂

---

#### Transport to appropriate facility

---

#### Behavioral | Excited Delirium Guideline

Consider

- Midazolam 2 – 5 mg IM / IN
  (may repeat q 5 max 10 mg)
  - or- Alternative Benzodiazepine Equivalents
- Haldol 5 mg IM

- 10% Dextrose
  100 ml (10 grams) IV / IO q 3 – 5 minutes
  
- D10 not available then -
  50% Dextrose
  25 – 50 grams IV / IO

- Glucagon
  1 mg IN / IM
  (If no IV access)

- Perform RASS with goal of (0) to (-2)

- Ketamine
  4 mg / Kg IM (max 400 mg)
  - or- 2 mg / Kg IV (max 200 mg)
  If SBP > 180 mmHg then also give
  Midazolam 2 – 5 mg IM / IN / IV

- Haloperidol 5 mg IM
  (may repeat in 5 min)

- Diphenhydramine
  25 – 50 mg IM / IV / IN

- Midazolam 2 – 5 mg IM / IV / IN
  (may repeat q 5 max 10 mg)

---

#### LEGEND

- EMT-P
- Nurse
- MC Order

- Restraints
  - No transport in hobble or prone position.
  - Do not inhibit patient breathing, ventilations

---

NWO EMS ALS (LFML) – Tab 3 – Adult Medical Emergency Guidelines – Updated 2017_12_01

Page 40
SPECIAL CONSIDERATIONS:

1. Richmond Agitation-Sedation Scale
   a. Validated agitation-sedation scale from age 2 months and older
   b. Goal is for RASS between (0) to (-1)

<table>
<thead>
<tr>
<th>Score</th>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 4</td>
<td>Combative</td>
<td>Overtly combative or violent; immediate danger to staff</td>
</tr>
<tr>
<td>+ 3</td>
<td>Very agitated</td>
<td>Pulls on or removes tube(s) or catheter(s) or has aggressive behavior toward staff</td>
</tr>
<tr>
<td>+ 2</td>
<td>Agitated</td>
<td>Frequent nonpurposeful movement or patient–ventilator dyssynchrony</td>
</tr>
<tr>
<td>+ 1</td>
<td>Restless</td>
<td>Anxious or apprehensive but movements not aggressive or vigorous</td>
</tr>
<tr>
<td>0</td>
<td>Alert and Calm</td>
<td>Spontaneously pays attention to caregiver</td>
</tr>
<tr>
<td>- 1</td>
<td>Drowsy</td>
<td>Not fully alert, but has sustained (more than 10 seconds) awakening, with eye contact, to voice</td>
</tr>
<tr>
<td>- 2</td>
<td>Light Sedation</td>
<td>Briefly (less than 10 seconds) awakens with eye contact to voice</td>
</tr>
<tr>
<td>- 3</td>
<td>Moderate Sedation</td>
<td>Any movement (but no eye contact) to voice</td>
</tr>
<tr>
<td>- 4</td>
<td>Deep Sedation</td>
<td>No response to voice, but any movement to physical stimulation</td>
</tr>
<tr>
<td>- 5</td>
<td>Unarousable</td>
<td>No response to voice or physical stimulation</td>
</tr>
</tbody>
</table>

2. Mental Health Holds (Pink Slip)
   a. If a patient has an isolated mental health complaint (e.g. suicidality), and does not have a medical complaint or need specific medical intervention, then that patient may be appropriately transported by law enforcement according to their guidelines.
   b. If a patient has a psychiatric complaint with associated illness or injury (e.g. overdose, altered mental status, chest pain, etc), then the patient should be transported by EMS.
   c. If a patient with a psychiatric complaint is intoxicated or otherwise lacks decision making capacity for any other reason, than no Mental Health Hold is needed and such a patient should be brought to an emergency department for evaluation and stabilization with implied consent.
   d. If EMS is called to evaluate a patient with an isolated psychiatric complaint who is not intoxicated, or otherwise lacking decision making capacity, and who refuses treatment or transport, and law enforcement are not willing to transport patient, then EMS should contact MEDICAL CONTROL.
i. If there is a reasonable concern for suicidal or homicidal ideation, or grave disability from another mental health condition, then MEDICAL CONTROL may give a verbal order placing the patient on a Mental Health Hold and direct EMS personnel to transport the patient against his or her will in accordance with State of Ohio statutes.

ii. The physician’s name, and time and date of the Mental Health Hold must be recorded on the PCR. Effort should be made to obtain consent for transport from the patient, and to preserve the patient’s dignity throughout the process.

e. A patient being transported on a Mental Health Hold may be transported to any appropriate receiving emergency department
TAB 3 GUIDELINE 20
RESPIRATORY DISTRESS

**HISTORY**
- Asthma
- COPD - chronic bronchitis, emphysema, congestive heart failure
- Home treatment (oxygen, nebulizer)
- Medications (theophylline, steroids, inhalers)
- Toxic exposure, smoke inhalation

**SIGNS / SYMPTOMS**
- Shortness of breath
- Pursed lip breathing
- Decreased ability to speak
- Increased respiratory rate / effort
- Wheezing, rhonchi, rales, stridor
- Use of accessory muscles
- Fever, cough
- Tachycardia

