

MI-MEDIC

Michigan Medication Emergency Dosing and Intervention Cards



**Based on the State of Michigan EMS Protocols
Revised 2023**

Version 4.1.2

MI-MEDIC Instructions

Determine the appropriate card to be used based on the following order:

1. Select the card that matches the patient's weight when known. Be sure not to confuse pounds and kilograms.
2. Use approved length-based pediatric resuscitation tape to determine the correct card when weight is unknown.
3. Use the patient's age to determine the correct card when resuscitation tape is not available, estimating age when unknown.
4. If pediatric patient exceeds length-based tape, use **BLACK** (adult) card.

Pediatric Patients (≤ 14 years old)

1. Select the desired medication or intervention.
2. Assure the medication concentration on hand is the SAME as specified on the MI-MEDIC.
3. Administer volume of medication listed at the far right of the card, including dilution amount, if necessary.

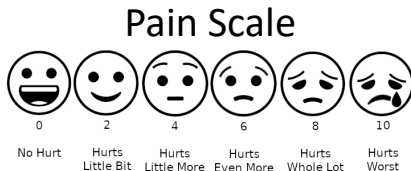
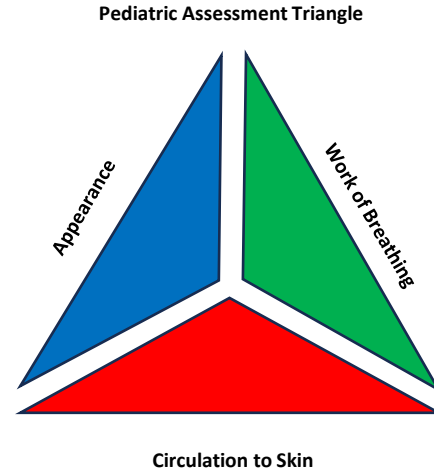
Adult Patients (> 14 years old) – Black Cards

1. Select the desired medication or intervention.
2. Assure the medication concentration on hand is the SAME as specified on the MI-MEDIC.
3. Administer volume of medication listed at the far right of the card, including dilution amount, if necessary.
 - Confirm medication DOSE and VOLUME to be delivered with colleague when possible.
 - Contact Medical Control for questions or concerns.

Note: Protocols are dynamic and may change based on current science. EMS personnel must be familiar with the most current set of approved protocols which take precedence over the information included in the MI-MEDIC.

Pediatric Assessment Tools

| Pediatric Glasgow Coma Scale | | | |
|------------------------------|-------------------------|-------------------------|-------|
| | < 1 Year | > 1 Year | Score |
| Eye Opening | Spontaneous | Spontaneous | 4 |
| | To Speech | To verbal command | 3 |
| | To pain | To pain | 2 |
| | No response | No response | 1 |
| Verbal Response | Coos, babbles | Oriented | 5 |
| | Cries and is consolable | Disoriented/Confused | 4 |
| | Cries to pain | Inappropriate words | 3 |
| | Grunts, moans | Incomprehensible sounds | 2 |
| | No response | No response | 1 |
| Motor Response | Spontaneous | Obeys | 6 |
| | Localizes pain | Localizes pain | 5 |
| | Withdraws from pain | Withdraws from pain | 4 |
| | Flexion (decorticate) | Flexion (decorticate) | 3 |
| | Extension (decerebrate) | Extension (decerebrate) | 2 |
| | No Response | No Response | 1 |



| APGAR Scale | | | |
|------------------------------|--------------|---------------------------|--------------------------|
| Sign | 0 | 1 | 2 |
| Appearance: Color | Blue or Pale | Cyanosis in extremities | Completely pink |
| Pulse: Heart Rate | Absent | Less than 100 bpm | Greater than 100 bpm |
| Grimace: Reflex Irritability | No Response | Grimace | Cry or Active Withdrawal |
| Activity: Muscle Tone | Limp | Some Flexion | Active Motion |
| Respiration | Absent | Weak Cry: Hypoventilation | Good, Crying |

Pediatric Burn Considerations

- Children have a greater body surface area (BSA) per unit of body mass than adults.
- Children require greater amounts of resuscitation fluid proportionally.
- Heads comprises > percentage of BSA.
- Large head contributes to > heat loss.
- Skin is thinner & more permeable; toxins will be absorbed faster & exert > systemic effects.

