PEDIATRIC CARDIAC ARREST
ALWAYS USE STANDARD PRECAUTIONS

START CPR
- Give O2 via BVM 15:2
- Attach monitor/defibrillator
- Prepare for immediate transport

Assess Rhythm

VF/pVT

CPR 2 min
- IO/IV access

Rhythm Shockable?

NO

YES

CPR 2 min
- Epinephrine every 3-5 min
- Consider advanced airway

Rhythm Shockable?

NO

YES

CPR 2 min
- Amiodarone
- Treat reversible causes

Asystole/PEA

CPR 2 min
- IV/IO access
- Epinephrine every 3-5 min

Rhythm Shockable?

NO

YES

CPR 2 min
- Treat reversible causes

Rhythm Shockable?

YES

- Yes: follow VF/pVT
- No: continue with Asystole/PEA
- ROSC: Go to Policy C 10

REFER TO P18 A
- Defibrillation
- Drug dosages

CPR Ratios
- Pedi One Rescuer – 30:2
- Pedi Two Rescuer – 15:2

BLS Airway Management
- BVM is the preferred airway for pediatric patients
- Avoid excessive ventilation. Deliver only the volume needed to make the chest rise
- Place younger child in sniffing position for neutral airway positioning

ALS Airway Management
- Consider only if unable to ventilate with BVM and patient is ≥12 years of age or height > length of the color-coded resuscitation tape.
- Laryngoscopy for ETT must occur with CPR in progress. Do not interrupt CPR for >10 seconds for tube placement
- May use VL (video laryngoscopy) if available
- May use King Airway if patient is ≥12 years of age and 4 feet tall.
- Use continuous ETCO2 to monitor CPR effectiveness and advanced airway placement.
- Maintain O2 sat 94-99%
- 1 breath every 6 seconds

Reversible causes:
- Hypovolemia
- Hypoxia
- Hydrogen Ion (acidosis)
- Hypoglycemia
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponade (cardiac)
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary
Newborn Resuscitation
ALWAYS USE STANDARD PRECAUTIONS

Birth

Crying and/or good muscle tone?

Dry, warm, stimulate:
Assess HR

HR <100?

No

Yes

PPV 15 sec
Monitor SpO2

HR <60?

No

Yes

CPR 30 sec

HR <60?

No

Yes

CPR 1 min
- Epinephrine q 3-5 min
- Treat reversible causes

Routine Care:
Warm and maintain
normal temperature,
position airway, clear
secretions if needed,
dry, O2 pm, ongoing
evaluation

Critical Information:
- Measure with color-coded resuscitation tape
- Compress at a rate of 90 bpm. Use metronome or similar device
- 3:1 compression/ventilation ratio w/2 two-person CPR
- Change compressors every 2 minutes
- For routine care, if mother stable then place infant on
mother’s chest for skin-to-skin care
- Peripheral cyanosis is considered a normal finding
- Note if meconium present
- Delay cord clamping until 30-60 seconds after birth, and then clamp and cut 6-8 inches from baby
- If cord is around neck and can’t be slipped over the
head, double clamp and cut between claps

Airway Management:
- Ventilate at a rate of 60 breaths/min
- Use two-person BLS airway management whenever
possible
- Avoid excessive ventilation
- If HR>100 but SpO2 not in target range or central
cyanosis present, administer blow-by O2 at 10LPM
- Ventilation corrective actions
  M-mask adjustment
  R-reposition head
  S-suction mouth THEN nose
  O-open the mouth
  P-pressure increase
  A-alternative airway

Drug Therapy:
- Epinephrine 0.01mg/kg (0.1mg/ml concentration)
  IV/IO q 3-5 minutes
- Fluid bolus 10ml/kg NS

APGAR SCORE

<table>
<thead>
<tr>
<th>Sign</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart rate (bpm)</td>
<td>Absent</td>
<td>Slow (&lt;100)</td>
<td>≥100</td>
</tr>
<tr>
<td>Respiration</td>
<td>Absent</td>
<td>Slow, irregular</td>
<td>Good, crying</td>
</tr>
<tr>
<td>Muscle tone</td>
<td>Limp</td>
<td>Some flexion</td>
<td>Active motion</td>
</tr>
<tr>
<td>Reflex irritability</td>
<td>No response</td>
<td>Grimace</td>
<td>Cough, sneeze, cry</td>
</tr>
<tr>
<td>Color</td>
<td>Blue or pale</td>
<td>Pink body with blue extremities</td>
<td>Completely pink</td>
</tr>
</tbody>
</table>

Reversible Causes:
- Hypovolemia
- Hypoxia
- Pneumothorax
- Toxins (maternal drug exposure)

SpO2 Normal Values After Birth (In Min)

