Medical Directive

Our System continues to be directly affected by National Medication Shortages. In view of the continuing national shortages of Dopamine in vials and now Calcium Gluconate; we are implementing Protocol changes for Adult and Pediatric patients.

1. We are removing Dopamine from Pediatric Protocols PM-04, PT-03 and removing Clinical Reference CR-22. We are replacing the Dopamine treatment for these pediatric patients with OLMC additional fluid and Epinephrine infusions.

2. We are currently unable to reliably acquire enough Calcium Gluconate to cover all Transport and FRO ALS units for an extended period of time. Due to this, we are acquiring Calcium Chloride to convert the System to this medication. Please refer to each protocol carefully as some of them require OLMC prior to using the Calcium Chloride. With this change we will also not use Calcium Chloride for Pediatric patients. Due to the caustic nature of Calcium Chloride and the required applications found in Protocol SO-08 we are suspending the use of this protocol until further notice.

In order to allow the maximum amount of time for education and the logistical conversion to Calcium Chloride these revisions become effective on 10.10.2013 at 0700 hours.

Please refer to the table and attached documents for additional details.

COG Change | Affected Documents
--- | ---
Convert the System to Calcium Chloride due to current medication shortages | Protocols CA-02, CA-03, CA-06, C-02, M-15, PCA-02, PC-01, PM-09, Clinical References CR-20, CR-37, Drug Formulary DF-08, Remove Protocol SO-08 and Clinical Reference CR-20A
Remove Dopamine from Pediatric Protocols and use an Epinephrine infusion (OLMC) | Protocols PM-04, PT-03, Clinical Reference CR-37, Drug Formulary DF-14, Remove Clinical Reference CR-22

Thanks for all you do. As always, please let us know if you have any questions.

Larry Arms, LP
Clinical Operations, Practices and Standards Coordinator
Office of the Medical Director, Austin - Travis County EMS System

Paul R. Hinchey, MD
Austin-Travis County EMS System Medical Director
ESV# 100213752
Ventricular Fibrillation & Pulseless Ventricular Tachycardia

**History:**
- Estimated Down Time
- Past Medical History
- Medications
- Events leading to arrest
- Renal Failure / Dialysis
- DNR

**Signs and Symptoms:**
- Unresponsive, Apneic, Pulseless
- Ventricular fibrillation or ventricular tachycardia on ECG

**Differential:**
- Asystole
- Artifact / Device Failure
- Cardiac
- Endocrine / Medicine
- Drugs
- Pulmonary

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**Cardiac Arrest Protocol CA - 01**

Defibrillation Procedure q2 minutes:
- AED or Max. Energy Setting for manual device. Immediately Resume CPR Procedure CP-19

Check rhythm and pulse q 2 minutes ONLY

- **Epinephrine 1:10,000 1mg IV/IO**
  - Repeat q 4 minutes

- **Amiodarone** 300mg IV/IO push
  - Repeat in 4 min at 150 mg IV/IO push x 1

- **Sodium Bicarbonate** 1 meq/kg IV/IO

**Refractory to ≥ 5 shocks, Administered 450mg Amiodarone, and V-fib/tach NEVER converted?**

- **Yes**
  - **Persistent V-Fib/Tach Protocol CA – 06**

- **No**
  - **Lidocaine** 1.5 mg/kg IV/IO every 4 minutes until Max dose = 3mg/kg

- **Consider:**
  - **Magnesium Sulfate** 2 grams slow IV/IO push
  - **Calcium Chloride** 1 gram IV/IO
  - **Sodium Bicarbonate** 1 meq/kg IV/IO

  If hyperkalemic arrest suspected consider early use of Calcium and Sodium Bicarbonate

**ROSC?**

- **Yes**
  - **Post Resuscitation Protocol CA - 05**

- **No**

---

**Legend**

- **S** System Responders
- **B** EMT - B
- **I** EMT - I
- **P** EMT - P
- **M** Medical Control

---

**Pearls:**
- ECAs, EMT-Basics and EMT-Intermediates may only use automated defibrillation (AED).
- Reassess and document ETT/BIAD placement after every move and at transfer of patient care.
- Continuous ETCO2 should be initiated as soon as practicable.
- Calcium and sodium bicarbonate should be given early if hyperkalemia is suspected (renal failure, dialysis)
- Tx priorities: uninterrupted compressions, defibrillation, then IV/IO and airway control.
- Polymorphic VT (Torsades) may benefit from magnesium sulfate.
- Effective CPR and prompt defibrillation are the keys to successful resuscitation.
- Magnesium Sulfate slow push is over 5 minutes

---

**Clinical Operating Guidelines**
Persistent Ventricular Fibrillation & Pulseless Ventricular Tachycardia

Legend

<table>
<thead>
<tr>
<th>S</th>
<th>System Responders</th>
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<tbody>
<tr>
<td>B</td>
<td>EMT - B</td>
</tr>
<tr>
<td>I</td>
<td>EMT - I</td>
</tr>
<tr>
<td>P</td>
<td>EMT - P</td>
</tr>
<tr>
<td>M</td>
<td>Medical Control</td>
</tr>
</tbody>
</table>

- Refractory to ≥ 5 shocks -AND-
- Administered 450mg Amiodarone -AND-
- V-fib/pulseless V-tach NEVER converted

Double Sequential External Defibrillation Procedure (CP-68) [Immediately Resume CPR Procedure] May repeat PRN

Check rhythm and pulse q 2 minutes ONLY

V-fib/V-tach persists?

Lidocaine 1.5 mg/kg IV/IO every 4 minutes until Max dose = 3mg/kg

Consider:
- Magnesium Sulfate 2 grams slow IV/IO push
- Calcium Chloride 1 gram IV/IO
- Sodium Bicarbonate 1 meq/kg IV/IO

If hyperkalemic arrest suspected consider early use of Calcium and Sodium Bicarbonate

ROSC?

Yes

POST Resuscitation Protocol CA - 05

No

ON Call System Medical Director PRN

Pearls:
- Continuous ETCO2 should be initiated as soon as practicable.
- Calcium and sodium bicarbonate should be given early if hyperkalemia is suspected (renal failure, dialysis)
- Tx priorities: uninterrupted compressions, defibrillation, then IV/IO and airway control.
- Polymorphic VT (Torsades) may benefit from Magnesium Sulfate. Slow push is over 5 minutes
- Effective CPR and prompt defibrillation are the keys to successful resuscitation.
- Prior to double sequential external shocks providers should verify that defibrillation pads are well-adhered to the patient and that they do not touch.
- Prolonged cardiac arrests may lead to tired providers and decreased compression quality. Ensure compressor rotation, summon additional resources as needed, and ensure provider rest and rehab during and post-event.
- Continue to use primary monitor for all event recording and data capture.
- Primary monitor ONLY is uploaded into e-pcr.
- Once criteria for DSED are met subsequent shocks should be delivered as DSED.