Calculating Burn Percentages in Children

Lund and Browder Chart - For large and TBSA burns.

- This method compensates for variation in body shape with age.

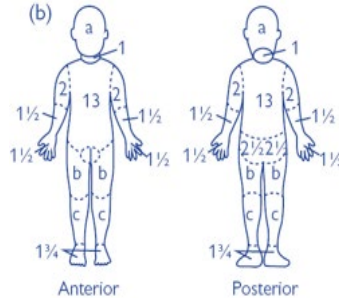
| | 0 yr. | 1 yr. | 5 yrs. | 10 yrs. | 15 yrs. |
|----------------------|-------|-------|--------|---------|---------|
| a - ½ of head | 9.5 | 8.5 | 6.5 | 5.5 | 4.5 |
| b - ½ of 1 thigh | 2.75 | 3.25 | 4 | 4.25 | 4.5 |
| c - ½ of 1 lower leg | 2.5 | 2.5 | 2.75 | 3 | 3.25 |



The Palm Method

For burns scattered over the body:

- Use **patient's hand** as a guide.
- Entire palmar surface = 1% of the patient's body.



Poison Control

1-800-222-1222

Child Abuse Hotline

1-855-444-3911

Human Trafficking Hotline

1-888-373-7888

Human Trafficking Flags

Living circumstances

- No personal space, too many people in one place
- No or very few personal items
- No identification, may not know address
- Unusual security; barred windows, locks, cameras

Behavior

- Exhibit fear/paranoia of law enforcement or authority figures
- Avoid eye contact with responders
- Often trafficker is with them, controlling them & prevents person from speaking for themselves

Physical Signs

- Physical abuse; bruises, cuts, burns, scars
- Malnourishment
- Unusual tattoos and markings

Infectious Disease Precautions

Standard Precautions are used on all patient encounters and protect against contact with blood, body fluids, non-intact skin and mucous membranes.

PPE:

- Gloves during patient contact.
- Goggles/face shield and surgical masks for any airway procedures.
- Impermeable gown if splash or liquid generation expected.

Transport Considerations:

- Standard transportation to appropriate health care facility.
- If the patient compartment is equipped with an exhaust fan, ensure that it is on.

Contact Precautions are used to provide fluid-resistant barriers to infectious agents that are either highly pathogenic, drug resistant, contagious, or persistent and that can easily be contracted or spread to other environments via surface contact.

PPE:

- Disposable fluid-resistant gown that protects the provider's legs or consider disposable fluid-resistant coveralls.
- Disposable gloves.
- Ensure strict adherence to standard precautions based on situation (e.g., mask, goggles/face shield for splatter risk or airway interventions).

Transport Considerations:

- Consider applying a fluid-resistant barrier sheet to the patient to protect the responder and environmental surfaces in the presence of excessive wound drainage, fecal incontinence, or other discharges.
- Advise receiving hospital of patient on contact precautions who should preferably be transported to a private room.

Additional precautions may apply for special respiratory and viral hemorrhagic viruses.

Airborne Precautions provide respiratory protection against inhalation of potentially infectious airborne particles.

PPE:

- N95 respirator.
- Disposable gloves.
- Eye protection – goggles or face shield.

Transport Considerations:

- Notify the receiving hospital of the need for an airborne infection isolation room (AIIR) for patient placement.
- If possible, have the patient compartment exhaust vent on high and isolating the driver compartment from the patient compartment. Consider having the driver compartment ventilation fan set to high without recirculation.
- If driver/pilot compartment is not isolated from the patient compartment, vehicle operator should wear N95 respirator.
- Patients who are intubated should be ventilated with a bag-valve device or ventilator equipped with a HEPA filter in-line or on the exhalation port.

Droplet Precautions provide protection to the responder's mucous membranes and respiratory system from exposure to potentially infectious droplets during direct patient care activities.

PPE:

- Disposable surgical mask (N95 respirator per protocols).
- Disposable gloves.
- Eye protection – goggles or face shield.

Transport Considerations:

- If possible, have the patient compartment exhaust vent on high and isolating the driver compartment if performing aerosol generating procedures.
- Increase ventilation by having air or heat on non-recirculating cycle and/or open windows.
- Advise receiving hospital of respiratory symptoms and need for a private room (negative pressure not necessary) would be preferred.