**DIFFERENTIAL**
- Asthma / COPD (emphysema, bronchitis)
- Anaphylaxis
- Aspiration
- Pneumonia / Pleural effusion
- Pulmonary Embolus
- Pneumothorax
- Cardiac (MI or CHF)
- Pericardial tamponade
- Hyperventilation
- Inhaled toxin (carbon monoxide, etc)

---

**Universal Patient Care**

Airway Management → YES → Respiratory Insufficiency → NO → Position of patient comfort

CHF / Pulmonary Edema Guideline

Returns to Baseline

Release at Scene (RAS)
- Refusal of transport
- Respiratory rate 12 – 20
- No audible Wheezing

Contact Medical Control

Complete Treat and Release

---

**LEGEND**
- EMT-P
- Nurse
- MC Order

---

**IV / IO Access**
Fluid Bolus 250 – 1000 mL

**Albuterol**
2.5 – 5 mg nebulized (May repeat x 2)

**Atrovent**
0.5 mg nebulized with 1st or 2nd albuterol treatment

**CPAP**
Initiate Peep at 5 cm H₂O

**Consider continued Albuterol nebulized at 15 mg / hr**

**Transport to appropriate facility**

**Contact Medical Control**

**Consider**
- Solu Medrol 125 mg IV
- Magnesium Sulfate 2 Gm IV
- Epinephrine 0.5 mg nebulized -or-
  - Racemic Epi 0.5 ml with 3 ml Normal Saline nebulized

**Epinephrine (1:1,000)**
0.3 mg IM

**Epinephrine drip**
2 – 10 mcg / min

**Severe symptoms**
- Stridor at rest
- Severe retractions
- Cyanosis
- Altered LOC

**Solu Medrol 125 mg IV / IO**

**Epinephrine (1:10,000)**
0.3 mg IV

---

**Pulse Oximetry**

Cardiac Monitor
Assess Rhythm

---

**Return to Baseline**

- No audible Wheezing

**Contact Medical Control**

**Complete Treat and Release**
SPECIAL CONSIDERATIONS:

1. Atrovent (Ipratropium bromide)
   a. **Give with either the 1st or 2nd albuterol treatment. The combination treatment of albuterol and atrovent should only be administered once**

2. Epinephrine
   a. Drip
      i. Mix 1 mg of Epinephrine (1:10,000) in 250 mL of Normal Saline / D5W (gives a concentration of 4 mcg / ml); titrate from 2 - 10 mcg / min
   b. Nebulized
      i. 0.5 mg / 5 ml of 1:10,000; or
      ii. 0.5 mg / 0.5 ml of 1:1,000 diluted with 2.5 – 4.5 ml of normal saline
   c. Push Dose / Syringe Use
      i. Mix 0.1 mg (1 ml) of Epinephrine (1:10,000) in 9 mL syringe of Normal Saline which gives a concentration of 10 mcg / ml
   d. Use with caution in patients greater than 40 years or in patients with known cardiovascular disease

3. Patients with COPD, the goal for SpO₂ and use of oxygen should be 88 – 94%
TAB 3 GUIDELINE 21
SEIZURE

HISTORY
- Reported / witnessed seizure activity
- Previous seizure history
- Medical alert tag information
- Seizure medications
- History of trauma
- History of diabetes
- History of pregnancy

SIGNS / SYMPTOMS
- Decreased mental status
- Sleepiness
- Incontinence
- Observed seizure activity
- Evidence of trauma
- Unconsciousness

DIFFERENTIAL
- Stroke / CNS (Head) trauma
- Tumor
- Metabolic, Hepatic, or Renal failure
- Hypoxia / Infection / fever
- Electrolyte abnormality (Na, Ca, Mg)
- Drugs, medications, non-compliance
- Alcohol withdrawal
- Eclampsia
- Hyperthermia / Hypoglycemia

LEGEND
- Nurse
- EMT-P
- MC Order

10% Dextrose
100 ml (10 grams) IV / IO
q 3 – 5 minutes
- D10 not available then -
50% Dextrose
25 – 50 grams IV / IO

Glucagon
1 mg IN / IM
(If no IV access)

Universal Patient Care

Consider Spinal Immobilization

Airway Management

Check Blood Glucose

IV / IO Access

Febrile

Tympanic temperature measurement

YES

NO

Cooling Measures

Cardiac Monitor / 12-Lead EKG

Assess Rhythm

EKG Interpretation

Active Seizure

Focused History / Physical Exam

Evidence of shock or trauma ?

Consider

Fluid Bolus 20 mL / Kg IV / IO

Appropriate Guideline

Midazolam
2 – 10 mg IV / IO / IN / IM
(Repeat PRN)

Diazepam
2 – 10 mg / kg IV / IO / IM
(Repeat PRN)

Lorazepam
1 – 2 mg IV / IO / IM
(Repeat PRN)

Magnesium Sulfate
2 – 4 grams IV / IO
(Suspected Eclampsia)

Uncontrolled with Benzodiazepine

Keppra 20 mg / kg IV / IO
(max 1 gram)

Contact Medical Control

Transport to appropriate facility

NO

YES

Glucose ≤ 60
SPECIAL CONSIDERATIONS:

1. If an actively seizing patient is encountered, move hazardous materials away from the patient. Protect the patient’s head from injury. Remember to always immediately check for pulses after seizure activity stops.
   
a. Trauma to the tongue during seizure activity is unlikely to cause serious problems. Attempts to force anything into the patient’s airway may cause complete obstruction.