Version: 020613
COG Updated: 10.10.13 (MD 13 – 08)
**Overdose**

**History:**
- Ingestion or suspected ingestion of a possibly toxic substance
- Substance ingested, route, quantity
- Time of ingestion
- Reason (suicidal, accidental, criminal)
- Available medication in home
- Past medical history, medications

**Signs and Symptoms:**
- Mental status changes
- Hypotension/ hypertension
- Decreased respiratory rate
- Tachycardia, dysrhythmias
- Seizures

**Differential:**
- Tricyclic antidepressants
- Acetaminophen (Tylenol)
- Depressants
- Stimulants
- Anticholinergic
- Cardiac medications
- Solvents, alcohols, cleaning agents
- Insecticides (organophosphates)

---

**Pearls:**
- Do not rely on patient history of ingestion especially in suicide attempts.
- Tricyclic: 4 major areas of toxicity: seizures, dysrhythmias, hypotension, decreased mental status or coma; rapid progression from alert mental status to death.
- Depressants: decreased HR, decreased BP, decreased temperature, decreased respirations, non-specific pupils.
- Stimulants: increased HR, increased BP, increased temperature, dilated pupils, seizures.
- Anticholinergic: increased HR, increased temperature, dilated pupils, mental status changes.
- Cardiac Meds: dysrhythmias and mental status changes.
- Solvents: Nausea, vomiting, and mental status changes.
- Insecticides: increased or decreased HR, increased secretions, nausea, vomiting, diarrhea, pinpoint pupils.
- Consider contacting the US/Texas Poison Control Center for guidance. 1-800-222-1222
- DECON of Haz-Mat patients should be performed by trained personnel prior to initial patient contact or transport.
# Bradycardia

## History
- Past Medical History
- Medications
  - Beta Blockers
  - Calcium Channel Blockers
  - Digoxin
  - Cholinergic
  - Clonidine
- Pacemaker
- Events prior to onset

## Signs & Symptoms
- HR <60/min with signs of hypoperfusion
- Hypotension
- Acute altered LOC
- Chest pain
- CHF
- Syncope

## Differential
- Acute MI/Ischemia
- Hypoxia
- Pacemaker Failure
- Hypothermia
- Sinus Bradycardia
- Electrolyte Abnormality (K+)
- CVA, increased ICP, Head Injury
- Sick Sinus Syndrome
- AV Blocks
- OD

---

### Universal Patient Care Protocol U-01

**12 Lead ECG**

- HR < 60 with symptoms: hypotension, acute altered LOC, chest pain, acute CHF?

**Suspected Ca Channel /Beta Blocker OD?**

- Monitor and reassess

**IV NS 500mL Bolus**
  - May repeat PRN to SBP ≥100 mmHg (max. 2 Liters)

**TCP consider Sedation:**
  - Midazolam: 2.5 – 5.0 mg IV/IO OR 5 mg IM/IN May repeat PRN (max total dose 10 mg) with SBP > 100 mmHg
  - OR Clinical Reference CR - 35

**Consider Atropine**
  - 0.8 mg q 3 minutes
  - max of 0.04 mg/kg
  - if TCP not immediately available

**Dopamine**
  - 5-20 mcg/kg/min

**Contact Destination or Medical Control**

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### Pearl:
- The use of lidocaine in heart block can worsen bradycardia and lead to asystole and death.
- **Treatment of bradycardia is based on the presence of symptoms. If asymptomatic, monitor only.**
- The use of Atropine for bradycardia in the presence of an MI may worsen ischemia.
- Consider treatable causes for bradycardia (Beta blocker OD, Calcium channel blocker OD, etc.) - treat appropriately
- Assure patient is adequately oxygenated.
- If wide complex bradycardia consider hyperkalemia.
Asystole/PEA

History:
- Past medical history
- Medications
- Events leading to arrest
- End stage renal disease
- Estimated downtime
- Suspected hypothermia
- Suspected overdose
- DNR

Signs and Symptoms:
- Pulseless
- Abnormal Breathing (gasp)
- No electrical activity on ECG
- No auscultated heart tones

Differential:
- Medical or Trauma
- Hypoxia
- Potassium (hyper/hypo)
- Drug overdose
- Acidosis
- Hypothermia
- Equipment settings/problems
- Obvious Death

Pearls:
- Always confirm asystole in more than one lead.
- Correctable causes must be considered and addressed.

Cardiac Arrest Protocol CA-01

AT ANY TIME
Change in Rhythm go to Appropriate Protocol

Check rhythm and pulse q 2 minutes

Epinephrine
1 mg 1:10,000 IV/IO q 4 minutes

Sodium Bicarbonate 1meq/kg IV/IO

Consider Correctable Causes

ROSC?

Yes

No

Consider Criteria for Discontinuation CS-08

Post Resuscitation Protocol CA-05

Contact On Call System Medical Director

Differential:
- Medical or Trauma
- Hypoxia
- Potassium (hyper/hypo)
- Drug overdose
- Acidosis
- Hypothermia
- Equipment settings/problems
- Obvious Death

Pearls:
- Always confirm asystole in more than one lead.
- Correctable causes must be considered and addressed.

Legend
- System Responder
- EMT - B
- EMT - I
- EMT - P
- Medical Control

Look for treatable causes:
- Hypoxia
- Hypothermia
- Hypovolemia
- Hypoglycemia
- Dextrose Infusion
- Acidosis
- Hyperkalemia
- Calcium Chloride 1g IV/IO
- D10W Premixed 250mL Bag, Titrate to patient condition and response.
- OD Calcium channel/Beta blocker
- Tension Pneumothorax
- (Chest Decompression)
**Overdose**

**History:**
- Ingestion or suspected ingestion of a possibly toxic substance
- Substance ingested, route, quantity
- Time of ingestion
- Reason (suicidal, accidental, criminal)
- Available medication in home
- Past medical history, medications

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- Consider contacting the US/Texas Poison Control Center for guidance. 1-800-222-1222
- DECON of Haz-Mat patients should be performed by trained personnel prior to initial patient contact or transport.
**Pediatric Hypotension (Non-Trauma)**

**History:**
- Vomiting
- Diarrhea
- Fever
- Infection
- Sick contacts
- PO intake
- Last wet diaper/urine

**Signs and Symptoms:**
- Restlessness, confusion, weakness
- Syncope
- Tachycardia
- Diaphoresis
- Pale, cool, clammy skin
- Delayed capillary refill

**Differential:**
- Infection/Sepsis
- Dehydration
- Vomiting
- Diarrhea
- Congenital heart disease
- Medication or Toxin
- Anaphylaxis