TEN-4-FACESp

Bruising Clinical Decision Rule for Children < 4 Years of Age

When is bruising concerning for abuse in children < 4 years of age?

If bruising in any of the three components (Regions, Infants, Patterns) is present without a reasonable explanation, strongly consider evaluating for child abuse and/or consulting with an expert in child abuse.

TEN

Torso | Ears | Neck



FACES

Frenulum
Angle of Jaw
Cheeks (*fleshy part*)
Eyelids
Subconjunctivae

REGIONS

4 months and younger



Any bruise, anywhere

INFANTS

Patterned bruising



Bruises in specific patterns like slap, grab or loop marks

PATTERNS

See the signs

Unexplained bruises in these areas most often result from physical assault.

TEN-4-FACESp is not to diagnose abuse but to function as a screening tool to improve the recognition of potentially abused children with bruising who require further evaluation.

TEN-4-FACESp was developed and validated by Dr. Mary Clyde Pierce and colleagues. It is published and available for FREE download at luriechildrens.org/ten-4-facesp.

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Pediatric Equipment Sizes and Normal Vital Signs

| | 3 - 5 Kg 6-12 lbs GREY | 6 - 7 Kg 13-16 lbs PINK | 8 - 9 Kg 17-20 lbs RED | 10 - 11 Kg 21-25 lbs PURPLE | 12 - 14 Kg 26-31 lbs YELLOW | 15 - 18 Kg 32-40 lbs WHITE | 19 - 23 Kg 41-51 lbs BLUE | 24 - 29 Kg 52-64 lbs ORANGE | 30 - 36 Kg 65-79 lbs GREEN |
|------------------------|--|--|---|--|---|---|--|---|--|
| NORMAL VITALS | | | | | | | | | |
| Heart Rate | 100-180 | 100-180 | 100-180 | 80-160 | 80-130 | 80-120 | 70-110 | 70-110 | 70-110 |
| Respiratory Rate | 30-60 | 30-45 | 25-35 | 20-30 | 20-30 | 20-30 | 18-24 | 18-22 | 16-20 |
| Systolic BP | 60-100 mmHg | 65-100 mmHg | 70-110 mmHg | 72-110 mmHg | 74-110 mmHg | 76-110 mmHg | 80-110 mmHg | 80-110 mmHg | 90-120 mmHg |
| Blood Glucose | >60 mg/dl | >60 mg/dl | >60 mg/dl | >60 mg/dl | >60 mg/dl | >60 mg/dl | >60 mg/dl | >60 mg/dl | >60 mg/dl |
| Development | Flexed position when prone. Inhibited grasp reflex. | Rolls from front to back, back to side. Carries object to mouth. | Clear preference for caregiver with stranger anxiety. Sits steady without support | Able to cruise and beginning to walk. Uses cup well along with some spoon agility. | Able to manipulate small objects, turn door knobs and unscrew lids. | Speaks in sentences of 5 to 6 words. Draws circles and squares. | Able to tell a brief story with a complete sentence. Able to balance on one foot for a short period of time. | Dresses themselves, can catch a ball more easily. | Demonstrate abstract thinking. Highly emotional development stage. |
| EQUIPMENT SIZES | | | | | | | | | |
| OPA | 50 mm | 50 mm | 50 mm | 60 mm | 60 mm | 60 mm | 70 mm | 80 mm | 80 mm |
| NPA | 14 F | 14 F | 14 F | 18 F | 20 F | 22 F | 24 F | 26 F | 30 F |
| BVM | Infant | Infant | Infant | Child | Child | Child | Child | Child | Adult |
| Laryngoscope | 0-1 (straight) | 1 (straight) | 1 (straight) | 1 (straight) | 2 (straight/curved) | 2 (straight/curved) | 2 (straight/curved) | 2-3 (straight/curved) | 2-3 (straight/curved) |
| iGel | 1.0 - 1.5 | 1.5 | 1.5 | 1.5 - 2.0 | 2.0 | 2.0 | 2.0 | 2.0-2.5 | 2.5-3.0 |
| LMA Supreme | 1.0 - 1.5 | 1.5 | 1.5 | 1.5 | 2.0 | 2.0 | 2.0 | 2.0-2.5 | 2.5-3.0 |
| King-LT | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0-2.5 | 2.5-3.0 |
| <i>ETI NOTE</i> | <i>* NO ETI unless unable to ventilate ----- ETCO2 Mandatory ----- NO ETI unless unable to ventilate ----- ETCO2 Mandatory *</i> | | | | | | | | |
| ET Tube | 2-2.5 (cuffed) | 3 (cuffed) | 3-3.5 (cuffed) | 3.5 (cuffed) | 3.5-4 (cuffed) | 4.5-5 (cuffed) | 5 (cuffed) | 5.5 (cuffed) | 6 (cuffed) |
| ET Depth | 10-11 cm | 11.5 cm | 12-12.5 cm | 13 cm | 13-14 cm | 15 cm | 16-17 cm | 18 cm | 19-19.5 cm |