2. Seizure Types
   
a. **Status epilepticus** is defined as two or more successive seizures without a period of consciousness or recovery. This is a true emergency requiring rapid airway control, treatment, and transport.
   
b. **Grand Mal seizures (generalized)** are associated with loss of consciousness, incontinence, and tongue trauma.
   
c. **Focal seizures (petit mal)** effect only a part of the body and are not usually associated with a loss of consciousness.
   
d. **Jacksonian seizures** are seizures that start as a focal seizure and become generalized.

3. Assess possibility of occult trauma and substance abuse. If evidence or suspicion of trauma, full c-spine immobilization is required.

4. Be prepared for airway problems with continued seizures. The **Airway Guideline** should be considered for all patients unable to protect their own airway (i.e., semi-conscious, unconscious).

5. **The following guidelines must be followed for Versed administration for seizure control**
   
a. Frequent assessment of airway for compromise requiring assistance.
   
b. Continuous pulse oximetry monitoring.
   
c. If advanced airway placed, continuous end-tidal CO2 monitoring (confirmed capnographic waveform).
   
d. Frequent assessment of blood pressure. Maintain SBP > 90 mmHg.
**TAB 3 GUIDELINE 22**

**SEPSIS**

### HISTORY
- Fever
- Infection
- Medications
- Pregnancy
- Fluid loss - vomiting, diarrhea
- History of poor oral intake

### SIGNS / SYMPTOMS
- Fever
- Restlessness, confusion
- Weakness, dizziness
- Weak, rapid pulse
- Pale, cool, clammy skin
- Delayed capillary refill
- Hypotension

### DIFFERENTIAL
- Shock
- Hypovolemia
- Cardiogenic
- Septic
- Neurogenic
- Anaphylactic
- Bacterial, viral or fungal infection

---

**Transport to appropriate facility**
- Contact Medical Control
- Consider Alternative Guidelines
- Observe and Reassess

**Universal Patient Care**

**NEW Score Criteria (Moderate / High)**
- Respiratory rate
- Oxygen saturations
- Temperature
- Systolic blood pressure
- Heart rate
- Level of consciousness

**Consider Airway Management**

**Check Blood Glucose**

**IV / IO Access**

**MAP > 65 mmHg**

**NO**

**HR > 90 BPM**

**Fluid maintenance**

**YES**

**Lactated ringers**

**LR 30 ml / kg PRN**
- If no evidence of pulmonary edema
- Norepinephrine 0.5 – 30 mcg / min IV / IO

**Remains hypotensive (SBP < 90)**

**NO**

**Epinephrine push dose**
- 5 – 10 mcg / min IV

**Epinephrine drip**
- 0.5 – 20 mcg / min IV

**Solu Medrol**
- 125 mg IV / IO

**Epinephrine drip**
- 20 – 40 mcg / min IV

**YES**

**Contact Medical Control**

**Transport to appropriate facility**

---

**LEGEND**
- EMT-P
- Nurse
- MC Order

**NEW Scores**
- Aggregated 1 – 4: Low
- Aggregated 5 – 6: Moderate
- Aggregated 7 or more: High

---

**Contact Medical Control**
- Transport to appropriate facility
- Delay transport until antibiotics have been initiated, or initiate antibiotics enroute

**Nurse**
- Contact Medical Control

**MC Order**
- Transport to appropriate facility
- Fluid maintenance
SPECIAL CONSIDERATIONS:

1. Sepsis is a vasodilatory shock. Patients have relative volume depletion. Aggressive fluid resuscitation is the mainstay of treatment.

2. Acute sepsis management should be initiated as soon as possible and completed within 6 hours. If patient is > 6 hours from presentation contact medical control for direction.

3. Patients with sepsis require aggressive therapy including IV fluids (lactated ringer is the fluid of choice), antibiotic administration and if necessary vasopressors and airway management

4. Patient should receive at minimum 2 liters fluid bolus before initiation of vasopressors.

5. Further evaluation of the degree of the septic patient is based upon the National Early Warning Score (NEWS)
   a. Maximum NEWS score of (18)
   b. **RED score refers to an extreme variation in a single physiological parameter** (ie a score of 3 on the NEWS chart, coloured RED to aid identification and represents an extreme variation in a single physiological parameter)

