EXTERNAL CARDIAC PACING PROCEDURE

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Symptomatic bradycardia which may include: HR < 50 with decreasing perfusion, chest pain, shortness of breath, decreased LOC, pulmonary congestion or congestive heart failure

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- Concomitant administration of **Morphine Sulfate** and **Midazolam**

CRITICAL INFORMATION

- If patient is unstable, do not delay pacing for IV access

EQUIPMENT

- Cardiac monitor/ defibrillator/ external pacemaker
- Pacing capable electrode pads

PROCEDURE

- ALS RMC
- Administer **NS** 250 ml bolus IV/IO
- If patient is conscious, administer **Midazolam** 1 mg slow IV/IO. May repeat 1 mg every 3 minutes to desired degree of sedation. Maximum dose = 0.05 mg/kg.
- ☎**Morphine Sulfate** IV/IO/IM for pain management as needed; maximum dose of 5 mg.
- If tolerated, position patient supine, applying pacing electrodes to bare chest according to manufacturers recommendations (anterior/ posterior or sternal/ apex).
- Confirm and record ECG.
- Set pacing rate at 80, turn on pacing module, and confirm pacer activity on monitor.
- Increase output control until capture occurs or maximum output is reached.
- Once capture is confirmed, increase output by 10%
- Confirm pulses with paced rhythm.
- Monitor vital signs and need for further sedatives or pain control.

DOCUMENTATION

- MiliAmps needed for capture
- Time pacing started/ discontinued

RELATED POLICIES/ PROCEDURES

- Bradydysrhythmia C 4
- Adult Pain Management ATG 2

ADULT PAIN MANAGEMENT

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Patient exhibits or is determined to have measurable or anticipated pain or discomfort

☎ PHYSICIAN CONSULT

- Patients with SBP < 100
- Patients with head trauma; multi-system trauma that includes abdominal/thoracic trauma; decreased respirations; ALOC (GCS < 15); or women in labor
- > 20 mg **Morphine Sulfate** is needed for pain management
- Concomitant administration of **Morphine Sulfate** and **Midazolam**

CRITICAL INFORMATION

- Origin of pain (examples: isolated extremity trauma, chronic medical condition, burns, abdominal pain, multi-system trauma)
- Mechanism of injury
- Approximate time of onset
- Complaints or obvious signs of discomfort
- Use Visual Analog Scale (0-10) or Wong/Baker Faces Pain Rating Scale if non-English speaking adult. Express results as a fraction (i.e. 2/10 or 7/10)
- Vital signs
- Presence of special infusion apparatus for narcotic or oncology agents may help to determine dosing

TREATMENT

- **Morphine Sulfate** IV/IO: 5 mg slowly; MR q 5 minutes, max. dose 20 mg.
  - If unable to establish IV/IO, administer Morphine Sulfate IM 5-10 mg; MR in 20 minutes, max. dose 20 mg
- ☎If significant pain persists after Morphine Sulfate 10 mg IV/IO, may consider **Midazolam** 1mg IV/IO with physician consult; MR in 3 minutes to maximum dose 2 mg.
- If patient unable to take Morphine Sulfate, refer to Sedation Policy, ATG3.
- Maintain O2 saturation ≥ 94%

DOCUMENTATION- ESSENTIAL ELEMENTS

- Initial and post treatment pain score, expressed in a measurable form (i.e. 7/10)
- Interventions used for pain management (i.e. ice pack, splint, Morphine Sulfate, Midazolam)
- Reassessment after interventions
- Initial and post treatment vital signs: BP, HR, RR, O2 Saturation, ETCO2 (and GCS in patients with ALOC)
- Physician consult if required

ADULT SEDATION

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Agitation / combativeness interfering with critical ALS interventions and airway control or that endangers patient or caregiver
- Cardioversion / Cardiac Pacing
- Patients unable to tolerate Morphine Sulfate for pain management