3-5 kilograms (6-12 pounds) / 0-2 Months

CARDIAC RESUSCITATION

Normal Vitals: HR: 100-180, RR: 30-60, Systolic BP: 60-100 mmHg, BG > 40 mg/dl

Resuscitation Medication - (confirm concentration is as specified)

| | <u>Dose</u> | <u>Volume</u> |
|---|-------------|------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.05 mg | 0.5 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 25 mg | 0.5 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 6 mg | 0.3 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.1 mg | 1 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose . 0.1 mg/kg. For SVT (HR > 220) | 0.5 mg | 0.2 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose . For SVT (HR > 220) | 1 mg | 0.4 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 5 mcg | 0.5 mL (Diluted) |

Electrical Therapy

| | <u>Initial²</u> | <u>Repeat²</u> |
|--|----------------------------|---------------------------|
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 7 J | 15 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 5 J | 10 J |

Equipment

OPA: **50 mm** NPA: **14 F** BVM: **Infant** Laryngoscope: **0-1 (straight)** iGel: **1.0-1.5** LMA Supreme: **1.0-1.5** King-LT: **0-1.0**

ET Tube: **2-2.5 (cuffed)** ET Depth: **10-11 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **100 mL IV/IO - May repeat x 1 PRN**

***CONTACT MEDICAL CONTROL**

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

3-5 kilograms (6-12 pounds) / 0-2 Months
CONDITIONS/MEDICATIONS

GRAY

Normal Vitals: HR: 100-180, RR: 30-60, Systolic BP: 60-100 mmHg, Blood Glucose > 40 mg/dl.

Special Precautions: Be sure to keep the baby warm.

Development: Flexed position when prone. Inhibited grasp reflex.

| <u>Condition</u> | <u>Medication - (confirm concentration is as specified)</u> | <u>Dose</u> | <u>Volume</u> |
|---|--|-------------|---------------------------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 5 mg | 0.1 mL |
| | Methylprednisolone IV/IO/IM (125 mg/2 mL) | 10 mg | 0.2 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) <u>or</u> 1 Pediatric Epinephrine Autoinjector IM (Severe symptoms only). Contact medical control, if possible. | 0.1 mg | 0.1 mL IM |
| Stridor | Racpinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5 mg/mL) | 0.5 mg | 0.1 mL IM |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 44.8 mg | 1.4 mL PO |
| Hypoglycemia (<60 mg/dL) | D12.5% (6.25 g/50 mL) 12.5 mL of D50% diluted with 37.5 mL Normal Saline = D12.5% Give slow IV | 2.5 g | 20 mL (D12.5%) |
| | Dextrose 10% (100mg/mL) | 2.5 g | 25 mL |
| | Glucagon IM/IN (1 mg/mL) | 0.5 mg | 0.5 mL IM/IN |
| Pain Management | Fentanyl IV/IN (100 mcg/2 mL) | 5 mcg | 0.1 mL |
| Narcotic OD | Naloxone IV/IM (2 mg/2 mL) | 0.5 mg | 0.5 mL |
| | Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils | 0.5 mg | 0.5 mL IN |
| Open Fracture | Cefazolin (1000 mg/10 mL) IM or Mix 1 gm of medication per 10 mL NS IV SLOWLY. | 150 mg | 1.5 mL IM or Diluted IV Slowly |