---

**Legend**
- S: System Responder
- B: EMT - B
- I: EMT- I
- P: EMT- P
- M: Medical Control

---

**Universal Patient Care Protocol U-01**

**Consider:**
- Pediatric Altered Mental Status Protocol PM-02

**Altered Mental Status?**

- Yes
  - **Normal Saline** bolus 20 ml/kg IV
  - May repeat 10ml/kg bolus x 2 PRN

**Perfusion Improved?**

- Yes
- No

**Contact Destination or Medical Control Suggest:**
- Normal Saline bolus 20 ml/kg IV and/or Epinephrine infusion 0.1-1 mcg/kg/min (Clinical Reference CR-23)

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**Pearls:**
- Pediatric hypotension is defined as a SBP <70 + (age in years x 2) mmHg
- Consider causes of pediatric hypotension and address per appropriate protocol.
Pediatric Bradycardia

**History:**
- Past Medical History
- Medications
- Events Leading to Current Status

**Signs & Symptoms:**
- HR < 60/min with hypotension, acute altered LOC, chest pain, CHF, Sz, syncope or shock secondary to bradycardia
- Altered LOC
- Shock/Hypotension
- Syncope

**Differential:**
- Respiratory effort
- Respiratory obstruction
- Foreign body
- Secretions
- Croup
- Epiglotitis
- Hypovolemia
- Hypothermia
- Hypoxia
- Infection / Sepsis
- Medication or Toxin
- Hypoglycemia
- Trauma

---

### Universal Patient Care Protocol U-01

- Poor perfusion, decreased blood pressure, respiratory insufficiency

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### Pediatric Airway Protocol PR-01

- Monitor and reassess

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### Signs & Symptoms:

- HR < 60 min with poor perfusion despite airway intervention begin CPR Procedure CP-19

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### Differential:

- Respiratory effort
- Respiratory obstruction
- Foreign body
- Secretions
- Croup
- Epiglotitis
- Hypovolemia
- Hypothermia
- Hypoxia
- Infection / Sepsis
- Medication or Toxin
- Hypoglycemia
- Trauma

---

### Look for treatable causes:

- Hypoxia
- Hypothermia
- Hypovolemia
- Hypoglycemia

---

### Protocol PC - 01

**Clinical Operating Guidelines**

- The use of lidocaine in heart block can worsen bradycardia and lead to asystole and death.
- Pharmacological treatment of Bradycardia is based upon the presence or absence of symptoms.
- If symptomatic, treat. If asymptomatic, monitor only.
- Consider treatable causes for bradycardia (Beta blocker OD, Calcium channel blocker OD, etc.) - treat appropriately
- Be sure to aggressively oxygenate the patient and support respiratory effort.
- Refer to Pain Management Protocol (TCP)
- Fluid Bolus and Epinephrine Infusion Titrated to maintain a SBP > 70 + (age in years x 2) mmHg
- Use volume control device (IV Burette) for Dextrose and Fluid Infusions
Pearls:
- In order to be successful in pediatric arrests, a cause must be identified and corrected.
- Respiratory arrest is a common cause of cardiac arrest. Unlike adults early airway intervention is critical.
- In most cases pediatric airways can be managed by basic interventions.
- Effective CPR is critical 1) Push hard and fast at appropriate rate 2) Ensure full chest recoil 3) Minimize interruptions in CPR. Pause CPR< 10 seconds to verify rhythm.
- Use volume control device (IV Burette) for Dextrose and Fluid infusions
Universal Patient Care Protocol U-01

Rapid trauma assessment and Declare Trauma Activation CR-30

Airway Protocol as needed PR-01

Spinal Motion Restriction Protocol U-05

Vital Signs? and GCS (CR-12)?

Hypotension

Yes

No

Bind unstable pelvic fracture (CP-49) and control of External Hemorrhage

NS 20mL/kg IV

May repeat 10mL/kg IV

Chest Decompression Procedure CP-51

Contact Destination or Medical Control Suggest:
Normal Saline bolus 20 ml/kg IV
and/or
Epinephrine infusion 0.1-1 mcg/kg/min (Clinical Reference CR-23)

Pearls:
- If patient meets Trauma Activation criteria interventions should be performed enroute. Minimize scene time.
- Consider Chest Decompression with signs of shock and injury to torso and evidence of tension pneumothorax.
- See Regional Trauma Guidelines when declaring Trauma Activation.
- Severe bleeding from an extremity not rapidly controlled with direct pressure may necessitate the application of a tourniquet
- Record "Trauma Activation" in patient record.
- Permissive hypotension should be used in the absence of neurologic injury. **If suspected neurologic injury maintain age appropriate SBP**.
- Do not overlook the possibility of child abuse.
Infusion Requiring OLMC
Pediatric Calcium Chloride Infusion

Dose 20 mg/kg over 10 minutes
Max dose 1 gram

Step 1
Determine Concentration

Concentration: ___mg Calcium Chloride
in 50 mL NS (using 60 drop set)

<table>
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<tr>
<th>Pt Weight</th>
<th>3kg</th>
<th>5kg</th>
<th>7kg</th>
<th>9kg</th>
<th>11kg</th>
<th>13kg</th>
<th>15kg</th>
<th>17kg</th>
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<tbody>
<tr>
<td>mg Calcium</td>
<td>60</td>
<td>100</td>
<td>140</td>
<td>180</td>
<td>220</td>
<td>260</td>
<td>300</td>
<td>340</td>
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<tr>
<td>mL Calcium</td>
<td>0.6mL</td>
<td>1mL</td>
<td>1.4mL</td>
<td>1.8mL</td>
<td>2.2mL</td>
<td>2.6mL</td>
<td>3mL</td>
<td>3.4mL</td>
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mL Calcium using 1 gram/10 mL packaging

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<th>Pt Weight</th>
<th>19kg</th>
<th>21kg</th>
<th>23kg</th>
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<td>660</td>
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<td>mL Calcium</td>
<td>3.8mL</td>
<td>4.2mL</td>
<td>4.6mL</td>
<td>5mL</td>
<td>5.4mL</td>
<td>6mL</td>
<td>6.6mL</td>
<td>7.2mL</td>
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Dose in mL/min