☎ PHYSICIAN CONSULT

- Head injury (airway is stable)
- Multiple system trauma (airway is stable)
- Concomitant administration of **Morphine Sulfate** and **Midazolam**

CRITICAL INFORMATION

- Relative contraindications:
  - Nausea / vomiting
  - ALOC
  - Hypotension (SBP < 100)
  - Suspected drug / alcohol intoxication

TREATMENT

- ALS RMC, including ETCO2
- Cardioversion / cardiac pacing-
  - If patient is conscious, administer **Midazolam** 1 mg slow IV/IO. May repeat 1 mg every 3 minutes to desired degree of sedation. Maximum dose = 0.05 mg/kg.
  - ☎**Morphine Sulfate** IV/IO/IM for pain management as needed; maximum dose of 5 mg.
- Agitation / combativeness- **Midazolam**
  - IV/IO: 1 mg slowly; MR q 3 minutes to maximum dose 0.05 mg/kg.
  - IN: 5 mg (2.5 mg in each nostril)
  - IM: 0.1 mg/kg; MR x 1 in 10 minutes
- Patients receiving sedation for airway management who have long transport times may receive sedation maintenance doses of **Midazolam** 1 mg IV/IO every 15 minutes

Midazolam for Sedation Weight Based Chart - MAXIMUM DOSE for IV/IO/IM only

Kg	Lb	Dose (0.05 mg/kg)
40	88	2 mg
45	99	2.25 mg
50	110	2.5 mg
55	121	2.75 mg
60	132	3 mg
65	143	3.25 mg
70	154	3.5 mg
75	165	3.75 mg
80	176	4 mg
85	187	4.25 mg
90	198	4.5 mg
95	209	4.75 mg
>100	>220	5 mg

SPECIAL CONSIDERATION

- Sedation for airway management does not mandate intubation, but may require airway/ventilation support
- Patients receiving **Midazolam** may experience hypotension

RELATED POLICIES

- Patient Restraint GPC11
- Continuous Positive Airway Pressure (CPAP) Procedure ALS PR 13
- External Cardiac Pacing Procedure ALS PR 11

ADULT MEDICATIONS
AUTHORIZED/ STANDARD DOSE

DRUG	CONCENTRATION	STANDARD DOSE
Activated Charcoal	**25 gm/ bottle or 50 gm/ bottle**	**1 gm/ kg PO (not to exceed 50 gm)**
Adenosine (Adenocard)	**6 mg/ 2 ml**	**6 mg 1st dose, 12 mg 2nd dose (rapid IV/IO push) followed by 20 ml saline flush after each dose**
Albuterol	**2.5 mg/ 3ml NS**	**5 mg/ 6 ml NS; (MDI: Fireline only)**
Amiodarone	**150 mg/ 3ml**	***VFib or Pulseless VTach:*** **300 mg IV/ IO push followed by one 150MG push in 3-5 min.** ***Perfusing/Recurrent VTach*****–150 mg IV/ IO over 10 min. (15 mg/ min); MR q 10 min. as needed**
Aspirin (chewable)	**Variable**	**162-325 mg PO**
Atropine	**1 mg/ 10 ml**	***Bradycardia:*** **0.5 mg IV/ IO, MR q 3-5 min. to max of 3 mg.** ***Organophosphate Poisoning:*** **2.0 mg slowly IV/ IO; MR 2-5 min. until drying of secretions**
Calcium chloride 10%	**1 GM/ 10 ml**	***Crush syndrome:*** **1gm IV/ IO slowly over 5 min. for suspected hyperkalemia (flush line with NS before & after administration)**
Dextrose 50%	**25 GM/ 50 ml**	**25 GM IV/ IO**
Diphenhydramine (Benadryl)	**50 mg/ 1ml**	***Allergic reaction:*** **50 mg IV/ IO/ IM; max 50 mg** ***Phenothiazine reaction*****: 1 mg/ kg slowly IV/ IO; max 50 mg.** ***Motion sickness****:* **1 mg/kg IM/IV to maximum dose of 50 mg; maximum IV rate is 25 mg/minute**
Dopamine	**400 mg/ 250 ml Pre-mix**	**See specific policy dosing chart**
Epinephrine 1:1000	**1 mg/ 1ml** **EpiPen® (0.3mg) auto-injector**	***Allergic Reaction/ Anaphylaxis:*** **0.01 mg/ kg IM to max 0.5 mg or EpiPen®; MR x 1 in 5 minutes)** ***Bronchospasm/ Asthma/ COPD:*** **0.01 mg/kg IM; max. dose 0.5 mg. MR once in 5 minutes or EpiPen®**