6-7 kilograms (13-16 pounds) / 3-6 Months
CARDIAC RESUSCITATION

PINK

Normal Vitals: HR: 100-180, RR: 30-45, Systolic BP: 65-100 mmHg, Blood Glucose > 40 mg/dl

| Resuscitation Medication - (confirm concentration is as specified) | Dose | Volume |
|---|----------------------------|---------------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.1 mg | 1 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 35 mg | 0.7 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 8 mg | 0.4 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.15 mg | 1.5 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose. For SVT (HR >220) | 0.6 mg | 0.2 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose. For SVT (HR > 220) | 1.2 mg | 0.4 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 7 mcg | 0.7 mL (Diluted) |
| Electrical Therapy | Initial² | Repeat² |
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 15 J | 30 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 10 J | 20 J |

Equipment

OPA: **50 mm** NPA: **14 F** BVM: **Infant** Laryngoscope: **1 (straight)** iGel: **1.5** LMA Supreme: **1.5** King-LT: **1.0**
 ET Tube: **3 (cuffed)** ET Depth: **11.5 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **130 mL IV/IO - May repeat x 1 PRN**

*CONTACT MEDICAL CONTROL

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

6-7 kilograms (13-16 pounds) / 3-6 Months
CONDITIONS/MEDICATIONS

PINK

Normal Vitals: HR: 100-180, RR: 30-45, Systolic BP: 65-100 mmHg, Blood Glucose > 40 mg/dl.

Special Precautions: Be sure to keep the baby warm.

Development: Rolls from front to back, back to side. Carries object to mouth.

| Condition | Medication - (confirm concentration is as specified) | Dose | Volume |
|---|---|-------------|-------------------------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 10 mg | 0.2 mL |
| | Methylprednisolone IV/IO/IM (125 mg/2mL) | 12.5 mg | 0.2 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) <u>or</u> 1 Pediatric Epinephrine Autoinjector IM (Severe symptoms only) Contact medical control, if possible. | 0.1 mg | 0.1 mL |
| Stridor | Racpinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5 mg/mL) | 1 mg | 0.2 mL |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 96 mg | 3 mL PO |
| Hypoglycemia (<60 mg/dL) | D25% (12.5 g/50 mL) 25 mL of D50% diluted with 25 mL of Normal Saline = D25% Give Slow IV | 3.25 g | 13 mL (D25%) |
| | Dextrose 10% (100mg/mL) | 3.3 g | 33 mL (D10%) |
| | Glucagon IM (1 mg/mL) | 0.5 mg | 0.5 mL IM |
| Pain Management | Fentanyl IV (100 mcg/2 mL) | 10 mcg | 0.2 mL |
| Narcotic OD | Naloxone IV/IM (2 mg/2 mL) | 0.7 mg | 0.7 mL |
| | Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils | 1 mg | 1 mL IN |
| Open Fracture | Cefazolin (1000 mg/10 mL) IM or Mix 1 gm of medication per 10 mL NS IV SLOWLY. | 200 mg | 2 mL IM or Diluted IV SLOWLY |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 300 mg | 3 mL |

8-9 kilograms (17-20 pounds) / 7-10 Months

RED

CARDIAC RESUSCITATION

Normal Vitals: HR: 100-180, RR: 25-35, Systolic BP: 70-110 mmHg, Blood Glucose > 40 mg/dl

| Resuscitation Medication - (confirm concentration is as specified) | Dose | Volume |
|---|----------------------------|---------------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.1 mg | 1 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 50 mg | 1 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 10 mg | 0.5 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.2 mg | 2 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose. For SVT (HR > 220) | 0.9 | 0.3 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose. For SVT (HR > 220) | 1.8 | 0.6 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 9 mcg | 0.9 mL (Diluted) |
| Electrical Therapy | Initial² | Repeat² |
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 20 J | 50 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 10 J | 20 J |

Equipment

OPA: **50 mm** NPA: **14 F** BVM: **Infant** Laryngoscope: **1 (straight)** iGel: **1.5** LMA Supreme: **1.5** King-LT: **1.0**

ET Tube: **3-3.5 (cuffed)** ET Depth: **12-12.5 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **170 mL IV/IO - May repeat x 1 PRN**

*CONTACT MEDICAL CONTROL

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

8-9 kilograms (17-20 pounds) / 7-10 Months

RED

CONDITIONS/MEDICATIONS

Normal Vitals: HR 100-180, RR: 25-35, Systolic BP: 70-110 mmHg, Blood Glucose > 40 mg/dl.

Special Precautions: Infants must be kept warm.