<table>
<thead>
<tr>
<th>Time</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>60-65%</td>
</tr>
<tr>
<td>2 min</td>
<td>65-70%</td>
</tr>
<tr>
<td>3 min</td>
<td>70-75%</td>
</tr>
<tr>
<td>4 min</td>
<td>75-80%</td>
</tr>
<tr>
<td>5 min</td>
<td>80-85%</td>
</tr>
<tr>
<td>10 min</td>
<td>85-95%</td>
</tr>
</tbody>
</table>
PEDIATRIC RESPIRATORY DISTRESS
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
▪ Patient exhibits any of the following:
  ▪ Wheezing
  ▪ Stridor
  ▪ Grunting
  ▪ Nasal flaring
  ▪ Apnea

CRITICAL INFORMATION
▪ Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
 ▪ Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years; adolescent = >14 years

TREATMENT
▪ ALS RMC
▪ Position of comfort to maintain airway
▪ Allow parent to administer oxygen if possible
▪ Upper Airway/ Stridor:
  ▪ Mild to moderate respiratory distress: 3ml NS via HHN
  ▪ Moderate to severe respiratory distress: Epinephrine (1mg/1ml concentration) 5 mg in 5 ml via nebulizer
▪ Lower Airway Obstruction/ Wheezing:
  ▪ Albuterol 2.5 mg in 3 ml NS via HHN, mask, or bag-valve-mask; MR x 1 and
  ▪ Ipratropium 500 mcg in 2.5 ml NS via HHN or bag-valve-mask
  ▪ If response inadequate, Epinephrine IM 0.01mg/kg (1mg/1ml concentration); MR in 5 minutes; max. total dose 0.6 mg
▪ Foreign Body Obstruction:
  ▪ Attempt to clear airway:
    ▪ < 1 year: 5 back blows and 5 chest thrusts
    ▪ > 1 year: 5 abdominal thrusts
  ▪ For foreign body airway obstruction refractory to above attempts, utilize laryngoscopy to visualize and remove foreign body with Magill forceps
▪ Respiratory failure/ apnea/ complete obstruction:
  ▪ Attempt positive pressure ventilation via bag-valve-mask
  ▪ ET tube placement approved for patients who are 12yrs of age or older or height greater than the length of the color-coded resuscitation tape.
  ▪ King Airway approved as a rescue airway for patients who are 12 years of age or older or 4 feet tall

SPECIAL CONSIDERATIONS
▪ Assess key history factors: recent hospitalizations, asthma, allergies, croup, and medication usage
# PEDIATRIC BRADYCARDIA

**ALWAYS USE STANDARD PRECAUTIONS**

## INDICATION
- HR < 60 causing cardio-respiratory compromise

## 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
- History of exposure to substances or medications

## TREATMENT
- ALS RMC
- 12-lead ECG
- Obtain IV/IO access
- If responsive and no signs of shock
  - Monitor and transport
- If shock present:
  - Assist respirations with BVM prn
  - CPR if < 8 years and HR < 60 after effective ventilations
  - **Epinephrine** 0.01 mg/kg IV/IO (0.1mg/ml concentration); MR q 3-5 min.
  - If first degree block or Mobitz type I, **Atropine** 0.02 mg/kg IV/IO (max single dose: 0.5 mg; minimum single dose: 0.1 mg); MR x 1
  - ET tube placement approved for patients who are 12 years of age or older or height greater than the length of the color-coded resuscitation tape.
  - King Airway approved as a rescue airway for patients who are 12 years of age or older and 4 feet tall
  - Consider cardiac pacing if no response to above treatment.

## SPECIAL CONSIDERATIONS
- Consider and treat possible contributing factors:
  - Hypovolemia
  - Hypoxemia
  - Hydrogen ion (acidosis)
  - Hypo/Hyperkalemia
  - Hypoglycemia
  - Hypothermia
  - Toxins (overdoses)
  - Tamponade, cardiac
  - Tension pneumothorax
  - Thrombosis (coronary / pulmonary)
  - Trauma

## RELATED POLICIES/ PROCEDURES
- External Cardiac Pacing Procedure ALS PR 11
PEDIATRIC TACHYCARDIA
POOR PERFUSION
ALWAYS USE STANDARD PRECAUTIONS

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

 PHYSICIAN CONSULT
- Amiodarone

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years; adolescent = >14 years

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; Maximum total dose = 5 mg).
  - 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:

<table>
<thead>
<tr>
<th>Hypovolemia</th>
<th>Toxins (overdoses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoxemia</td>
<td>Tamponade, cardiac</td>
</tr>
<tr>
<td>Hydrogen ion (acidosis)</td>
<td>Tension pneumothorax</td>
</tr>
<tr>
<td>Hypo/Hyperkalemia</td>
<td>Thrombosis (coronary / pulmonary)</td>
</tr>
<tr>
<td>Hypoglycemia</td>
<td>Pain</td>
</tr>
<tr>
<td>Hypothermia</td>
<td>Trauma</td>
</tr>
</tbody>
</table>
PEDIATRIC SHOCK
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- Inadequate organ and tissue perfusion to meet metabolic demands

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years; adolescent = >14 years