Epinephrine 1: 10,000	**1 mg/ 10 ml**	***Anaphylaxis:*** **If unresponsive, no palpable BP, no palpable pulse - give 0.01 mg/kg to max of 0.5 mg/ 0.5 ml IV/ IO** ***Cardiac Arrest:*** **1mg (10 ml) IV/ IO followed by 20 ml NS flush q 3-5 min. during resuscitation**
Glucose Paste	**15 GM / tube**	**30 GM PO**
Glucagon		**1 mg IM**
Ipratropium (Atrovent)	**500 mcg per unit dose (2.5 ml)**	**500 mcg**
Lidocaine 2% (preservative free)	**20 mg / 1 ml**	**IO insertion: infuse 20-40 mg IO over 30-60 seconds**
Nerve gas Auto-Injector Kit contains: **Atropine** **Pralidoxime Chloride (2 PAM)**	**2 mg (0.7 ml)** **600 mg (2 ml)**	***Small Exposure to vapors/ liquids:*** **1 dose of both medications (Atropine & 2-PAM), MR X1 in 10 minutes.** ***Larger exposure to liquids/ vapors:*** **3 doses initially (both medications)**
Midazolam (Versed)	**2 mg/2 ml (IV/IO/IM)** **5 mg/1 ml (IN)**	***Cardioversion/ Pacing:*** **1 mg slow IV/ IO; MR 1 mg q 3 min.; Max dose = 0.05 mg/kg** ***Seizure:*** **1 mg IV slowly; MR in 3 min. to maximum dose 0.05 mg/kg. For IN: 5 mg (2.5 mg in each nostril). For IM: 0.1 mg/kg; MR x 1 in 10 minutes.** ***Sedation:*** **see specific policy**
Morphine Sulfate	**10 mg/ 1ml**	***Chest Pain:*** **2-5 mg slow IV/IO; MR q 2-3 min. to max of 10 mg** ***Pain Management/ Trauma Patient:*** **5 mg slow IV/ IO, MR q 5 min if SBP >100; max dose 20 mg** ***Pulmonary Edema:*** **2-5 mg slow IV/ IO. Physician Consult required**
Naloxone (Narcan)	**2 mg/ 5 ml**	**0.4- 2.0mg IV/IO/IM/SL/IN; MR in 5 min**
Nitroglycerine	**0.4 mg/ tablet or spray**	**1 SL; MR q 5 min. if SBP > 100**
Ondansetron (Zofran)	**4 mg**	**4 mg ODT/IM or slow IV over 30 sec; MR x 1 in 10 minutes**
Sodium Bicarbonate	**50 mEq/ 50 ml**	**1 mEq/ kg IV/ IO**

NOTE: If the above concentrations become unavailable, providers may use alternate available concentrations or packaging.

SPINAL MOTION RESTRICTION (SMR)

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

Any patient identified by Marin County's Spinal Injury Assessment [GPC 13A] to warrant full or modified SMR. The spinal injury assessment should be performed prior to application of SMR. SMR describes the procedure used to care for patients with possible unstable spinal injuries.