Development: Clear preference for caregiver with stranger anxiety. Sits steady without support.

| <u>Condition</u> | <u>Medication</u> - (confirm concentration is as specified) | <u>Dose</u> | <u>Volume</u> |
|---|--|-------------|---------------------------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 10 mg | 0.2 mL |
| | Methylprednisolone IV/IO/IM (125 mg/2 mL) | 12.5 mg | 0.2 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) or 1 Pediatric Epinephrine Autoinjector IM (Severe symptoms only). Contact Medical Control, if possible. | 0.1 mg | 0.1 mL IM |
| Stridor | Racinepinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5mg/mL) Give first if no IV | 1 mg | 0.2 mL IM |
| | Midazolam IV (5mg/mL) | 0.5 mg | 0.1 mL |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 128 mg | 4 mL PO |
| | Ibuprofen PO (100 mg/5 mL) | 80 mg | 4 mL PO |
| Hypoglycemia (<60 mg/dL) | D25% (12.5 g/50 mL) 25 mL of D50% diluted with 25 mL of Normal Saline = D25% Give Slow IV | 4.25 g | 17 mL (D25%) |
| | Dextrose 10% (100mg/mL) | 4.3 g | 43mL |
| | Glucagon IM (1 mg/mL) | 0.5 mg | 0.5 mL IM |
| Pain Control | Fentanyl IV/IN (100 mcg/2 mL) | 10 mcg | 0.2 mL |
| Narcotic OD | Naloxone IV/IM (2 mg/2 mL) | 0.9 mg | 0.9 mL |
| | Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils | 1 mg | 1 mL IN |
| Open Fracture | Cefazolin (1000 mg/10 mL) IM or Mix 1 gm of medication per 10 mL NS IV SLOWLY . | 250 mg | 2.5 mL IM or Diluted IV SLOWLY |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY . | 400 mg | 4 mL |

10-11 kilograms (21-25 pounds) /11-18 Months

PURPLE

CARDIAC RESUSCITATION

Normal Vitals: HR: 80-160, RR: 20-30, Systolic BP: 72-110 mmHg, Blood Glucose > 60 mg/dl

| Resuscitation Medication - (confirm concentration is as specified) | Dose | Volume |
|---|-------------|-----------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.1 mg | 1 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 50 mg | 1 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 10 mg | 0.5 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.2 mg | 2 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose. For SVT (HR >180) | 1.2 mg | 0.4 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose. For SVT (HR > 180) | 2 mg | 0.7 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 10 mcg | 1 mL (Diluted) |

| Electrical Therapy | Initial² | Repeat² |
|--|----------------------------|---------------------------|
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 20 J | 50 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 10 J | 20 J |

Equipment

OPA: **60 mm** NPA: **18 F** BVM: **Child** Laryngoscope: **1 (straight)** iGel: **1.5-2.0** LMA Supreme: **1.5** King-LT: **1.0**

ET Tube: **3.5 (cuffed)** ET Depth: **13 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **200 mL IV/IO - May repeat x 1 PRN**

*CONTACT MEDICAL CONTROL

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

10-11 kilograms (21-25 pounds) /11-18 Months

CONDITIONS/MEDICATIONS

PURPLE

Normal Vitals: HR: 80-160, RR: 20-30, Systolic BP: 72-110 mmHg, Blood Glucose > 60 mg/dl

Development: (12 mos) Able to cruise and beginning to walk. (15-18 mos) Uses cup well along with some spoon agility.