50 mL / 10 min
300

Drops/minute
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<tr>
<th>Medication &amp; COG or Document used in:</th>
<th>Adult Dose ≥ 37 Kg</th>
<th>Pedi Dose &lt; 37 Kg</th>
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<tbody>
<tr>
<td><strong>Acetaminophen (APAP) (Tylenol):</strong></td>
<td>Up to 1 Gram PO (M-09, M-16)</td>
<td>15 mg/kg PO (max dose of 1 gm) (PM-03, PM-06, PM-07, CR-27)</td>
</tr>
<tr>
<td>Adult Fever/Infection M-09,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Pain M-16,</td>
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<tr>
<td>Pedi Fever/Infection PM-03,</td>
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<tr>
<td>Pedi Pain PM-06,</td>
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<tr>
<td>Pedi Seizure PM-07,</td>
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<td>Clinical Reference: (Pedi Dose Chart) CR - 27</td>
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<tr>
<td><strong>Adenosine:</strong></td>
<td>12 mg IV/IO may repeat x1 (max 24 mg total) (C-04)</td>
<td>0.2mg/kg, IV/IO (max of 12 mg per dose) may repeat X1 (PC-02)</td>
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<tr>
<td>Adult SVT C-04,</td>
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<tr>
<td>Pedi SVT PC-02</td>
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<td><strong>Albuterol:</strong></td>
<td>2.5 mg single dose Neb. (T-04)</td>
<td>2.5 mg single dose Neb. (T-04)</td>
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<td>Adult Allergic Reaction M-02,</td>
<td>2.5 mg continuous Neb. (M-02, R-04)</td>
<td>2.5 mg continuous Neb. (PM-01, PR-03)</td>
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<td>Adult Respiratory Distress R-04,</td>
<td>Assist with “Patients MDI” (R-04)</td>
<td>Assist with “Patients MDI” x 6 (PR-03)</td>
</tr>
<tr>
<td>Adult Respiratory Distress Spcl. Ops.SO-01</td>
<td>2 &quot;puffs&quot; MDI unit doses q5 x3 prn (SO-01)</td>
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<tr>
<td>Adult and Pedi Drowning T-04</td>
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<tr>
<td>Pedi Allergic Reaction PM-01,</td>
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<tr>
<td>Pedi Respiratory Distress PR-03</td>
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<tr>
<td>Clinical Standard CS-20</td>
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<tr>
<td><strong>Amiodarone:</strong></td>
<td>150mg IV/IO over 10 minutes. May repeat x2 150 mg q10 min (max. total dose 450 mg) (C-05)</td>
<td>5mg/kg IV/IO over 20 min. (max. dose of 150 mg) (PC-03)</td>
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<tr>
<td>Adult Wide Complex Tachycardia C-05,</td>
<td>300mg IV/IO push Repeat in 4min at 150 mg IV push x 1 (CA-03)</td>
<td>5 mg/kg IV/IO (max 300mg) may repeat x1 (max 2nd dose 150 mg) (PCA-03)</td>
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<tr>
<td>Adult Pulseless VF/VT CA-03,</td>
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<tr>
<td>Pedi Wide Complex Tachycardia PC-03,</td>
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<td>Pedi Pulseless VF/VT PCA-03</td>
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<td>Clinical References: (Adult Infusion Charts) CR-01, CR-02, (Pedi Infusion Chart) CR-19</td>
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<td><strong>Aspirin:</strong></td>
<td>324 mg PO (C-01)</td>
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<tr>
<td>Adult Chest Pain/Suspected ACS (C-01)</td>
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<tr>
<td><strong>Atropine Sulfate:</strong></td>
<td>0.8 mg q3 up to 0.04mg/kg IV/IO (C-02)</td>
<td>0.02 mg/kg (Min 0.1 mg–Max 1 mg) IV/IO May repeat x1 in 5 min. (PC-01)</td>
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<td>Adult Organophosphate Exposure (M-14)</td>
<td>2 mg up to 6 mg atropine IV/IO/IM. May repeat every 3 to 5 mins until symptoms improve (M-14)</td>
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<tr>
<td>Adult Bradycardia Algorithm (C-02)</td>
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<tr>
<td>Pedi Bradycardia Algorithm (PC-01)</td>
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<tr>
<td>Clinical Procedure CP-24 (ET Route)</td>
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<td>Clinical Reference: (Pedi Dose Chart) CR-38</td>
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<td><strong>Calcium Chloride:</strong></td>
<td>1 gram IV/IO (CA-02,CA-03, CA-06)</td>
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<td>Adult Bradycardia C-02 (OLMC),</td>
<td>1 gram IV/IO over 10 minutes (C-02, M-15)</td>
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<tr>
<td>Adult Asystole/PEA CA-02,</td>
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<tr>
<td>Adult Pulseless VF/VT CA-03,</td>
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<td>Adult Persistent Pulseless DSED CA-06</td>
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<tr>
<td>Adult Overdose M-15 (OLMC),</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical References: (Pedi Infusion Charts) CR-20 (OLMC)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Chlorohexadine:
Wound site preparation Clinical Procedures: CP-05, CP-10, CP-17, CP-28, CP-34, CP-37, CP-38, CP-61

<table>
<thead>
<tr>
<th>Dose Form</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit dose (packet)</td>
<td>Unit dose (packet) if ≥ 6 months old</td>
</tr>
</tbody>
</table>

**IV Infusion of 10% Dextrose in 250mL premixed bag of Sterile Water (CA-02, M-03) Titrate to patient’s response/condition.**

1g/kg IV Infusion of 10% Dextrose in 250mL premixed bag of Sterile Water Max dose 25 grams (OB-03, PC-01, PM-02, PCA-02, CR-21)

Must use volume control device (IV Burette) for infusion. Titrate to patient’s response/condition.

## Dextrose:
Adult Asystole/PEA CA-02, Adult Altered Mental Status M-03, Newly Born OB-03, Pedi Bradycardia PC-01, Pedi Altered mental Status PM-02, Pedi Asystole/PEA PCA-02 Clinical Reference: (Pedi Dose Chart) CR-21 Clinical Standard CS-20

<table>
<thead>
<tr>
<th>Dose Form</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV Infusion of 10% Dextrose in 250mL premixed bag of Sterile Water (CA-02, M-03)</td>
<td>Titrate to patient’s response/condition.</td>
</tr>
</tbody>
</table>

1g/kg IV Infusion of 10% Dextrose in 250mL premixed bag of Sterile Water Max dose 25 grams (OB-03, PC-01, PM-02, PCA-02, CR-21)

Must use volume control device (IV Burette) for infusion. Titrate to patient’s response/condition.