CONSIDERATIONS

- Full SMR is not benign; it can lead to pain, respiratory compromise, skin breakdown (decubiti) and contribute to cerebral hypo-perfusion in patients with stroke or head injury
- **Routine use of SMR should be avoided**. Its use should be reserved for patients with confirmatory physical findings or high clinical suspicion of unstable spinal fracture
- **SMR is not indicated in patients with isolated penetrating trauma [GPC 13A]**
- Use SMR with caution with patients presenting with **dyspnea** and position appropriately
- If patient experiences negative effects of SMR methods used, alternative measures should be implemented as soon as possible.
- **Pregnant patients** (>20 Weeks) should be positioned on the left side, immobilized as appropriate, supporting fetus
- **Combative patients:** Avoid methods that provoke increased spinal movement and/or combativeness
- **Pediatric patients**
  - Consider the use of SpO2 and EtCO2 to monitor respiratory function
  - Consider use of padded pediatric motion restricting board
  - Avoid methods that provoke increased spinal movement
  - If choosing to apply SMR to patient in car seat, ensure that proper assessment of patient posterior is performed
  - Car seats:
    - Infants or children restrained in a front or rear-facing car seat (excludes booster seats) may be immobilized and extricated in the car seat. The infant or child may remain in the car seat if the immobilization is secure and his/her condition allows (no signs of respiratory distress or shock).
    - Children restrained in a booster seat (with or without a back) need to be extricated and immobilized following standard SMR procedures.

PROCEDURE

Full SMR (Cervical Collar with full length-vacuum splint or rigid device with lateral immobilization and straps)

- Indications
  - Patients with obvious acute neurologic deficit (paralysis or weakness)
  - Priapism or suspected spinal shock
- Procedure
  - **Assess motor/sensory function before SMR and regularly reassess and document** motor/sensory function (include finger abduction, wrist/finger extension, plantar/dorsal flexion and sharp/dull exam if possible) following application of SMR
  - **Apply soft or rigid cervical collar**
    - Cervical collar may be omitted for patients with isolated lumbar and/or lower thoracic spine tenderness.

- If needed, **extricate patient** limiting movement of the spine
- **Apply adequate padding** on backboards or use vacuum mattress to prevent tissue ischemia and increase comfort.
- Secure patient to device.
- **Consider the use of SpO2 and EtCO2** to monitor respiratory function

Modified SMR (may include any of the following: soft or rigid cervical collar alone; self limiting motion; padding to limit movement; KED; or ½ length vacuum splint)

- Indications
  - Patients who do not meet criteria above but who are at high risk due to blunt trauma mechanism
  - Ambulatory/self-extricated patients who have mid-line neck pain and/or tenderness.
- Procedure
  - **Use the least invasive methods/tools** available which minimize patient discomfort and respiratory compromise. Least invasive examples: Lateral, semi-fowler's or fowler's position with cervical collar only; soft collars; pillows; vacuum splint or gurney mattress; children's car seats.
  - **Hard backboards should only be used when absolutely necessary** (e.g. patient transfer). Consider pull sheets, other flexible devices (e.g. flat stretchers), or scoops and scoop-like devices.
  - **Provide manual stabilization** restricting gross motion. **Alert and cooperative patients** may be allowed to self-limit motion if appropriate with or without cervical collar
  - **self-extrication** is allowable for patients meeting criteria for Modified SMR

RELATED POLICIES/ PROCEDURES

Spinal Injury Assessment GPC13A

POISONS/DRUGS

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Ingestion and/or exposure to one or more toxic substances

CRITICAL INFORMATION

- Identify substance/drug if possible and amount ingested
- Time of ingestion and length of exposure
- Risk of exposure to field providers