| <u>Condition</u> | <u>Medication</u> - (<u>confirm concentration is as specified</u>) | <u>Dose</u> | <u>Volume</u> |
|---|--|-------------|-------------------------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 15 mg | 0.3 mL |
| | Methylprednisolone IV/IO/IM (125 mg/2 mL) | 18.8 mg | 0.3 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) <u>or</u> 1 Pediatric Epinephrine Autoinjector IM (Severe symptoms only) | 0.1 mg | 0.1 mL IM |
| Stridor | Racpinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5 mg/mL) Give first if no IV | 1 mg | 0.2 mL IM |
| | Midazolam IV (5 mg/mL) | 0.5 mg | 0.1 mL |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 160 mg | 5 mL PO |
| | Ibuprofen PO (100 mg/5 mL) | 100 mg | 5 mL PO |
| Hypoglycemia (<60 mg/dL) | D25% (12.5 g/50 mL) 25 mL of D50% diluted with 25 mL of Normal Saline = D25% Give Slow IV | 5.0 g | 20 mL (D25%) |
| | Dextrose 10% (100mg/mL) | 5.0 g | 50 mL |
| | Glucagon IM (1 mg/mL) | 0.5 mg | 0.5 mL IM |
| Pain Management | Fentanyl IV/IO/IN (100 mcg/2 mL) (For IN, divide dose between two nostrils) | 10 mcg | 0.2 mL |
| | Ketamine IN (100 mg/1 mL) | 10 mg | 0.1 mL IN |
| Narcotic OD | Naloxone IV/IM (2 mg/2 mL) | 1 mg | 1 mL |
| | Naloxone IN (2 mg/ 2mL) Divide dose equally between both nostrils | 1 mg | 1 mL IN |
| Open Fracture | Cefazolin (1000 mg/10 mL)IM or Mix 1 gm of medication per 10 mL NS IV SLOWLY. | 300 mg | 3 mL IM or Diluted IV SLOWLY |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 500 mg | 5 mL |

12-14 kilograms (26-31 pounds) /19-35 Months

YELLOW

CARDIAC RESUSCITATION

Normal Vitals: HR: 80-130, RR: 20-30, Systolic BP: 74-110 mmHg, Blood Glucose > 60 mg/dl

| Resuscitation Medication - (confirm concentration is as specified) | Dose | Volume |
|---|----------------------------|---------------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.15 mg | 1.5 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 75 mg | 1.5 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 14 mg | 0.7 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.25 mg | 2.5 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose. For SVT (HR > 180) | 1.5 mg | 0.5 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose. For SVT (HR > 180) | 3 mg | 1 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 10 mcg | 1 mL (Diluted) |
| Electrical Therapy | Initial² | Repeat² |
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 30 J | 50 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 15 J | 30 J |

Equipment

OPA: **60 mm** NPA: **20 F** BVM: **Child** Laryngoscope: **2 (straight/curved)** iGel: **2.0** LMA Supreme: **2.0** King-LT: **2.0**
ET Tube: **3.5-4 (cuffed)** ET Depth: **13-14 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **250 mL IV/IO - May repeat x 1 PRN**

*CONTACT MEDICAL CONTROL

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

12-14 kilograms (26-31 pounds) /19-35 Months

YELLOW

CONDITIONS/MEDICATIONS

Normal Vitals: HR: 80-130, RR: 20-30, Systolic BP: 74-110 mmHg, Blood Glucose > 60 mg/dl

Development: Able to manipulate small objects, turn door knobs and unscrew lids.

| <u>Condition</u> | <u>Medication</u> - (confirm concentration is as specified) | <u>Dose</u> | <u>Volume</u> |
|---------------------------------------|---|-------------|---------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 15 mg | 0.3 |
| | Methylprednisolone IV/IO/IM (125 mg/2mL) | 18.75 mg | 0.3 mL |
| Anaphylaxis/ Profound Distress | Epinephrine (1 mg/mL) <u>or</u> 1 Pediatric Epinephrine Autoinjector IM (Severe symptoms only) | 0.2 mg | 0.2 mL |
| Stridor | Racepinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5 mg/mL) Give first if no IV | 1.5 mg | 0.3 mL IM |
| | Midazolam IV (5 mg/mL) | 1 mg | 0.2 mL |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 192 mg | 6 mL PO |
| | Ibuprofen (100 mg/5 mL) | 120 mg | 6 mL PO |
| Hypoglycemia (<60 mg/dL) | D25% (12.5 g/50 mL) 25 mL of D50% diluted with 25 mL of Normal Saline = D25% Give Slow IV | 6.25 g | 25 mL (D25%) |
| | Dextrose 10% (100mg/mL) | 6.25 g | 62.5 mL |
| | Glucagon IM (1 mg/mL) | 0.5 mg | 0.5 mL IM |
| Pain Management | Fentanyl IV/IN (100 mcg/2 mL) (For IN, divide dose between two nostrils) | 10 mcg | 0.2 mL |
| | Ketamine IN (100 mg/1 mL) | 10 mg | 0.1 mL |
| | Morphine IV/IM/IO (10 mg/mL) | 2 mg | 0.2 mL |
| Narcotic OD | Naloxone IV/IM (2 mg/2 mL) | 1.5 mg | 1.5 mL |
| | Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils | 1.5 mg | 1.5 mL IN |
| Open Fracture | Cefazolin (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 400 mg | 4 mL |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 650 mg | 6.5 mL |