TREATMENT
- ALS RMC
- IV/ IO X 2; Use length-based color-coded resuscitation tape to determine fluid boluses; repeat bolus as needed
- Check blood glucose and treat if <60 mg/dl (<40 mg/dl neonate):
  - Neonate = D10W 2 ml/kg IV/IO over 10 minutes
  - > Neonate: D10W 5 ml/kg IV/IO over 10 minutes
  - If unable to establish vascular access; Glucagon .03 mg/kg (max = 1 mg) IM; MR x 2 q 15 minute intervals
- For symptoms of anaphylaxis, follow Allergic Reaction Policy P 8

SPECIAL CONSIDERATION
- Fluid resuscitation may require 40-60 ml/kg or more
PEDIATRIC ALLERGIC REACTION
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- Exposure to allergens causing airway, breathing and/or circulatory impairment

CRITICAL INFORMATION
- Treat according to length based color-coded resuscitation tape and in conjunction with the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years; adolescent = >14 years
- Exposure to common allergens (stings, drugs, nuts, seafood, meds), prior allergic reactions
- Presence of respiratory symptoms (wheezing, stridor)

TREATMENT
- ALS RMC
- Mild (hives, rash)
  - **Benadryl** 1mg/kg IM (MR in 10 minutes; max. dose 50 mg)
- Moderate / Severe
  - **Epinephrine** 0.01mg/kg IM (1mg/ml concentration); MR in 5 minutes; max. total dose is 0.6 mg
  - **Benadryl** 1mg/kg IM/IV/IO (MR in 10 minutes; max. dose 50 mg)
  - **Albuterol** 2.5 mg/3 ml NS HHN if bronchospasms present; MR X1 if no improvement
  - If hypotensive, fluid challenge **NS** 20 ml/kg IV/IO, MR
  - If unresponsive/ no palpable BP /no palpable pulse: go to Pediatric Cardiac Arrest Policy, P1

DOCUMENTATION- ESSENTIAL ELEMENTS
- Allergen if known
PEDIATRIC SEIZURES
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- Recurring or continuous generalized seizures with ALOC

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). 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 over 10 minutes
  - > Neonate: D10W 5 ml/kg IV/IO over 10 minutes
    - 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 Dosing Guide P18A
PEDIATRIC ALTERED LEVEL OF CONSCIOUSNESS (ALOC)

ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- Abnormal neurologic state where child is less alert and interactive than is age appropriate

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years; adolescent = >14 years
- Narcan is contraindicated with neonatal resuscitation

TREATMENT
- ALS RMC
- Check blood glucose and treat if < 60 mg/dl (neonate < 40 mg/dl):
  - Neonate = D10W 2 ml/kg IV/IO over 10 minutes
  - > Neonate: D10W 5 ml/kg IV/IO over 10 minutes
- If unable to establish vascular access; Glucagon .03 mg/kg (max = 1 mg) IM; MR x 2 q 15 minute intervals
- Narcan 0.1 mg/kg IM/IV/IO/IN. MR Q 5 minutes up to 2 mg if no improvement in ALOC and strong suspicion of opiate exposure

RELATED POLICIES/PROCEDURES
- Intranasal Medications Midazolam (Versed) and Narcan ALS PR 7
- Pediatric Dosing Guide P18A
PEDIATRIC TOXIC EXPOSURES
ALWAYS USE STANDARD 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
▪ Avoid contamination of prehospital personnel
▪ Identify substance/drug if possible and amount ingested; bring to hospital if appropriate
▪ Time of ingestion and length of exposure
▪ Risk of exposure to field providers – additional respiratory protection may be needed
▪ Alert receiving facility of possible HAZMAT exposure

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
  ▪ Physician consultation for additional treatments (i.e., Calcium Chloride, Sodium Bicarb)
▪ Caustics/Corrosives
  ▪ Do not induce vomiting
▪ Insecticides (organophosphates, carbonates; can cause cholinergic crisis characterized by bradycardia, increased salivation, lacrimation, sweating, muscle fasciculation, abdominal cramping, pinpoint pupils, incoherence or coma):
  ▪ Decontaminate patient and alert hospital of possible HAZMAT exposure
▪ Atropine 0.05 mg/kg IV/IO slowly every 5-10 minutes until symptoms resolve.
▪ 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

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 Dosing Guide P18A
PEDIATRIC BURNS
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
Damage to the skin or an inhalation injury caused by contact with fire, heat, electricity, or caustic material.

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat per the Pediatric Dosing Guide (P18A). Apply corresponding wrist band (do not apply over burned areas). Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years; Adolescent = >14 years
- Perform frequent airway assessments for inhalation injury, i.e., facial or chest burns, singed nasal hairs, soot/blisters in oropharynx.
- Burns with trauma mechanism will be transported per the Marin County Trauma Triage Tool

TREATMENT
- Remove patient to safe area and stop the burning process
  - Remove offending agent, involved clothing and restrictive jewelry (unless adhered to skin)
  - Brush away dry chemicals
  - Flush with copious amounts of tepid water x 10-15 minutes to stop burning process or to decontaminate
  - Keep patient warm
  - Cover injuries with clean, dry linen
- ALS RMC
  - High-flow oxygen for inhalation injuries, facial or chest burns
  - If wheezing, consider bronchodilator therapy Albuterol 2.5 mg HHN; MR x 1
  - IV NS at TKO; do not administer fluid bolus
- Keep patient warm to avoid hypothermia
- Provide pain management as soon as possible