TREATMENT

- ALS RMC
- **Hydrocarbons or Petroleum distillates** (kerosene, gasoline, lighter fluid, furniture polish):
  - Do not induce vomiting.
  - Transport immediately.
- **Caustic/ Corrosives** (Ingestion of substances causing intra-oral burns, painful swallowing or inability to handle secretions):
  - Do not induce vomiting.
  - Consider dilution with no more than 1-2 glasses of water or milk if no respiratory compromise or change in mental status.
- **Insecticides** (organophosphates, carbonates; cause cholinergic crisis characterized by bradycardia, increased salivation, lacramation, sweating, muscle fasciculation, abdominal cramping, pinpoint pupils, incoherence or coma:
  - If skin exposure, decontaminate patient, remove clothing, wash skin, avoid contamination of prehospital personnel
  - **Atropine** 2 mg IV slowly. Repeat 2-5 minutes until drying of secretions, reversal of bronchospasm and reversal of bradycardia. Maximum dose 10 mg.
  - If seizures, **Midazolam (Versed)** 1 mg IV slowly; MR in 3 minutes to maximum dose 0.05 mg/kg
    - For IN: 5 mg (2.5mg in each nostril)
    - For IM: 0.1mg/kg; MR x 1 in 10 minutes
- **Cyclic Antidepressants** (frequently associated with respiratory depression, almost always tachycardic, widened QRS and ventricular arrhythmias generally indicate life-threatening ingestions):
  - In the presence of life-threatening dysrhythmias (hemodynamically significant supraventricular rhythms, ventricular dysrhythmias or QRS > 0.10):
    - Hyperventilate if assisting ventilations or if intubated.
    - **Sodium bicarbonate** 1 mEq/kg IVP
  - If seizures, **Midazolam (Versed)** 1 mg IV slowly; MR in 3 minutes to maximum dose 0.05 mg/kg
    - For IN: 5 mg (2.5 mg in each nostril)
    - For IM: 0.1mg/kg; MR x 1 in 10 minutes
- **Phenothiazine reactions** (restlessness, muscle spasms of the neck, jaw, and back; oculogyric crisis, history of ingestion of phenothiazine, or unknown medication):
  - **Benadryl** 1mg/ kg slow IVP to max of 50 mg

- **Other non-caustic drugs** (patient awake and alert):
  - If within 1 hour of ingestion, consider **Activated charcoal** 1 GM/kg PO, not to exceed 50 GM
  - If level of consciousness diminishes, protect airway, suggest lateral position with head down.

DOCUMENTATION- ESSENTIAL ELEMENTS

- Obtain history of ingestion, substance, amount and time of ingestion, bring sample to hospital if possible
- Vomiting prior to ED arrival

RELATED POLICIES/ PROCEDURES

- Seizures N2

SEIZURES
ALS

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Recurring or continuous generalized seizures with ALOC

TREATMENT

- ALS RMC
- If blood glucose <70 mg/ dl, give **Dextrose** 50% (D50W) 50 ml IVP or **Glucagon** 1 mg IM
- **Narcan** 2 mg IV/ IM/ SL/ IN if opiate overdose is suspected and the patient is in respiratory failure or shock
- **Midazolam (Versed)**
  - IV/IO: 1 mg slowly; MR q 3 minutes until seizure stops or maximum dose 0.05 mg/kg.
  - IN: 5 mg (2.5 mg in each nostril)
  - IM: 0.1 mg/kg; MR x 1 in 10 minutes if still seizing.

SPECIAL CONSIDERATION

- Consider treatable etiologies (hypoglycemia, hypoxia, narcotic overdose, unusual odor of alcohol, signs of trauma, medic alert tag) prior to administering anti-seizure medications.
- Expect and manage excessive oral secretions, vomiting, and inadequate tidal volume.
- Treatment should be based on the severity and length of the seizure activity.
- Focal seizures without mental status changes may not require pre-hospital pharmacological intervention.
- Never administer **Midazolam (Versed)** rapid IVP/IO since cardiac and/or respiratory arrest may occur.