<table>
<thead>
<tr>
<th>PHYSIOLOGICAL PARAMETERS</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiration Rate</td>
<td>≤8</td>
<td>9 - 11</td>
<td>12 - 20</td>
<td>21 - 24</td>
<td>≥25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen Saturations</td>
<td>≤91</td>
<td>92 - 93</td>
<td>94 - 95</td>
<td>≥96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Supplemental Oxygen</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>≤35.0</td>
<td>35.1 - 36.0</td>
<td>36.1 - 38.0</td>
<td>38.1 - 39.0</td>
<td>≥39.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic BP</td>
<td>≤90</td>
<td>91 - 100</td>
<td>101 - 110</td>
<td>111 - 219</td>
<td>≥220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Rate</td>
<td>≤40</td>
<td>41 - 50</td>
<td>51 - 90</td>
<td>91 - 110</td>
<td>111 - 130</td>
<td>≥131</td>
<td></td>
</tr>
<tr>
<td>Level of Consciousness</td>
<td></td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td>V, P, or U</td>
</tr>
</tbody>
</table>

6. **Maintenance fluid is calculated using the 4-2-1 rule**
   a. 1st 10 kg of body weight x 4 ml
   b. 2nd 10 kg of body weight x 2 ml
   c. Remaining kg of body weight x 1 ml
   d. Example for 80 kg person
i. 10 kg x 4 ml = 40 ml
ii. 10 kg x 2 ml = 20 ml
iii. 60 kg x 1 ml = 60 ml
iv. Total maintenance fluid = 120 ml

7. Epinephrine
   e. Drip
      i. Mix 1 mg epinephrine (1:10,000 or 1:1000 concentration) in 250 ml bag normal saline or D5W to give 4:1 concentration, mix in 500 ml bag normal saline or D5W to give 2:1 concentration. Titrate 2 – 10 mcg / min
   f. Push dose
      i. Mix 0.1 mg (1 ml) epinephrine (1:10,000) in 9 ml NS to give 10:1 concentration. Give 0.5 – 1 ml dose pushes every 1 – 2 minutes for blood pressure control

8. Resources
TAB 3 GUIDELINE 23
STROKE – INTERFACILITY TRANSFER

**HISTORY**
- Previous CVA, TIA's
- Previous cardiac / vascular surgery
- Cardiac history, Atrial fibrillation, CAD, seizure, diabetes, HTN
- Medications (blood thinners)
- History of trauma
- Occult blood loss (GI, ectopic)
- Females: LMP, vaginal bleeding
- Fluid loss: nausea, vomiting, diarrhea
- Medications

**SIGNS / SYMPTOMS**
- Altered mental status
- Weakness / Paralysis
- Blindness or other sensory loss
- Aphasia / Dysarthria
- Syncope / Loss of consciousness with recovery
- Vertigo / Dizziness
- Vomiting
- Headache / Seizures
- Respiratory pattern change
- Hypertension / hypotension
- Palpitations, slow or rapid pulse

**DIFFERENTIAL**
- See Altered Mental Status
- TIA (Transient Ischemic Attack)
- Seizure
- Hypoglycemia
- Stroke
- Thrombotic, Embolic (85%)
- Hemorrhagic (15%)
- Tumor
- Trauma
- Orthostatic hypotension
- Cardiac syncope
- Hypoglycemia

![Diagram of the guideline flowchart]

- **Universal Patient Care**
  - Received Thrombolytics
    - NO
      - Cincinnati Prehospital Stroke Screen
        - tPA Candidate
          - YES
            - Treat for SBP > 185 mmHg – or – DBP > 110 mm Hg
              - Hypertension Guideline
                - or – Nicardipine 2.5 – 15 mg IV / IO
                - Titrated for 25% reduction in MAP
                - or – SBP 160 – 185 mmHg
              - Hemorrhagic
                - Titrated SBP 140 – 160 mm Hg
                - NonTraumatic Subarachnoid
                  - Titrated SBP 130 – 150 mm Hg
                - Tumor
                - Trauma
                - Orthostatic hypotension
                - Cardiac syncope
                - Hypoglycemia
            - NO
              - Contact Medical Control
                - Transport to appropriate facility
  - HOLD any additional heparin unless notification from neurologist or receiving medical control

- **Airway Management**
  - Keep head elevated 30 Degrees
  - NPO
  - Patient’s that received tPA maintain SBP < 180 and DBP < 105

- **Check Blood Glucose**
  - SBP < 110 mmHg
  - Fluid Bolus 250 – 1000 mL

- **Cardiac Monitor / 12-Lead ECG**

- **LEGEND**
  - EMT-P
  - Nurse
  - MC Order

- **10% Dextrose**
  - 100 ml (10 grams) IV / IO
  - q 3 – 5 minutes
  - D10 not available then -
  - 50% Dextrose
    - 25 – 50 grams IV / IO

- **Glucagon**
  - 1 mg IN / IM
  - (If no IV access)
SPECIAL CONSIDERATIONS:

1. If tPA was ordered, ensure that the bolus has been given and the medication is infusing before transporting the patient

2. Patients that have received tPA prior to transport or while in transport:
   a. Should be handled with care to prevent any bleeding.
   b. Neurologic examination should be performed every 15 minutes.
   c. SHOULD NOT receive any additional anticoagulants given during transport (this would include heparin / aspirin / Plavix, etc) unless directed by receiving neurologist or medical control.
### TAB 3 GUIDELINE 24