## Diphenhydramine (Benadryl):
Adult Allergic Reaction M-02, Adult Behavioral M-05, Pedi Allergic Reaction PM-01, Pedi Overdose PM-09

<table>
<thead>
<tr>
<th>Dose Form</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 mg IM/IV/PO (M-02)</td>
<td>50 mg IV/IM (M-02, M-05)</td>
</tr>
</tbody>
</table>

## Diltiazem:
Adult Atrial fib. with RVR C-03, Adult SVT C-04

<table>
<thead>
<tr>
<th>Dose Form</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st dose 0.25 mg/kg (max 20 mg)</td>
<td>May repeat in 15 min: 2nd dose 0.35 mg/kg (max 25 mg) (C-03, C-04)</td>
</tr>
</tbody>
</table>

## Dopamine:
Adult Bradycardia C-02, Adult Induced Hypothermia CA-04, Adult Hypotension M-11, Adult Multi. Trauma T-07, Clinical References: (Adult Infusion) CR-03, Clinical Standard CS-20

<table>
<thead>
<tr>
<th>Dose Form</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-20 mcg/kg/min IV/IO to maintain SBP ≥ 90 (C-02, M-11, T-07)</td>
<td>5-20 mcg/kg/min IV/IO to maintain MAP of 90-100 (CA-04)</td>
</tr>
</tbody>
</table>

## Enalapril (Vasotec):
Adult Pulmonary Edema R-03

<table>
<thead>
<tr>
<th>Dose Form</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.25 mg IV if SBP ≥ 140 mmHg (R-03)</td>
<td>Ø</td>
</tr>
</tbody>
</table>

## Epinephrine:

<table>
<thead>
<tr>
<th>Dose Form</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3 mg 1:1,000 IM per dose x 4 q5min (max total 1.2 mg) (M-02)</td>
<td>0.01mg/kg 1:1,000 IM per dose (max single dose 0.3mg) x 1 (PR-03)</td>
</tr>
<tr>
<td>0.3 mg 1:1,000 IM per dose x 1 (S0-01)</td>
<td>0.01mg/kg 1:1,000 IM per dose (max single dose 0.3mg) x 4 q5min (max total 1.2 mg) (PM-01)</td>
</tr>
<tr>
<td>2 mg 1:1,000 Neb.(mixed with 1ml NS) (R-04)</td>
<td>0.5 mg 1:10,000 (5 ml) Neb (PR-03)</td>
</tr>
<tr>
<td>1 mg 1:10,000 IV/IO per dose q4 min (CA-02, CA-03)</td>
<td>Epinephrine 0.01 mg/kg IV/IO (max 1mg) (0.1 mL/kg of 1:10,000) or 0.1 mg/kg via ET if no access (max 10mg)(0.1 mL/kg of 1:1,000) Repeat every 3-5 min (PCA -02, PCA-03, PC-01)</td>
</tr>
<tr>
<td>Epi Pin ≥ 30 kg (M-02)</td>
<td>0.1-1 mcg/kg/min infusion (PC-01, PM-04, PT-03)</td>
</tr>
<tr>
<td></td>
<td>0.1 mcg/kg/min infusion (PCA-02, PM-09)</td>
</tr>
<tr>
<td></td>
<td>Epi Pin Jr. &lt; 30 kg (PM-01)</td>
</tr>
</tbody>
</table>
## Medications Quick Reference Chart

### Fentanyl Citrate:
- **Adult Pain Management** M – 16,
- **Adult Chest Pain/Suspected ACS** C – 01,
- **Adult Burns** T – 02,
- **Adult Constant Crush Injury > 4 hours** SO-11,
- **Pedi Pain Management** PM – 06,
- **Pedi Burns** PT – 01

**Clinical Reference:** (Adult) CR-35 (Pedi) CR-36

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mcg/kg IV/IM/IN May repeat 0.5 mcg/kg q 5 min (Max total 300 mcg) SBP &gt; 100 mmHg (M-16, C-01, SO-11)</td>
<td><strong>Adult Pain Management</strong> M – 16, <strong>Adult Chest Pain/Suspected ACS</strong> C – 01, <strong>Adult Burns</strong> T – 02, <strong>Adult Constant Crush Injury &gt; 4 hours</strong> SO-11, <strong>Pedi Pain Management</strong> PM – 06, <strong>Pedi Burns</strong> PT – 01</td>
</tr>
<tr>
<td>1 mcg/kg (per dose) q5min with SBP &gt; 100 mmHg (max total up to 400 mcg)</td>
<td><strong>Adult Constant Crush Injury &gt; 4 hours</strong> SO-11</td>
</tr>
<tr>
<td>1 mcg/kg IV every 5 min (Max total 200 mcg) with SBP &gt;70 + (age in years x 2) mmHg</td>
<td><strong>Pedi Pain Management</strong> PM – 06, <strong>Pedi Burns</strong> PT – 01</td>
</tr>
</tbody>
</table>

**Fentanyl 1 mcg/kg IV every 5 min (Max total 200 mcg) with SBP >70 + (age in years x 2) mmHg (PT-01)**

### Glucagon:
- **Adult Bradycardia** C-02,
- **Adult Asystole/PEA** CA-02,
- **Adult Altered Mental Status** M-03,
- **Adult Overdose** M-15,
- **Pedi Bradycardia** PC-01,
- **Pedi Altered Mental Status** PM-02,
- **Pedi Overdose** PM-09,
- **Pedi Asystole/PEA** PCA-02

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mg IM (M-03)</td>
<td><strong>Adult Bradycardia</strong> C-02, <strong>Adult Asystole/PEA</strong> CA-02, <strong>Adult Altered Mental Status</strong> M-03, <strong>Adult Overdose</strong> M-15, <strong>Pedi Bradycardia</strong> PC-01, <strong>Pedi Altered Mental Status</strong> PM-02, <strong>Pedi Overdose</strong> PM-09, <strong>Pedi Asystole/PEA</strong> PCA-02</td>
</tr>
<tr>
<td>3 mg IV (C-02, M-15, CA-02 may use IO route for CA)</td>
<td><strong>Adult Bradycardia</strong> C-02, <strong>Adult Asystole/PEA</strong> CA-02, <strong>Adult Altered Mental Status</strong> M-03, <strong>Adult Overdose</strong> M-15, <strong>Pedi Bradycardia</strong> PC-01, <strong>Pedi Altered Mental Status</strong> PM-02, <strong>Pedi Overdose</strong> PM-09, <strong>Pedi Asystole/PEA</strong> PCA-02</td>
</tr>
<tr>
<td>0.1 mg/kg (max dose 1 mg)</td>
<td><strong>Pedi Bradycardia</strong> PC-01, <strong>Pedi Altered Mental Status</strong> PM-02, <strong>Pedi Overdose</strong> PM-09, <strong>Pedi Asystole/PEA</strong> PCA-02</td>
</tr>
</tbody>
</table>

### Haloperidol (Haldol):
- **Adult Behavioral** M-05

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mg IM, May repeat X 1 dose q 10 min. (M-05)</td>
<td><strong>Adult Behavioral</strong> M-05</td>
</tr>
<tr>
<td>Ø</td>
<td><strong>Adult Behavioral</strong> M-05</td>
</tr>
</tbody>
</table>