DOCUMENTATION- ESSENTIAL ELEMENTS

- Blood glucose level
- Number, description, duration of seizures
- Dosage of medications, times administered

RELATED POLICIES/ PROCEDURES

- Intranasal Medications Midazolam (Versed) & Narcan ALS PR 7

SEVERE PRE-ECLAMPSIA/ ECLAMPSIA

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Third trimester pregnancy with the following signs and symptoms:
  - Hypertension (SBP systolic >160, DBP >110)
  - Mental status changes
  - Visual disturbances
  - Peripheral edema (pre-eclampsia)
  - Seizures and/or coma (eclampsia)

☎ PHYSICIAN CONSULT

- Administration of **NTG**

TREATMENT

- Position on left side
- ALS RMC
- Transport quickly with a quiet environment (no siren)
- IV NS TKO started enroute
- Seizures: **Midazolam (Versed)**
  - IV: 1 mg slowly; MR in 3 minutes to maximum dose 0.05 mg/kg.
  - IN: 5 mg (2.5 mg in each nostril)
  - IM: 0.1 mg/kg; MR x 1 in 10 minutes if still seizing.
- If DBP>110:
  - ☎ **NTG** 0.4 mg spray/SL; MR in 10 minutes

RELATED POLICIES/ PROCEDURES

- Seizures N 2
- Destination Guidelines GPC 4

PEDIATRIC TACHYCARDIA
POOR PERFUSION

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Rapid heart rate (HR> 220 infant: HR> 180 child) with pulse and poor perfusion

☎ PHYSICIAN CONSULT

- **Amiodarone**

CRITICAL INFORMATION

- Treat according to length based color-coded resuscitation tape. Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years**;** adolescent = >14 years
- Monophasic and biphasic doses are the same

TREATMENT

- ALS RMC
- 12-lead EKG
- If normal QRS ≤ 0.09 seconds; Probable Sinus Tachycardia or Supraventricular Tachycardia:
  - Consider vagal maneuvers, but do not delay other treatments
  - If vascular access readily available, **Adenosine** 0.1mg/kg IV/ IO; max first dose 6 mg. MR X 1; (double the dose), maximum dose 12 mg. Follow each dose with rapid 10 ml flush.
  - Premedicate with **Midazolam** 0.05 mg/kg IV/IO (maximum 1 mg per dose).
  - Do not delay cardioversion if patient unstable.
  - Cardiovert: 0.5-1J/kg; if not effective, increase to 2 J/kg
- Wide QRS ≥ 0.09 seconds; Probable Ventricular Tachycardia:
  - Cardiovert (see above)
  - ☎ **Amiodarone** if no response to cardioversion: 5 mg/kg IV over 20-60 minutes

SPECIAL CONSIDERATION

- Consider and treat possible contributing factors:

▪ Hypovolemia ▪ Hypoxemia ▪ Hydrogen ion (acidosis) ▪ Hypo/Hyperkalemia ▪ Hypoglycemia ▪ Hypothermia	▪ Toxins (overdoses) ▪ Tamponade, cardiac ▪ Tension pneumothorax ▪ Thrombosis (coronary / pulmonary) ▪ Pain ▪ Trauma

PEDIATRIC SEIZURES

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Recurring or continuous generalized seizures with ALOC

CRITICAL INFORMATION

- Treat according to length based color-coded resuscitation tape. Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years**;** adolescent = >14 years
- Evaluate for and treat hypoglycemia, hypoxia, narcotic overdose, trauma, fever, etc. prior to administering anti-seizure medications

TREATMENT

- ALS RMC
- Vascular access for prolonged seizures
- Check blood glucose and treat if <60 mg/dl (<40 mg/dl neonate):
  - Neonate = **D10W** 2 ml/kg IV/IO
  - < 2 years = **D25W** 2 ml/kg IV/IO or D10W 4 ml/kg IV/IO
  - ≥ 2 years = **D50W** 1 ml/kg IV/IO
  - If unable to establish vascular access; **Glucagon** .03 mg/kg (max = 1 mg) IM; MR x 2 q 15 minute intervals
- **Midazolam (Versed)**
  - IV/IO: 0.05 mg/kg (maximum 1 mg per dose). MR q 3 minutes until seizure stops and/or total dose of 5 mg is reached.
  - IN: 0.2 mg/kg (split dose equally per nostril); Maximum dose = 5 mg
  - IM: 0.1 mg/kg; MR x 1 in 10 minutes if still seizing.