#### STROKE – SCENE

<table>
<thead>
<tr>
<th>HISTORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal Patient Care</td>
</tr>
<tr>
<td>Patient with weakness, numbness, slurring of speech, difficulty walking</td>
</tr>
<tr>
<td>Consider Spinal Immobilization</td>
</tr>
<tr>
<td>Airway Management</td>
</tr>
<tr>
<td>Contact Medical Control</td>
</tr>
<tr>
<td>Transport to appropriate facility</td>
</tr>
<tr>
<td>Onset Symptoms &gt; 12 hours</td>
</tr>
<tr>
<td>- Treat SBP &gt; 200 mmHg or DBP &gt; 110 mmHg</td>
</tr>
<tr>
<td>Consider other guidelines:</td>
</tr>
<tr>
<td>- Altered Mental Status</td>
</tr>
<tr>
<td>- Dysrhythmia</td>
</tr>
<tr>
<td>- Hypertension</td>
</tr>
<tr>
<td>- Hypotension</td>
</tr>
<tr>
<td>- Overdose</td>
</tr>
<tr>
<td>- Seizure / Post-Ictyl Paralysis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIGNS / SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV / IO Access</td>
</tr>
<tr>
<td>Fluid Bolus 250 – 1000 mL</td>
</tr>
<tr>
<td>For SBP &lt; 110 mmHg</td>
</tr>
<tr>
<td>Cardiac Monitor / 12-Lead ECG</td>
</tr>
<tr>
<td>Assess Rhythm</td>
</tr>
<tr>
<td>EKG Interpretation</td>
</tr>
<tr>
<td>Check Blood Glucose</td>
</tr>
<tr>
<td>Glucose &lt; 60</td>
</tr>
<tr>
<td>Cincinnati Prehospital Stroke Screen</td>
</tr>
<tr>
<td>Face . Arms . Speech . Time</td>
</tr>
<tr>
<td>- Patient is DNR / comfort Care</td>
</tr>
<tr>
<td>- Symptoms started &gt; 12 hours ago</td>
</tr>
<tr>
<td>- Abnormal blood sugar or Drug Overdose</td>
</tr>
<tr>
<td>NO</td>
</tr>
<tr>
<td>- RACE Score ≥ 5 -or-</td>
</tr>
<tr>
<td>- Patient is obtunded, RACE score cannot be completed</td>
</tr>
</tbody>
</table>

#### DIFFERENTIAL

| - See Altered Mental Status |
| - TIA (Transient Ischemic Attack) |
| - Seizure |
| - Hypoglycemia |
| - Stroke |
| - Thrombotic, Embolic (85%) |
| - Hemorrhagic (15%) |
| - Tumor |
| - Trauma |
| - Orthostatic hypotension |
| - Cardiac syncope |
| - Hypoglycemia |

### LEGEND

- EMT-P
- Nurse
- MC Order

- 10% Dextrose
  100 ml (10 grams) IV / IO q 3 – 5 minutes
  - D10 not available then -
  - 50% Dextrose
  25 – 50 grams IV / IO

- Glucagon
  1 mg IN / IM (If no IV access)

- Hypertension Guideline
  - Keep head elevated 30 Degrees
  - NPO
  - Treat for SBP > 185 mmHg – or – DBP > 110 mm Hg

- If positive and symptoms < 12 hours
  Limit scene time to 10 minutes

- Hyperglycemia

- Consider other guidelines:
  - Altered Mental Status
  - Dysrhythmia
  - Hypertension
  - Hypotension
  - Overdose
  - Seizure / Post-Ictyl Paralysis

- If positive and symptoms < 12 hours
  Limit scene time to 10 minutes

- Keep head elevated 30 Degrees
- NPO
- Treat for SBP > 185 mmHg – or – DBP > 110 mm Hg

- Contact Medical Control
- Transport to Stroke Intervention Center
SPECIAL CONSIDERATIONS:

1. The most common causes of stroke are:
   a. Cerebral thrombosis (a blood clot obstructing the artery).
   b. Cerebral embolus (a mass or air bubble obstructing the artery).
   c. Cerebral hemorrhage (ruptured artery / ruptured aneurysm).

2. To facilitate accuracy in diagnosing stroke and to expedite transport, an easy-to-use neurological examination tool is recommended. Utilize the Cincinnati Prehospital Stroke Screen (CPSS) for evaluation of acute, non-comatose, non-traumatic neurovascular complaints. The CPSS evaluates using F.A.S.T.T. criteria (Facial palsy, Arm weakness, Speech abnormalities, Time of onset/Transport). **If any one of the three components of the CPSS is abnormal, the probability of stroke is 72%.**
   a. Onset of stroke symptoms is defined as the last witnessed time the patient was symptom-free (i.e., awakening with stroke symptoms would be defined as an onset time of the previous evening when the patient was symptom-free).

3. Not all neurologic deficits are caused by a stroke. Look for other treatable medical conditions such as:
   - Hypoglycemia
   - Hypothermia
   - Hypotension
   - Hypoxia
   - Hyperthermia

4. Potential concerns:
   a. A patient with a stroke can present with aphasia and still is completely alert. Talk to the patient, explain everything that you are doing and avoid comments that you would not want to hear yourself. This patient needs a tremendous amount of reassurance.
   b. Be alert for airway problems (difficulty swallowing, vomiting).
   c. Spinal immobilization should be provided if the patient sustained a fall or other trauma.
   d. Bradycardia may be present in a suspected stroke patient due to increased ICP.