### Hurricaine/Cetacaine Spray:
- **Nasotracheal Intubation Procedure** CP-44

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 metered spray (may repeat x 1)</td>
<td><strong>Nasotracheal Intubation Procedure</strong> CP-44</td>
</tr>
<tr>
<td>Ø</td>
<td><strong>Nasotracheal Intubation Procedure</strong> CP-44</td>
</tr>
</tbody>
</table>

### Hydroxocobalamin (Vitamin B₁₂):
- **Adult Cyanide** M-21,
- **Pedi Cyanide** PM-11

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 grams IV over 15 min (M-21)</td>
<td><strong>Adult Cyanide</strong> M-21, <strong>Pedi Cyanide</strong> PM-11</td>
</tr>
<tr>
<td>70 mg/kg IV at 15mL/min (Max dose 5 grams) (PM-11)</td>
<td><strong>Adult Cyanide</strong> M-21, <strong>Pedi Cyanide</strong> PM-11</td>
</tr>
</tbody>
</table>

### Ibuprofen (Motrin):
- **Adult Fever/Infection** M-09,
- **Adult Pain Management** M-16

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 400 mg PO (M-09)</td>
<td><strong>Adult Fever/Infection</strong> M-09, <strong>Adult Pain Management</strong> M-16</td>
</tr>
<tr>
<td>Up to 600 mg PO (M-16)</td>
<td><strong>Adult Fever/Infection</strong> M-09, <strong>Adult Pain Management</strong> M-16</td>
</tr>
<tr>
<td>Ø</td>
<td><strong>Adult Fever/Infection</strong> M-09, <strong>Adult Pain Management</strong> M-16</td>
</tr>
</tbody>
</table>

### Ipratropium Bromide (Atrovent):
- **Adult Respiratory Distress** R-04,
- **Adult & Pedi Drowning** T-04,
- **Pedi Respiratory Distress** PR-03

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 mg (unit dose) Neb. X 1 (mixed with Albuterol)</td>
<td><strong>Adult Respiratory Distress</strong> R-04, <strong>Adult &amp; Pedi Drowning</strong> T-04, <strong>Pedi Respiratory Distress</strong> PR-03</td>
</tr>
<tr>
<td>0.5 mg (unit dose) Neb. X 1 (mixed with Albuterol)</td>
<td><strong>Adult Respiratory Distress</strong> R-04, <strong>Adult &amp; Pedi Drowning</strong> T-04, <strong>Pedi Respiratory Distress</strong> PR-03</td>
</tr>
<tr>
<td>0.5 mg (unit dose) Neb. X 3 (mixed with Albuterol) (PR-03)</td>
<td><strong>Adult &amp; Pedi Drowning</strong> T-04, <strong>Pedi Respiratory Distress</strong> PR-03</td>
</tr>
</tbody>
</table>

### Lidocaine:
- **Adult Wide Complex Tachycardia** C-05,
- **Adult Pulseless VF/VT** CA-03,
- **Adult Persistent Pulseless DSED CA-06**
- **Adult Eye Injury/Complaint** M-08,
- **Pedi Pulseless VF/VT** PCA-03,
- **Pedi Wide Complex Tachycardia** PC-03

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mg/kg IV/IO q5min (max 3mg/kg)</td>
<td><strong>Adult Wide Complex Tachycardia</strong> C-05, <strong>Adult Pulseless VF/VT</strong> CA-03, <strong>Adult Persistent Pulseless DSED CA-06</strong>, <strong>Adult Eye Injury/Complaint</strong> M-08, <strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex Tachycardia</strong> PC-03</td>
</tr>
<tr>
<td>1.5 mg/kg IV/IO q5min (max 3mg/kg)</td>
<td><strong>CA-03, CA-06</strong></td>
</tr>
<tr>
<td>2-4mg/min infusion</td>
<td><strong>CA-03, CR-05</strong></td>
</tr>
<tr>
<td>100mg in each bag of NS for eye irrigation</td>
<td><strong>M-08</strong></td>
</tr>
<tr>
<td>40 mg for pain of IO infusion</td>
<td><strong>U-02, CP-38</strong></td>
</tr>
<tr>
<td>1mg/kg IV/IO q 5 min (Max 3 mg/kg) (PC-03)</td>
<td><strong>Adult Wide Complex Tachycardia</strong> C-05, <strong>Adult Pulseless VF/VT</strong> CA-03, <strong>Adult Persistent Pulseless DSED CA-06</strong>, <strong>Adult Eye Injury/Complaint</strong> M-08, <strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex Tachycardia</strong> PC-03</td>
</tr>
<tr>
<td>1 mg/kg (max total dose 100 mg) May repeat x 2 (PCA-03)</td>
<td><strong>Adult Wide Complex Tachycardia</strong> C-05, <strong>Adult Pulseless VF/VT</strong> CA-03, <strong>Adult Persistent Pulseless DSED CA-06</strong>, <strong>Adult Eye Injury/Complaint</strong> M-08, <strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex Tachycardia</strong> PC-03</td>
</tr>
<tr>
<td>20-50 mcg/kg/min infusion (PC-03, CR-25)</td>
<td><strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex Tachycardia</strong> PC-03</td>
</tr>
<tr>
<td>0.5 mg/kg (0.025ml/kg) for pain of IO infusion</td>
<td><strong>U-02, CP-38</strong></td>
</tr>
</tbody>
</table>

### Magnesium Sulfate 50%:
- **Adult Respiratory Distress** R-04,
- **Adult Wide Complex Tachycardia** C-05,
- **Adult Pulseless VF/VT** CA-03,
- **Adult Persistent Pulseless DSED CA-06**
- **Obstetrical Emergency** OB-02,
- **Pedi Respiratory Distress** PR-03,
- **Pedi Pulseless VF/VT** PCA-03,
- **Pedi Wide Complex** PC-03,
- **Clinical Reference:** (Pedi Infusion) CR-26