DOCUMENTATION- ESSENTIAL ELEMENTS

- Number, description, and duration of seizures

RELATED POLICIES/ PROCEDURES

- Intranasal Medications Midazolam(Versed) & Narcan ALS PR 7

PEDIATRIC TOXIC EXPOSURES

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Probable ingestion and/or exposure to one or more toxic substances, including alcohol and medications

☎ PHYSICIAN CONSULT

- **Calcium Channel Blocker, Beta-Blockers, and Tricyclic overdoses**

CRITICAL INFORMATION

- Treat according to length based color-coded resuscitation tape. Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years**;** adolescent = >14 years
- Bring identifying substance containers to hospital when possible / appropriate

TREATMENT

- ALS RMC
- Fluid bolus **NS** 20 ml/kg IV/IO as indicated
- If suspected opiate overdose in patient > four weeks, administer **Narcan** 0.1 mg/kg IV/IO/IM/IN prior to advanced airway
  - **Hydrocarbons or Petroleum Distillates**
    - Do not induce vomiting
    - Transport immediately
  - **Calcium Channel Blockers / Tricyclics / Beta-Blockers**
    - Transport immediately
    - If within one hour of ingestion Administer **Activated Charcoal** 1 gm/kg PO, max. of 50 gms, if airway is protected
    - ☎ Physician consultation for additional treatments (i.e., Calcium Chloride, Sodium Bicarb)
  - **Caustics/Corrosives**
    - Do not induce vomiting
    - Consider dilution with no more than 1-2 glasses of water or milk if NO respiratory compromise or change in mental status
  - **Insecticides** (organophosphates, carbonates; cause cholinergic crisis characterized by bradycardia, increased salivation, lacramation, sweating, muscle fasciculation, abdominal cramping, pinpoint pupils, incoherence or coma):
    - Decontaminate patient
    - **Atropine** 0.05 mg/kg IV/IO slowly every 5-10 min. to max. of 4 mg or relief of symptoms
    - If seizures, **Midazolam (Versed):**
      - IV / IO: 0.05 mg/kg (maximum 1 mg per dose). May repeat every 3 minutes until seizure stops and/or total dose of 5 mg is reached.
      - IM: 0.1 mg/kg; May repeat x 1 in 10 minutes if still seizing.
      - IN: 0.2 mg/kg (split dose in half for each nostril). Maximum dose = 5 mg
  - **Phenothiazine Reactions**
    - **Benadryl** 1 mg/kg IM/IV/IO to max. of 50 mg
    - **Other Non-Caustic Drugs,** awake and alert
    - If within one hour of ingestion**: Activated Charcoal** 1 gm/kg PO, max. of 50 gms

SPECIAL CONSIDERATION

- Early contact with Poison Control Center

DOCUMENTATION- ESSENTIAL ELEMENTS

- Toxic substance identification
- Approximate time of exposure / ingestion

RELATED POLICIES/ PROCEDURES

- Intranasal Medications Midazolam(Versed) and Narcan ALS PR 7
- Pediatric Seizures P 9