DOCUMENTATION- ESSENTIAL ELEMENTS
- Estimated percentage of BSA affected
- Airway assessments

RELATED POLICIES/ PROCEDURES
- Pediatric Pain Management P15
- Pediatric Shock P7
- Pediatric Dosing Guide P18A
- Destination Guidelines GPC4
- Marin County Trauma Triage Tool, 4613a
- Pediatric Respiratory Distress P3
PEDIATRIC TRAUMA
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
Suspected or apparent injuries which meet conditions listed on the Marin County Trauma Triage Tool

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years; adolescent = >14 years
- Rapid transport to the appropriate trauma receiving facility is of paramount importance and must be taken into account in the field management of pediatric trauma patients.

TREATMENT
- ALS RMC
- Trauma center notification
- Secure airway, maintaining C-spine precautions as per policy
- IV/ IO NS bolus 20 ml/kg; MR X 1
- Pain management as appropriate

SPECIAL CONSIDERATION
- If injury may have resulted from abuse, neglect, assaults, and/or other crimes, refer to Suspected Abuse Policy for reporting.

RELATED POLICIES/ PROCEDURES
- Destination Guidelines GPC 4
- Trauma Triage and Destination Guidelines, 4613
- Suspected Abuse/ Neglect/ Human Trafficking Policy GPC 9
- Spinal Immobilization GPC 13
- Pediatric Pain Management P15
- Pediatric Dosing Guide P18A
BRIEF RESOLVED UNEXPLAINED EVENT (BRUE)
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
A frightening episode to the observer characterized by some combination of:
- Apnea (central or obstructive)
- Color change (cyanosis, pallor, erythema)
- Marked change in muscle tone
- Unexplained choking or gagging

 PHYSICIAN CONSULT
- Parent/Designated Decision Maker (DDM) refuses medical care and/or transport

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years;
- adolescent = >14 years
- Although BRUE usually occurs in patients < 12 months, any patient under 24 months who experiences any of the above indications should be considered
- Medical history: cardiac arrhythmias/anomalies, child abuse, meningitis, near SIDS, seizures, sepsis, toxic exposure, trauma

TREATMENT
- ALS RMC
- Check blood glucose and treat if < 60 mg/dl (< 40 mg/dl if neonate):
  - Neonate = D10W 2 ml/kg IV/IO over 10 minutes
  - > Neonate: D10W 5 ml/kg IV/IO over 10 minutes
  - If unable to establish vascular access; Glucagon .03 mg/kg (max = 1 mg) IM; MR x 2 q 15 minute intervals

SPECIAL CONSIDERATION
- Most BRUE patients have a normal physical exam
- Assume parental history is real. Encourage transport no matter how well the patient might appear.

DOCUMENTATION- ESSENTIAL ELEMENTS
- Severity, nature and duration of the episode
- General appearance of the patient, skin color, extent of interaction with the environment
- Evidence of trauma

RELATED POLICIES/ PROCEDURES
- Suspected Abuse/ Neglect/ Human Trafficking GPC 9
- Pediatric Dosing Guide P18A
PEDIATRIC PAIN MANAGEMENT
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- To provide analgesia for pediatric patients (6 months to 14 years or up to 45 kg), especially if anticipated extrication, movement, or transportation would exacerbate the patient’s level of pain.

PHYSICIAN CONSULT
- Patients less than 6 months of age
- Patients with head, chest, or abdominal trauma; decreased respirations; ALOC (GCS < 15)
- Additional doses of narcotic after initial doses administered

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- 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 (see Appendix A). Express results as a fraction (i.e. 2/10 or 7/10).

TREATMENT
- ALS RMC
- Morphine Sulfate 0.1mg/kg IV/IO/IM; MR x 2 in 15 minutes following IV/IO administration, or in 30 minutes following IM administration. Physician consult for additional doses OR
- Fentanyl 1 mcg/kg slow IV/IO/IN; MR q 5 minutes; max dose 3 mcg/kg; for IN divide dose evenly between nares
- Have Narcan available
- If nausea/vomiting, consider Ondansetron (Zofran ©)
  - Ages 2-3: 2mg ODT or slow IV/IO over 30 seconds; MR x 1 in 10 minutes
  - Age ≥4: 4mg ODT or slow IV/IO over 30 seconds; MR x 1 in 10 minutes

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 or Fentanyl)
- Reassessments made after interventions
- Initial and post treatment vital signs (including GCS in patients with ALOC)
- Physician consult if required
ADDENDUM A

Visual Analog Scale

0  1  2  3  4  5  6  7  8  9  10
No pain Worst Pain Ever

0 NO HURT
2 HURTS LITTLE BIT
4 HURTS LITTLE MORE
6 HURTS EVEN MORE
8 HURTS WHOLE LOT
10 HURTS WORST
PEDIATRIC SEXUAL ASSAULT
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- Patients under 14 years of age with complaints consistent with sexual assault