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 grams IV place into 50ml/NS and infuse over 20 min (R-04)</td>
<td><strong>Adult Respiratory Distress</strong> R-04, <strong>Adult Wide Complex Tachycardia</strong> C-05, <strong>Adult Pulseless VF/VT</strong> CA-03, <strong>Adult Persistent Pulseless DSED CA-06</strong>, <strong>Obstetrical Emergency</strong> OB-02, <strong>Pedi Respiratory Distress</strong> PR-03, <strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex</strong> PC-03, <strong>Clinical Reference:</strong> (Pedi Infusion) CR-26</td>
</tr>
<tr>
<td>2 grams IV slow push (CA-03, CA-06 may use IO for CA)</td>
<td><strong>Pedi Respiratory Distress</strong> PR-03, <strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex</strong> PC-03, <strong>Clinical Reference:</strong> (Pedi Infusion) CR-26</td>
</tr>
<tr>
<td>4 grams IV place into 50ml/NS and infuse over 5 minutes (OB-02)</td>
<td><strong>Pedi Respiratory Distress</strong> PR-03, <strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex</strong> PC-03, <strong>Clinical Reference:</strong> (Pedi Infusion) CR-26</td>
</tr>
<tr>
<td>50mg/kg IV over 20 minutes (max dose 2 grams) (PR-03, PC-03, CR-26)</td>
<td><strong>Pedi Respiratory Distress</strong> PR-03, <strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex</strong> PC-03, <strong>Clinical Reference:</strong> (Pedi Infusion) CR-26</td>
</tr>
<tr>
<td>50 mg/kg slow IV/IO May repeat same dose q: 5 minutes until a maximum total dose of 2 grams. (PCA-03)</td>
<td><strong>Pedi Respiratory Distress</strong> PR-03, <strong>Pedi Pulseless VF/VT</strong> PCA-03, <strong>Pedi Wide Complex</strong> PC-03, <strong>Clinical Reference:</strong> (Pedi Infusion) CR-26</td>
</tr>
<tr>
<td>Medications Quick Reference Chart</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Methylprednisolone (Solu-Medrol):</strong></td>
<td></td>
</tr>
<tr>
<td>Adult Allergic Reaction M-02,</td>
<td></td>
</tr>
<tr>
<td>Adult Respiratory Distress R-04,</td>
<td></td>
</tr>
<tr>
<td>Adult Respiratory Distress Spcl. Ops. SO-01</td>
<td></td>
</tr>
<tr>
<td>Pedi Allergic Reaction PM-01,</td>
<td></td>
</tr>
<tr>
<td>Pedi Respiratory Distress PR-03</td>
<td></td>
</tr>
<tr>
<td>125 mg IV (M-02, R-04, SO-01)</td>
<td></td>
</tr>
<tr>
<td>2 mg/kg IV (PM-01, PR-03 IV/IM route)</td>
<td></td>
</tr>
<tr>
<td><strong>Midazolam:</strong></td>
<td></td>
</tr>
<tr>
<td>Adult Induced Hypothermia CA-04,</td>
<td></td>
</tr>
<tr>
<td>Adult Bradycardia C-02,</td>
<td></td>
</tr>
<tr>
<td>Adult Atrial Fib. with RVR C-03,</td>
<td></td>
</tr>
<tr>
<td>Adult SVT C-04,</td>
<td></td>
</tr>
<tr>
<td>Adult Wide Complex Tachycardia C-05,</td>
<td></td>
</tr>
<tr>
<td>Adult Behavioral M-05,</td>
<td></td>
</tr>
<tr>
<td>Adult Hyperthermia, Environmental M-10,</td>
<td></td>
</tr>
<tr>
<td>Adult Overdose M-15,</td>
<td></td>
</tr>
<tr>
<td>Adult Seizure M-17,</td>
<td></td>
</tr>
<tr>
<td>Pedi SVT PC-02,</td>
<td></td>
</tr>
<tr>
<td>Pedi Wide Complex Tachycardia PC-03,</td>
<td></td>
</tr>
<tr>
<td>Pedi Seizure PM-07,</td>
<td></td>
</tr>
<tr>
<td>Pedi Overdose PM-09</td>
<td></td>
</tr>
<tr>
<td>Clinical References:(Adult)CR-35(Pedi)CR-36</td>
<td></td>
</tr>
<tr>
<td>Anti Convulsant:</td>
<td></td>
</tr>
<tr>
<td>5 mg IM/IN/OV/IV May repeat PRN max total dose 10 mg with SBP &gt; 100 mmHg (M-17)</td>
<td></td>
</tr>
<tr>
<td>Sedation:</td>
<td></td>
</tr>
<tr>
<td>2.5 – 5.0 mg IV/OV May repeat PRN max total dose 10 mg with SBP &gt; 100 mmHg</td>
<td></td>
</tr>
<tr>
<td>-OR-</td>
<td></td>
</tr>
<tr>
<td>5 mg IM/IN May repeat PRN max total dose 10 mg with SBP &gt; 100 mmHg</td>
<td></td>
</tr>
<tr>
<td>(CA-04, C-02, C-03, C-04, C-05, M-05, M-07, M-10, M-15)</td>
<td></td>
</tr>
<tr>
<td><strong>Naloxone (Narcan):</strong></td>
<td></td>
</tr>
<tr>
<td>Adult Overdose M-15,</td>
<td></td>
</tr>
<tr>
<td>Newly Born OB-03,</td>
<td></td>
</tr>
<tr>
<td>Pedi Overdose PM-09</td>
<td></td>
</tr>
<tr>
<td>Clinical Procedure: (ET Route) CP-24</td>
<td></td>
</tr>
<tr>
<td>Clinical Standard CS-20</td>
<td></td>
</tr>
<tr>
<td>Up to 2 mg slow IV/IN/IM (M-15) If respirations depressed</td>
<td></td>
</tr>
<tr>
<td>0.1 mg/kg IV(OB-03, PM-09 may also use IN route in OD) If respirations depressed</td>
<td></td>
</tr>
<tr>
<td><strong>Nitroglycerin:</strong></td>
<td></td>
</tr>
<tr>
<td>Adult Chest Pain/Suspected ACS C-01</td>
<td></td>
</tr>
<tr>
<td>Adult Pulmonary Edema R-03</td>
<td></td>
</tr>
<tr>
<td>0.4 mg SL continuous with SBP ≥ 100 mmHg (R-03, C-01 and/or pain free with ACS)</td>
<td></td>
</tr>
<tr>
<td>1&quot; topical paste with SBP ≥ 100 mmHg (R-03, C-01)</td>
<td></td>
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<tr>
<td>Ø</td>
<td></td>
</tr>
<tr>
<td><strong>Ondansetron (Zofran):</strong></td>
<td></td>
</tr>
<tr>
<td>Adult Eye Injury/Complaint M-08,</td>
<td></td>
</tr>
<tr>
<td>Adult Nausea/Vomiting M-13,</td>
<td></td>
</tr>
<tr>
<td>Adult Hyperthermia, Environmental M-10,</td>
<td></td>
</tr>
<tr>
<td>Pedi Nausea/Vomiting/Diarrhea PM-05,</td>
<td></td>
</tr>
<tr>
<td>Pedi Hyperthermia, Environmental PM-08</td>
<td></td>
</tr>
<tr>
<td>4 mg ODT single dose PO (M-08, M-10, M-13)</td>
<td></td>
</tr>
<tr>
<td>4 mg IV/IM single (undiluted) dose given over &gt; 30 sec. (max dose 4 mg) (PM-05, PM-08)</td>
<td></td>
</tr>
<tr>
<td><strong>Oral Glucose:</strong></td>
<td></td>
</tr>
<tr>
<td>Adult Altered Mental Status M-03,</td>
<td></td>
</tr>
<tr>
<td>Pedi Altered Mental Status PM-02</td>
<td></td>
</tr>
<tr>
<td>Clinical Standard CS-20</td>
<td></td>
</tr>
<tr>
<td>15 grams if patient is not obtunded. May repeat x1 q 15min (M-03)</td>
<td></td>
</tr>
<tr>
<td>7.5 grams if Pt. able to protect Airway (PM-02)</td>
<td></td>
</tr>
<tr>
<td><strong>Otrivin (Afrin) nasal spray:</strong></td>
<td></td>
</tr>
<tr>
<td>Nasotracheal Intubation Procedure CP-44</td>
<td></td>
</tr>
<tr>
<td>2 sprays per effected nostril (CP-44)</td>
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<td>Ø</td>
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<tr>
<td><strong>Proparacaine Hydrochloride:</strong></td>
<td></td>
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<tr>
<td>Adult Eye Injury/Complaint M-08</td>
<td></td>
</tr>
<tr>
<td>2 gtts in effected eye (M-08)</td>
<td></td>
</tr>
<tr>
<td>1 gtt in effected eye (M-08)</td>
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<td>Ø</td>
<td></td>
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<tr>
<td><strong>Pyridoxine:</strong></td>
<td></td>
</tr>
<tr>
<td>Adult Toxic Exposure – Hydrazines (SO-07)</td>
<td></td>
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<tr>
<td>25 mg/kg IV over 5 min.(SO-07)</td>
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</tbody>
</table>
## Sodium Bicarbonate