PEDIATRIC MEDICATIONS
AUTHORIZED/ STANDARD INITIAL DOSE

DRUG	CONCENTRATION	STANDARD DOSE
Activated Charcoal	**25 GM/ bottle**	**1 gm/ kg PO; not to exceed 50 gm.**
Adenosine (Adenocard)	**6 mg/ 2 ml**	***Tachycardia Poor Perfusion:*** **0.1mg/kg; max. first dose 6mg. MR x 1 (double the dose); max. dose 12mg. (Rapid IV/IO push, each dose followed by 5 ml NS flush).** ***☎ Tachycardia Adequate Perfusion:*** **Dose as above after physician consult**
Albuterol	**2.5 mg/ 3 ml NS**	**2.5 mg/ 3ml NS**
Amiodarone	**150 mg/ 3 ml**	***Pulseless Arrest:*** **5 mg/ kg IV/ IO followed by or diluted in 20-30 ml NS. Maximum single dose 300 mg.** ***☎ Tachycardia with poor perfusion:*** **5mg/kg IV/IO over 20-60 min.**
Atropine	**1 mg/ 10 ml**	***Bradycardia:*** **0.02 mg/kg IV/ IO (minimum dose 0.1 mg.; single max. dose 1mg). MR X 1.** ***Organophosphate Poisoning:*** **0.5 mg/kg IV/IO; MR q 5-10 min. max. dose 4mg or until relief of symptoms**
Dextrose 10%	**D10%**	***ALOC (Neonate)*****: 2 ml/ kg IV/IO** ***ALOC (<2 years):*** **4ml/ kg IV/IO**
Dextrose 25%	**2.5 GM/ 10 ml**	***ALOC (< 2 years)*****: 2 ml/ kg IV/IO**
Dextrose 50%	**25 GM/ 50 ml**	***ALOC (> 2 years)*****: 1 ml/ kg IV/IO**
Diphenhydramine (Benadryl)	**50 mg/ 1 ml "or" 50 mg/ 10 ml**	**1 mg/ kg IV/IO/IM IV/ IO max. dose 25 mg/ min. IM max. dose, 50 mg.**

Epinephrine 1:1000	**1 mg/ 1ml** **EpiPen Jr.® 0.15mg**	***Allergic Reaction moderate/ severe/ anaphylaxis:*** **0.01 mg/ kg IM (0.01ml/ kg). Max. dose of 0.3 mg (0.3 ml). EpiPen Jr®.; repeat as needed in 5 min.** ***Upper Airway/ Stridor:*** **5mg in 5ml via nebulizer**
Epinephrine 1:10, 000	**1 mg/ 10 ml**	***Anaphylaxis:*** **If no response to Epi 1:1000, give 0.01mg/ kg (0.1ml/kg) of 1:10,000 IV/ IO.** ***Bradycardia:*** **0.01mg/ kg (0.1ml/kg) IV/ IO.** ***Cardiac Arrest:*** **0.01 mg/kg *(*0.1ml/kg) IV/ IO**
Glucagon	**1 mg/ 1 ml**	**0.03 mg/kg IM (max. dose 1 mg)**
Ipratropium (Atrovent)	**500 mcg per unit dose (2.5 ml)**	**Unit dose**
Midazolam (Versed)	**2 mg/ 2ml** **IN: 5 mg/1 ml**	***Cardioversion:*** **0.05 mg/kg slow IV/IO. Max.initial dose 1mg** ***Seizure (see policy for specifics):*** **IV/IO=0.05 mg/kg; MR q 3' (Max=5mg) IM=0.1mg/kg; MR in 10 minutes x1 IN= 0.2mg/kg; Max.= 5 mg.**
Morphine Sulfate	**10 mg/ 10 ml** **10 mg/ 1 ml**	***Pain Management*****: 0.1mg/ kg (0.1ml/ kg) slow IV/ IO/ IM. MR X 1 in 15 min. if IV/ IO or 30 min if IM.** ***Burns:*** **0.1 mg/kg IV/IO/IM in incremental doses up to 0.3mg/kg**
Naloxone (Narcan)	**2 mg/ 5 ml** **2mg/2ml**	***Suspected OD in non-neonate:*** **0.1 mg/ kg (0.25 ml/ kg) IV/ IO/ IM**
Ondansetron (Zofran)	**4 mg**	***Patients ≥ 4 yrs*****: 4 mg ODT/IM or slow IV over 30 seconds**
Sodium Bicarbonate	**50 mEq/ 50 ml**	***Tricyclic Antidepressant OD with significant dysrhythmias:*** **1mEq/ kg IV/ IO**

NOTE: If the above concentrations become unavailable, providers may use alternate available concentrations or packaging.