CRITICAL INFORMATION
- Preserve possible evidence and advise patient not to clean, bathe or change clothes until after examination by hospital personnel
- Notify police and dispatch of nature of call
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band

TREATMENT
- BLS/ ALS RMC
- Calm/ reassure patient
- Assign responder of same sex as patient if possible
- Treat medical conditions/ traumatic injuries per protocol
- If no medical conditions/ traumatic injuries are apparent and assault occurred within 72 hours of report:
  - Law Enforcement will take the victim to Children’s Hospital Oakland (CHO) for a medical evidentiary examination and should call the Emergency Department at CHO (510) 428-3240 and ask for the ED Social Worker on call
  - If no medical conditions/ traumatic injuries and the assault occurred > 72 hours of the report
    - Law Enforcement will make a decision of whether or not to proceed with the forensic medical examination
  - If patient/ Designated Decision Maker (DDM) refuses transport, instruct patient/DDM not to shower and advise of alternative care/ transport options per AMA or RAS Policy

DOCUMENTATION- ESSENTIAL ELEMENTS
- Date and time of alleged assault
- Details of injuries noted
- Law Enforcement actions and determination of destination
- Patient’s destination

RELATED POLICIES/ PROCEDURES
- AMA Policy  GPC 2
- RAS Policy GPC 3
- Destination Guidelines GPC 4
- Pediatric Dosing Guide P 18A
PEDIATRIC INTRAOSSEOUS INFUSION
ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION
- Immediate delivery of medications or fluids is needed for patient in profound hypovolemia, cardiac arrest, extremis from other cause and IV cannot be established in 90 seconds

CONTRAINDICATIONS
- Absolute contraindications:
  - Recent fracture of involved bone (less than 6 weeks)
  - Vascular disruption proximal to insertion site
  - Inability to locate landmarks
- Relative contraindications:
  - Infection or burn overlying the site

CRITICAL INFORMATION
- Age and/or weight of patient will determine correct device
- Limit attempts at IO access at scene to no more than 2

SPECIAL CONSIDERATION
- Pressure bags for optimal flow of IO infusions

DOCUMENTATION- ESSENTIAL ELEMENTS
- Number of attempts to establish peripheral IV if applicable
- Number of attempts to establish IO
- Insertion site
- Patency at time of transfer of care
# PEDIATRIC MEDICATIONS