- **Adult Wide Complex Tachycardia C-05**
- **Adult Asystole/PEA CA-02**
- **Adult Pulseless VF/VT CA-03**
- **Adult Persistent Pulseless DSED CA-06**
- **Adult Overdose M-15**
- **Pedi Bradycardia PC-01**
- **Pedi Asystole/PEA PCA-02**
- **Pedi Overdose PM-09**
- **Toxic Exposure Chlorine SO-04**
- **Adult Constant Crush > 4 hours SO-11**

<table>
<thead>
<tr>
<th>Medication Form</th>
<th>Dosage and Administration</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 meq/kg x 1 IV</strong> (C-05, CA-02, CA-03, CA-06 may use IO route in CA)</td>
<td>1 meq/kg IV/IO (PC-01, PCA-02, PM-09)</td>
<td></td>
</tr>
<tr>
<td><strong>50 mEq (1 amp) IV followed by a maintenance drip of 100 mEq (2 amps) in 1000 mL of NS and run at 100mL/hr (M-15)</strong></td>
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<tr>
<td><strong>50 mEq (1 amp) in 1000 mL NS wide open IV (SO-11)</strong></td>
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<tr>
<td><strong>Nebulized:</strong> Place 2 ml sodium bicarbonate 8.4% (standard sodium bicarbonate) into 2 ml of sterile water administered by hand-held nebulizer. May be repeated every 20 minutes. Max dose total of 2 times. (SO-04)</td>
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</tr>
</tbody>
</table>

## Terbutaline Sulfate

- **Adult Respiratory Distress Spcl. Ops. SO-01**

<table>
<thead>
<tr>
<th>Medication Form</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>0.25 mg SQ may repeat q15min x 2 pm (SO-01)</strong></td>
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</tbody>
</table>

## Vecuronium Bromide

- **Adult Induced Hypothermia CA-04**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>0.1 mg/kg to max of 10 mg (with Advanced Airway only) (CA-04)</strong></td>
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</tbody>
</table>

## Xylocaine gel

- **Nasotracheal Intubation Procedure CP-44 Gastric Tube Insertion Procedure CP-32 (nasal application without intubation)**

<table>
<thead>
<tr>
<th>Medication Form</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>1 unit dose (packet) (CP-32, CP-44)</strong></td>
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</tbody>
</table>
Dopamine

Class .......................... Sympathomimetic, Catecholamine

Action .......................... Naturally occurring hormone and preceptor to Norepinephrine. This catecholamine has different effects at different doses due to the sensitivity of receptors at different sites being related to the concentration of dopamine present. At low doses (2-5 mcg/kg/min) dopamine increases the perfusion of the mesenteric arteries and the kidneys. Low doses can be used to try and perfuse an ischemic bowel or a failing kidney. Has a direct action on alpha and beta-adrenergic receptors. As doses are increased (5-10 mcg/kg/min), beta receptors are stimulated increasing force of contraction as well as heart rate and conduction. As dopamine becomes more concentrated (10-20 mcg/kg/min) the less sensitive peripheral alpha receptors become activated this causes a increase in vascular constriction that increases as the drug becomes more concentrated until at 20 mcg/kg/min the effects are mainly on the peripheral vasculature.

Pharmacokinetics .......... Onset <5m, duration <10m, ½ life 2m.

Contraindications .......... Pheochromocytoma (adrenal tumors), tachydysrhythmias, HTN

Adverse effects ............. Tachydysrhythmias, VF, VT, AMI, N/V, HA.

Indications ................... Hypotension unresponsive to fluid therapy

Dosing ........................ Per Protocols: C-02, CA-04, M-11, T-07

Clinical References: CR-03
Calcium Chloride

Class .................................. Inotropic Agent (electrolyte)

Action .............................. Replaces elemental calcium, which is essential for regulating
excitation threshold of nerves and muscles. Calcium is also essential
for blood clotting mechanisms, maintenance of renal function, and
bone tissues. Calcium increases myocardial contractile force and
ventricular automaticity.

Additionally serves as an antidote for magnesium sulfate and calcium
channel blocker toxicity. Calcium chloride has three times as much
elemental calcium than calcium gluconate.

Pharmacokinetics .......... Onset and peak are immediate

Contraindications .......... V-Fib, renal/cardiac insufficiency, patients taking digitalis,
hypercalcemia

Adverse effects .......... Arrhythmias including bradycardia or cardiac arrest, Syncope, N/V,
Hypotension, Necrosis with extravasation. Calcium chloride will
precipitate when used in conjunction with sodium bicarbonate,
Toxicity with digitalis, and may antagonize the effects of calcium
channel blockers.

Indications .................. Calcium channel blocker toxicity/overdose, Acute hyperkalemia, Acute
hypercalcemia, Acute hypermagnesemia

Dosing ............................ Per Protocols: C-02, CA-02, CA-03, CA-06, M-15

Clinical References: CR-20