5. Definitions
   a. Aphasia – inability to speak
   b. Agnosia – inability to process sensory information. Often loss of ability to recognize objects, persons, sounds, shapes or smells.
   c. Asomatognosia – deficit in body awareness. Can take the form of forgetting, ignoring, denying, disowning or misperceiving their own body (entirely or partially).
   d. Anosognosia – inability to gain feedback about one’s own condition.
### Cincinnati Prehospital Stroke Scale (CPSS)

<table>
<thead>
<tr>
<th>Sign/Symptom</th>
<th>How Tested</th>
<th>Normal</th>
<th>Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>✤ Facial Droop</td>
<td>Have the patient show their teeth or smile</td>
<td>Both sides of the face move equally</td>
<td>One side of the face does not move as well as the other</td>
</tr>
<tr>
<td>✤ Arm Drift</td>
<td>The patient closes their eyes and extends both arms straight out for 10 seconds</td>
<td>Both arms move the same, or both do not move at all</td>
<td>One arm either does not move, or one arm drifts downward compared to the other</td>
</tr>
<tr>
<td>✤ Speech</td>
<td>The patient repeats “The sky is blue in Cincinnati”</td>
<td>The patient says correct words with no slurring of words</td>
<td>The patient slurs words, says the wrong words, or is unable to speak</td>
</tr>
<tr>
<td>✤ Time of onset</td>
<td>Observed by a valid historian (symptoms &lt; 3 hours – Limit scene time to 15 minutes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✤ Transport</td>
<td>The patient is considered a possible CVA patient if any of the tested signs or symptoms is abnormal.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Rapid Arterial Occlusion Evaluation Scale (RACE SCORE)

<table>
<thead>
<tr>
<th>Facial palsy</th>
<th>Ask the patient to show teeth</th>
<th>Absent</th>
<th>Mild</th>
<th>Moderate to severe</th>
<th>Symmetrical movement</th>
<th>Slightly asymmetrical</th>
<th>Completely asymmetrical</th>
<th>Score Total (0–9)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm motor function</td>
<td>Extending the arm of the patient 90 degrees (if sitting) or 45 degrees (if supine)</td>
<td>Normal to mild</td>
<td>Moderate</td>
<td>Severe</td>
<td>Limb upheld more than 10 seconds</td>
<td>Limb upheld less than 10 seconds</td>
<td>Patient do not raise the arm against gravity</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Leg motor function</td>
<td>Extending the leg of the patient 30 degrees (in supine)</td>
<td>Normal to mild</td>
<td>Moderate</td>
<td>Severe</td>
<td>Limb upheld more than 5 seconds</td>
<td>Limb upheld less than 5 seconds</td>
<td>Patient do not raise the leg against gravity</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Head and gaze deviation</td>
<td>Observe eyes and cephalic deviation to one side</td>
<td>Absent</td>
<td></td>
<td></td>
<td>Eye movements to both sides were possible and no cephalic deviation was observed</td>
<td>Eyes and cephalic deviation to one side was observed</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>If right hemiparesis (Aphasia)</td>
<td>Ask the patient two verbal orders</td>
<td>Normal</td>
<td>Moderate</td>
<td>Severe</td>
<td>Performs both tasks correctly</td>
<td>Performs one task correctly</td>
<td>Performs neither task</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>• Close your eyes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• Make a fist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>If left hemiparesis (Agnosia)</td>
<td>Ask:</td>
<td>Normal</td>
<td>Moderate</td>
<td>Severe</td>
<td>No asomatognosia or anosognosia</td>
<td>Asomatognosia or anosognosia</td>
<td>Both of them present</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Asomatognosia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Whose arm is this? (while showing him/her the paretic arm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Anosognosia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>How well can you move this arm?</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TAB 3 GUIDELINE 25
SUSPECTED ABUSE | NEGLECT

**HISTORY**
- Events leading up to call
- Has child gone to the bathroom, showered
- History of trauma

**SIGNS / SYMPTOMS**
- Bruising to extremities
- Vaginal injury
- Withdrawal from caregiver / EMS provider

**DIFFERENTIAL**
- Sexual abuse
- Neglect
- Traumatic injuries

---

**Universal Patient Care**
Ensure scene safety and offender is not near the victim

**Consider Spinal Immobilization**

**Airway Management**

**Provide appropriate emergency medical treatment for all injuries found**
Be calm and assuring with sensitivity toward the patient
DO NOT make unnecessary physical contact with the patient

**Concern for Physical Abuse**
- Make Patient NPO
- Assess for psychological characteristics of abuse
- Assess for physical abuse
- Assess for signs of neglect

**Concern for Sexual Abuse**
- Make Patient NPO
- Discourage patient going to bathroom
- Don’t allow patient to change clothes or wash