## AUTHORIZED/ STANDARD INITIAL DOSE

<table>
<thead>
<tr>
<th>DRUG</th>
<th>CONCENTRATION</th>
<th>STANDARD DOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenosine (Adenocard)</td>
<td>6 mg/ 2 ml</td>
<td><em>Tachycardia Poor Perfusion:</em> 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).</td>
</tr>
<tr>
<td>Albuterol</td>
<td>2.5 mg/ 3 ml</td>
<td>2.5 mg/ 3ml NS</td>
</tr>
</tbody>
</table>
| 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 0.5mg). MR X 1. 
  *Organophosphate Poisoning:* 0.05 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 (>Neonate):* 5 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 mg/ 1ml     | *Allergic Reaction moderate/severe/anaphylaxis:* 0.01 mg/kg IM (0.01ml/kg). Max. dose of 0.6 mg (0.6 ml). 
  EpiPen Jr®; repeat as needed in 5 min. 
  *Upper Airway/ Stridor:* 5mg in 5ml via nebulizer |
| Epinephrine                 | 1 mg/ 10 ml or 0.1mg/ml | *Bradycardia:* 0.01mg/kg (0.1ml/kg) 
  IV/ IO. 
  *Cardiac Arrest:* 0.01 mg/kg (0.1ml/kg) 
  IV/ IO |
<table>
<thead>
<tr>
<th>Medication</th>
<th>Concentration</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fentanyl</td>
<td>100 mcg/2 ml</td>
<td><strong>Pain Management:</strong> 1 mcg/kg slow IV/IO/IN; MR q 5 minutes; max dose 3 mcg/kg; for IN divide dose evenly between nares</td>
</tr>
<tr>
<td>Glucagon</td>
<td>1 mg/ 1 ml</td>
<td><strong>Hypoglycemia/Beta Blocker OD:</strong> 0.03 mg/kg IM (max. dose 1 mg)</td>
</tr>
<tr>
<td>Ipratropium (Atrovent)</td>
<td>500 mcg per unit dose (2.5 ml)</td>
<td>Unit dose</td>
</tr>
<tr>
<td>Lidocaine 2% (preservative free)</td>
<td>20 mg/1 ml</td>
<td><strong>IO insertion for pts &gt;3kg:</strong> Infuse 0.5mg/kg slowly (up to a maximum dose of 40mg). May repeat as needed x 1 using ½ of initial bolus.</td>
</tr>
<tr>
<td>Midazolam (Versed)</td>
<td>2 mg/ 2ml IN: 5 mg/1 ml</td>
<td><strong>Cardioversion:</strong> 0.05 mg/kg slow IV/IO. Max. initial dose 1 mg</td>
</tr>
<tr>
<td>Morphine Sulfate</td>
<td>10 mg/ 10 ml 10 mg/ 1 ml</td>
<td><strong>Seizure (see policy for specifics):</strong> 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. <strong>Burns:</strong> 0.1 mg/kg IV/IO/IM in incremental doses up to 0.3mg/kg</td>
</tr>
<tr>
<td>Naloxone (Narcan)</td>
<td>2mg/2ml</td>
<td><strong>Suspected OD in non-neonate:</strong> 0.1 mg/kg (0.25 ml/ kg) IV/ IO/ IM</td>
</tr>
</tbody>
</table>
| Ondansetron (Zofran)  | 4 mg              | **Patients ≥ 4 yrs:** 4 mg ODT or slow IV over 30 seconds  
**Patients 2-4yrs:** 2mg ODT 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.
<table>
<thead>
<tr>
<th>WEIGHT</th>
<th>kg 3 - 5</th>
<th>6 - 7</th>
<th>8 - 9</th>
<th>10 - 11</th>
<th>12 - 14</th>
<th>15 - 18</th>
<th>19 - 23</th>
<th>24 - 29</th>
<th>30 - 36</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS Fluid Bolus</td>
<td>60, 80, 100 ml</td>
<td>130 ml</td>
<td>170 ml</td>
<td>210 ml</td>
<td>260 ml</td>
<td>325 ml</td>
<td>420 ml</td>
<td>530 ml</td>
<td>660 ml</td>
</tr>
<tr>
<td>Blade size for foreign body removal</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>DEFIBRILLATION</td>
<td>6 - 10 J/kg</td>
<td>13 J</td>
<td>17 J</td>
<td>20 J</td>
<td>26 J</td>
<td>33 J</td>
<td>40 J</td>
<td>53 J</td>
<td>66 J</td>
</tr>
<tr>
<td>2nd</td>
<td>12 - 20J</td>
<td>26J</td>
<td>34J</td>
<td>40J</td>
<td>52J</td>
<td>66J</td>
<td>80J</td>
<td>106J</td>
<td>130J</td>
</tr>
<tr>
<td>CARDIOVERSION</td>
<td>0.5 - 1 J/kg, 2 J/kg</td>
<td>3 - 5J</td>
<td>7J</td>
<td>9J</td>
<td>10J</td>
<td>13J</td>
<td>17J</td>
<td>20J</td>
<td>27J</td>
</tr>
<tr>
<td>2nd</td>
<td>6 - 10J</td>
<td>13J</td>
<td>17J</td>
<td>20J</td>
<td>26J</td>
<td>34J</td>
<td>40J</td>
<td>54J</td>
<td>66J</td>
</tr>
<tr>
<td>ADENOSINE</td>
<td>0.1 mg/kg RIVP w/ 10 ml NS flush</td>
<td>0.3 - 0.5 mg</td>
<td>0.7 mg</td>
<td>0.9 mg</td>
<td>1 mg</td>
<td>1.3 mg</td>
<td>1.7 mg</td>
<td>2.1 mg</td>
<td>2.7 mg</td>
</tr>
<tr>
<td>MR x 1 double the dose</td>
<td>0.14 ml</td>
<td>0.2 ml</td>
<td>0.3 ml</td>
<td>0.3 ml</td>
<td>0.4 ml</td>
<td>0.6 ml</td>
<td>0.7 ml</td>
<td>0.9 ml</td>
<td>1.1 ml</td>
</tr>
<tr>
<td>Max 1st dose 6 mg, Max 2nd dose 12 mg</td>
<td>0.6 - 1 mg</td>
<td>1.3 mg</td>