**Document careful physical exam and any comments made by victim, family, bystanders**

**Contact Medical Control**
Transport to appropriate facility, severely injured patients should be transported to trauma center
Report suspected case of elder abuse, neglect or exploitation to adult protective services (855-644-6277)

**To Be Transported to Trauma Center**
- Stabbing
- Choking
- Electrocution
- Burn

---

**LEGEND**
- EMT-P
- Nurse
- MC Order
SPECIAL CONSIDERATIONS:

1. Reporting concern of abuse, neglect or exploitation
   a. Per Ohio Revised Codes (ORC) 2151.421 and 5101.61 EMS and Fire personnel are **REQUIRED** to report abuse, neglect or exploitation of adult (elderly) or child (under the age of 18)
   b. Report suspected child abuse, neglect or exploitation to Ohio’s Public Children Service Agencies for your respective county or free hotline at 855-642-4453
   c. Report suspected elderly abuse, neglect or exploitation to Ohio’s Adult Protective Services for your respective county or free hotline at 855-644-6277

2. If possible, have a witness the same gender as the victim present at all times

3. Wrap a plastic sheet around the victim if possible

4. **DO NOT** inspect genitals unless evidence of uncontrolled hemorrhage, trauma, or severe pain is present

5. **DO NOT** allow patient to shower or douche

6. Collect patient’s clothing when possible
   a. Place clothing in plastic sheet or separate plastic/paper bags with ID labels and found location
   b. Leave all sheets placed in plastic/paper bag with patient at facility
   c. Notify all staff of clothing samples
### TAB 3 GUIDELINE 26
#### SYNCOPE

<table>
<thead>
<tr>
<th>HISTORY</th>
<th>SIGNS / SYMPTOMS</th>
<th>DIFFERENTIAL</th>
</tr>
</thead>
</table>
| • Previous CVA, TIA's  
• Previous cardiac / vascular surgery  
• Cardiac history, Atrial fibrillation, CAD, seizure, diabetes, HTN  
• Medications (blood thinners)  
• History of trauma  
• Occult blood loss (GI, ectopic)  
• Females: LMP, vaginal bleeding  
• Fluid loss: nausea, vomiting, diarrhea  
• Medications | • Altered mental status  
• Weakness / Paralysis  
• Blindness or other sensory loss  
• Aphasia / Dysarthria  
• Syncope / Loss of consciousness with recovery  
• Vertigo / Dizziness  
• Vomiting  
• Headache  
• Seizures  
• Respiratory pattern change  
• Hypertension / hypotension  
• Palpitations, slow or rapid pulse | • See Altered Mental Status  
• TIA (Transient Ischemic Attack)  
• Seizure  
• Hypoglycemia  
• Stroke  
• Thrombotic, Embolic (85%)  
• Hemorrhagic (15%)  
• Tumor  
• Trauma  
• Orthostatic hypotension  
• Cardiac syncope  
• Hypoglycemia |

#### Universal Patient Care

**YES**

Patient with weakness, numbness, slurring of speech, difficulty walking

**NO**

Consider Spinal Immobilization

![Diagram showing decision flow]

**Check Blood Glucose**

Glucose ≤ 60

**IV / IO Access**

Fluid Bolus 250 – 1000 mL

**Cardiac Monitor / 12-Lead ECG**

Assess Rhythm

EKG Interpretation

**Contact Medical Control**

Transport to appropriate facility

### LEGEND

- EMT-P
- Nurse
- MC Order

**10% Dextrose**

100 ml (10 grams) IV / IO  
q 3 – 5 minutes  
- D10 not available then -  
50% Dextrose  
25 – 50 grams IV / IO

**Glucagon**

1 mg IN / IM  
(If no IV access)
SPECIAL CONSIDERATIONS:

1. Syncope is defined as a transient state of unconsciousness from which the patient has recovered. If patients present with altered mentation, treat per the Altered Mental Status Guideline.

2. Most syncope is vasovagal in nature and characterized by dizziness progressing to fainting/unconsciousness which may last for several minutes. For many patients, recumbent positioning may be sufficient to restore vital signs and level of consciousness to within normal values. Syncope which occurs without warning is potentially serious and often caused by cardiac arrhythmia.

3. Assess for signs and symptoms of trauma if associated or questionable fall with syncope.

4. **Patients over the age of 40 with syncope even though apparently normal, should be transported.**
   
a. In middle aged or elderly patients, syncope can be due to a number of potentially serious conditions. The most important things to recognize are:
   
i. Arrhythmias.
   
ii. Occult GI bleeding.
   
iii. Seizures.
   
   
v. Cerebral hemorrhage.
### TAB 3 GUIDELINE 27
### VOMITING AND DIARRHEA

#### HISTORY
- Age
- Time of last meal
- Last bowel movement/emasectomy
- Improvement or worsening with food or activity
- Duration of problem
- Other sick contacts
- Past medical history
- Medications
- Menstrual history (pregnancy)
- Travel history
- Bloody emesis / diarrhea

#### SIGNS / SYMPTOMS
- Pain
- Character of pain
- Distention
- Diarrhea / Constipation
- Anorexia
- Radiation
- Fever, headache, blurred vision, weakness, malaise, cough, headache, dysuria, mental status changes, rash