<td>1.7 mg</td>
<td>2.1 mg</td>
<td>2.6 mg</td>
<td>3.4 mg</td>
<td>4.2 mg</td>
<td>5.4 mg</td>
<td>6.6 mg</td>
</tr>
<tr>
<td>Concentration: 6 mg/2 ml (3 mg/ml)</td>
<td>0.25 ml</td>
<td>0.4 ml</td>
<td>0.6 ml</td>
<td>0.7 ml</td>
<td>0.9 ml</td>
<td>1.1 ml</td>
<td>1.4 ml</td>
<td>1.8 ml</td>
<td>2.2 ml</td>
</tr>
<tr>
<td>ALBUTEROL</td>
<td>Unit Dose</td>
<td>2.5 mg/3 ml</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMIODARONE</td>
<td>(Pulseless Arrest) 5 mg/kg IV/IO followed by 20 ml NS flush. MR x 2 refractory rhythm</td>
<td>15 - 25 mg</td>
<td>32 mg</td>
<td>42 mg</td>
<td>50 mg</td>
<td>65 mg</td>
<td>80 mg</td>
<td>105 mg</td>
<td>130 mg</td>
</tr>
<tr>
<td>Max single dose 300 mg</td>
<td>Concentration: 150 mg/3 ml (50 mg/ml)</td>
<td>0.3 - 0.5 ml</td>
<td>0.6 ml</td>
<td>0.8 ml</td>
<td>1 ml</td>
<td>1.3 ml</td>
<td>1.6 ml</td>
<td>2.1 ml</td>
<td>2.6 ml</td>
</tr>
<tr>
<td>ATROPINE</td>
<td>(Bradycardia) 0.02 mg/kg IV/IO</td>
<td>0.1 mg</td>
<td>0.1 mg</td>
<td>0.2 mg</td>
<td>0.2 mg</td>
<td>0.3 mg</td>
<td>0.3 mg</td>
<td>0.4 mg</td>
<td>0.5 mg</td>
</tr>
<tr>
<td>MR x 1 in 3 - 5 minutes</td>
<td>Min dose 0.1 mg, Max single dose 0.5 mg</td>
<td>Concentration: 1 mg/10 ml (0.1 mg/ml)</td>
<td>1 ml</td>
<td>1 ml</td>
<td>2 ml</td>
<td>2 ml</td>
<td>3 ml</td>
<td>3 ml</td>
<td>4 ml</td>
</tr>
<tr>
<td>ATROPINE</td>
<td>(Organophosphate Poisoning) 0.05 mg/kg IV/IO MR q 5 - 10 mins until symptoms resolve</td>
<td>0.15 - 0.25 mg</td>
<td>0.3 mg</td>
<td>0.4 mg</td>
<td>0.5 mg</td>
<td>0.7 mg</td>
<td>0.8 mg</td>
<td>1 mg</td>
<td>1.3 mg</td>
</tr>
<tr>
<td>Concentration: (preload) 1 mg/10 ml (0.1 mg/ml)</td>
<td>1.5 - 2.5 ml</td>
<td>3 ml</td>
<td>4 ml</td>
<td>5 ml</td>
<td>7 ml</td>
<td>8 ml</td>
<td>11 ml</td>
<td>13 ml</td>
<td>17 ml</td>
</tr>
<tr>
<td>Concentration: (multi-dose vial) 0.4 mg/ml</td>
<td>0.4 - 0.6 ml</td>
<td>0.8 ml</td>
<td>1.1 ml</td>
<td>1.3 ml</td>
<td>1.6 ml</td>
<td>2.1 ml</td>
<td>2.6 ml</td>
<td>3.3 ml</td>
<td>5 ml</td>
</tr>
<tr>
<td>BENADRYL</td>
<td>1 mg/kg IM/IV/O IM Max dose 50 mg</td>
<td>4 mg</td>
<td>6.5 mg</td>
<td>8.5 mg</td>
<td>10.5 mg</td>
<td>13 mg</td>
<td>16.5 mg</td>
<td>21 mg</td>
<td>26 mg</td>
</tr>
<tr>
<td>Concentration: 50 mg/ml</td>
<td>0.08 ml</td>
<td>0.1 ml</td>
<td>0.2 ml</td>
<td>0.2 ml</td>
<td>0.3 ml</td>
<td>0.3 ml</td>
<td>0.4 ml</td>
<td>0.5 ml</td>
<td>0.7 ml</td>
</tr>
<tr>
<td>DEXTROSE</td>
<td>10%</td>
<td>8 ml</td>
<td>13 ml</td>
<td>42 ml</td>
<td>53 ml</td>
<td>65 ml</td>
<td>83 ml</td>
<td>105 ml</td>
<td>125 ml</td>
</tr>
<tr>
<td>Give over 10 minutes</td>
<td>2 ml/kg IV/IO</td>
<td>5 ml/kg IV/IO Max dose 125 ml</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPINEPHRINE</td>
<td>(Cardiac Arrest/Bradycardia) 0.01 mg/kg IV/IO MR q 3 - 5 mins</td>
<td>0.03 - 0.05 mg</td>
<td>0.07 mg</td>
<td>0.09 mg</td>
<td>0.1 mg</td>
<td>0.1 mg</td>
<td>0.2 mg</td>
<td>0.2 mg</td>
<td>0.3 mg</td>
</tr>
<tr>
<td>Concentration: 1 mg/10 ml</td>
<td>0.3 - 0.5 ml</td>
<td>0.7 ml</td>
<td>0.9 ml</td>
<td>1 ml</td>
<td>1 ml</td>
<td>2 ml</td>
<td>2 ml</td>
<td>3 ml</td>
<td>3 ml</td>
</tr>
<tr>
<td>EPINEPHRINE</td>
<td>(Allergic Reaction &amp; Asthma) 0.01 mg/kg IM; MRx 1 in 5 minutes Total max dose 0.6 mg</td>
<td>0.03 - 0.05 mg</td>
<td>0.1 mg</td>
<td>0.1 mg</td>
<td>0.1 mg</td>
<td>0.2 mg</td>
<td>0.2 mg</td>
<td>0.3 mg</td>
<td>0.3 mg</td>
</tr>
<tr>
<td>Concentration: 1 mg/1 ml</td>
<td>0.03 - 0.05 mg</td>
<td>0.1 mg</td>
<td>0.1 mg</td>
<td>0.1 mg</td>
<td>0.2 mg</td>
<td>0.2 mg</td>
<td>0.3 mg</td>
<td>0.3 mg</td>
<td></td>
</tr>
<tr>
<td>EPINEPHRINE</td>
<td>&quot;Nebulized Epi&quot; (Upper Airway/Stridor) (1 mg/1 ml concentration)</td>
<td>5 mg (5 ml) Via Nebulizer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEIGHT</td>
<td>Grey</td>
<td>Pink</td>
<td>Red</td>
<td>Purple</td>
<td>Yellow</td>
<td>White</td>
<td>Blue</td>
<td>Orange</td>
<td>Green</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
<td>------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>kg</td>
<td>3-5</td>
<td>6-7</td>
<td>8-9</td>
<td>10-11</td>
<td>12-14</td>
<td>15-18</td>
<td>19-22</td>
<td>24-28</td>
<td>30-36</td>
</tr>
</tbody>
</table>