#### DIFFERENTIAL
- CNS / Psychological
- Myocardial infarction
- Drugs (NSAID's, antibiotics, narcotics, chemotherapy)
- GI or renal disorders
- Diabetic ketoacidosis
- Gynecologic disease
- Infections (pneumonia, influenza)
- Electrolyte abnormalities
- Food or toxin induced
- Medication or substance abuse
- Pregnancy

#### Universal Patient Care

- **10% Dextrose**
  - 100 ml (10 grams) IV / IO
  - q 3 – 5 minutes
  - If D10 not available then -
  - 50% Dextrose
  - 25 – 50 grams IV / IO

- **Glucagon**
  - 1 mg IN / IM
  - (If no IV access)

#### Check Blood Glucose

- Glucose < 60
- **Check Blood Glucose**
- Glucose > 250
- **Fluid Bolus**
  - 250 – 1000 mL

#### Vomiting / Severe Nausea

- **YES**
  - **Isopropyl Alcohol**
    - 1 packet inhaled q 10 minutes
  - **Zofran**
    - 4 – 8 mg SL / IV / IO / IN / IM
  - **Phenergan**
    - 12.5 – 25 mg IM / IV

- **NO**
  - **Monitor and Reassess through transport**
  - **Contact Medical Control**
  - **Transport to appropriate facility**
SPECIAL CONSIDERATIONS:

1. Vomiting and diarrhea may be symptoms of more serious problems, but all represent some degree of hypovolemia. The most serious causes are GI bleed or other intra-abdominal catastrophe. A rare cardiac patient may also present with vomiting or diarrhea as the predominate symptom so 12 Lead EKG should be done if cardiac risk factors are present.

2. Check at the house for evidence of overdose; patient who doesn’t call the squad for medication ingestions may call later when GI symptoms become severe.

3. Blood in the GI tract is an irritant: it causes vomiting and diarrhea. Only if upper tract bleeding is extremely brisk will the blood reach the rectum undigested.

4. GI bleeders may be very sick and hypovolemic without showing an obvious source of their problem. A rapid transport guideline with IV fluid resuscitation is necessary for potential improved patient outcome.
TAB 3 GUIDELINE 28
ADULT PAIN CONTROL GUIDELINE

**HISTORY**
- Age
- Location
- Duration of problem
- Other sick contacts
- Past medical history
- Medications
- Drug allergies

**SIGNS / SYMPTOMS**
- Severity (Pain scale)
- Character of pain
- Radiation
- Relation to movement
- Pain increased with palpation of area

**DIFFERENTIAL**
- Musculoskeletal
- Visceral (abdominal)
- Cardiac
- Pleural / Respiratory
- Neurogenic
- Renal (colic)

---

**Universal Patient Care**

**Patient care according to Guideline based on Specific Complaint**

- Pain Severity ≥ 6 (FACES Scale)
- Indication for IV / IM / IN Medication

YES

- Pulse Oximetry
- IV / IO Access

**Fentanyl 25 – 100 mcg**
- IV / IM / IN q 15 min prn
- (Maximum dose age < 65 (300) mcg or > 65 (100) mcg )

**Morphine 2 – 4 mg IV / IM**
- q 15 min prn (Max 10 mg)

**Dilaudid 0.5 – 1 mg IV / IM**
- q 15 (Maximum dose age < 65 (2) mg or > 65 (1) mg )

**Ketamine 10 – 20 mg**
- IV / IM / IN

**Muscle Spasms Consider**

- **Valium 2 – 5 mg IV**
- or
- **Valium 5 – 10 mg IM / IN**
- or
- **Alternative Benzodiazepine equivalent**

**Itching**

YES

**Diphenhydramine 25 – 50 mg PO / IM / IV / IN**

NO

**Nausea / Vomiting**

YES

**Zofran 4 – 8 mg SL / IV / IN / IM**

NO

**Phenergan 12.5 – 25 mg IM / IV**
SPECIAL CONSIDERATIONS:

1. This guideline will be utilized without MEDICAL CONTROL orders for adult patients > 16 years of age for treatment of pain from isolated extremity fractures, dislocations, burns and treatment of cancer related pain. Appropriate documentation and signed releases are required for treat and release situations.

2. Guideline for safe use of analgesics:
   a. Be aware of the effects of combining drugs: Adding one CNS depressant or hemodynamic depressant to another can create unpredictable changes.
   b. Don’t forget about medication allergies: Adding IV analgesics on top of recently taken oral sedatives, analgesics or muscle relaxants may cause unpredictable additive effects as well.
   c. Know your pain management goal: Your goal may actually be different for different types of patients (Reduction of pain vs. removal of pain).
   d. Give a complete report to ED staff: Drugs given, time, results, and adverse effects.

3. Appropriate documentation and signed releases are required for treat and release situations. PO pain medication only. Patient unable to be released if given narcotic medication.

4. Ketamine as an additional medication to opiate has been shown to improve patient pain without the opiate side effects.

5. Akithesia response from Phenergan is a potential complication. This is the restless feeling that a patient will get. This symptom can be controlled / relieved with giving diphenhydramine (Benadryl).