**FENTANYL** (Pain) 1 mcg/kg IV/IO/IM/IN MR q 5 min for IN split dose evenly per nostril Max dose 3 mcg/kg;

<table>
<thead>
<tr>
<th>Concentration: 1 mg/1 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.08 ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GLUCAGON (hypoglycemia/Beta blocker OD) 0.03 mg/kg IM MR x 2 q 15 minutes Max dose 1 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.09 - 0.15 mg                      0.2 mg                           0.3 mg                      0.4 mg                      0.5 mg                      0.6 mg                      0.8 mg                      1 mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concentration: 1 mg/1 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 - 0.15 ml            0.2 ml                          0.3 ml                      0.4 ml                      0.5 ml                      0.6 ml                      0.8 ml                      1 ml</td>
</tr>
</tbody>
</table>

**IPRATROPIUM** - Atrovent 500 mcg per unit dose (2.5 ml) 500 mcg / 2.5 ml

**LIDOCAINE 2%** - (IO Insertion) 0.5 mg/kg slow IO Max dose 40 mg

<table>
<thead>
<tr>
<th>Concentration: 20mg/1ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.06 - 0.13 ml          0.2 ml                       0.3 ml                      0.3 ml                      0.4 ml                      0.5 ml                      0.7 ml                      0.8 ml</td>
</tr>
</tbody>
</table>

**MORPHINE** (Pain/Burns) 0.1 mg/kg IV/IO/IM MR x 2 in 15 minutes (IV/IO) or in 30 minutes (IM)

**MIDAZOLAM** - Versed (Seizure & Cardioversion) 0.05 mg/kg slow IV/IO Max 1st dose 1 mg, Total max dose 5 mg

<table>
<thead>
<tr>
<th>Concentration: 2mg/2ml (1 mg/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15 - 0.25 mg                0.3 mg                       0.4 mg                      0.5 mg                      0.7 mg                      0.8 mg                      1 mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concentration: 5 mg/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.12 - 0.2 ml         0.3 ml                       0.3 ml                      0.4 ml                      0.5 ml                      0.7 ml                      0.8 ml                      1 ml</td>
</tr>
</tbody>
</table>

**MIDAZOLAM** - Versed (Seizure) IN: 0.2 mg/kg Split dose equally per nostril Max dose 5 mg

<table>
<thead>
<tr>
<th>Concentration: 5 mg/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15 - 0.25 mg        0.3 ml                       0.4 ml                      0.5 ml                      0.7 ml                      0.8 ml                      1 ml</td>
</tr>
</tbody>
</table>

**MIDAZOLAM** - Versed (Seizure) IM: 0.1 mg/kg MR x 1 in 10 minutes

<table>
<thead>
<tr>
<th>Concentration: 5 mg/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15 - 0.25 mg        0.3 ml                       0.3 ml                      0.4 ml                      0.5 ml                      0.7 ml                      0.8 ml                      1 ml</td>
</tr>
</tbody>
</table>

**MORPHINE** (Pain/Burns) 0.1 mg/kg IV/IO/IM MR x 2 in 15 minutes (IV/IO) or in 30 minutes (IM)

**MIDAZOLAM** - Versed (Seizure) IN: 0.2 mg/kg Split dose equally per nostril Max dose 5 mg

**NARCAN** - Naloxone 0.1 mg/kg IV/IO/IM MR q 5 minutes up to 2 mg

<table>
<thead>
<tr>
<th>Concentration: 2 mg/2 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3 - 0.5 mg            0.7 mg                       0.9 mg                      1 mg</td>
</tr>
</tbody>
</table>

**SODIUM BICARBONATE** 1 mEq/kg IV/IO

<table>
<thead>
<tr>
<th>Concentration: 1 mEq/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 - 5 mEq              6.5 mEq                      8.5 mEq                      10 mEq                      13 mEq                      17 mEq                      21 mEq                      26 mEq                      33 mEq</td>
</tr>
</tbody>
</table>

**ZOFRAN** - Ondansetron

**Concentration: 4 mg tab ODT, 4 mg/2 ml IV**

<table>
<thead>
<tr>
<th>Age 2 - 3 years: Give 2 mg ODT or slow IVP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 4 and up: Give 4 mg ODT or slow IVP</td>
</tr>
</tbody>
</table>