15-18 kilograms (32-40 pounds) / 3-4 Years

WHITE

CARDIAC RESUSCITATION

Normal Vitals: HR: 80-120, RR: 20-30, Systolic BP: 76-110 mmHg, Blood Glucose > 60 mg/dl

| Resuscitation Medication - (confirm concentration is as specified) | Dose | Volume |
|---|-------------|-----------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.2 mg | 2 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 100 mg | 2 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 20 mg | 1 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.35 mg | 3.5 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose. | 1.8 mg | 0.6 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose. | 3.6 mg | 1.2 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 10 mcg | 1 mL (Diluted) |

| Electrical Therapy | Initial² | Repeat² |
|--|----------------------------|---------------------------|
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 50 J | 70 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 20 J | 40 J |

Equipment

OPA: **60 mm** NPA: **22 F** BVM: **Child** Laryngoscope: **2 (straight/curved)** iGel: **2.0** LMA Supreme: **2.0** King-LT: **2.0**
ET Tube: **4.5-5.0 (cuffed)** ET Depth: **15 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **300 mL IV/IO - May repeat x 1 PRN**

*CONTACT MEDICAL CONTROL

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

15-18 kilograms (32-40 pounds) / 3-4 Years
CONDITIONS/MEDICATIONS

WHITE

Normal Vitals: HR: 80-120, RR: 20-30, Systolic BP: 76-110 mmHg, Blood Glucose > 60 mg/dl

Development: Speaks in sentences of 5 to 6 words. Draws circles and squares.

| <u>Condition</u> | <u>Medication</u> - (confirm concentration is as specified) | <u>Dose</u> | <u>Volume</u> |
|---------------------------------------|--|-------------|---------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 20 mg | 0.4 mL |
| | Methylprednisolone IV/IO/IM (125 mg/2mL) | 31 mg | 0.5 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) <u>or</u> 1 Pediatric Epinephrine Autoinjector IM (Severe symptoms only) | 0.2 mg | 0.2 mL |
| Stridor | Racpinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5 mg/mL) Give first if no IV | 1.5 mg | 0.3 mL IM |
| | Midazolam IV (5 mg/mL) | 1 mg | 0.2 mL |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 224 mg | 7 mL PO |
| | Ibuprofen PO (100 mg/5 mL) | 150 mg | 7.5 mL PO |
| Hypoglycemia (<60 mg/dL) | D25% (12.5 g/50 mL) 25 mL of D50% diluted with 25 mL of Normal Saline = D25% Give Slow IV | 8 g | 32 mL (D25%) |
| | Dextrose 10% (100mg/mL) | 8 g | 80 mL |
| | Glucagon IM (1 mg/mL) | 0.5 mg | 0.5 mL IM |
| Pain Management | Fentanyl IV (100 mcg/2 mL) | 15 mcg | 0.3 mL |
| | Ketamine IN (100 mg/1 mL) | 10 mg | 0.1 mL IN |
| | Morphine IV/IM/IO (10 mg/mL) | 2 mg | 0.2 mL |
| Narcotic OD | Naloxone IV/IM (2 mg/2 mL) | 1.8 mg | 1.8 mL |
| | Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils | 1.8 mg | 1.8 mL IN |
| Open Fracture | Cefazolin (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 500 mg | 5 mL |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 850 mg | 8.5 mL |

19-23 kilograms (41-51 pounds) / 5-6 Years

BLUE

CARDIAC RESUSCITATION

Normal Vitals: HR: 70-110, RR: 18-24, Systolic BP: 80-110 mmHg, Blood Glucose >60 mg/dl

| Resuscitation Medication - (confirm concentration is as specified) | Dose | Volume |
|--|----------------------------|---------------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.2 mg | 2 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 100 mg | 2 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 20 mg | 1 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.4 mg | 4 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose. Follow with 10 mL Normal Saline flush. For SVT (HR > 180) | 2.1 mg | 0.7 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose. Follow with 10 mL Normal Saline flush. For SVT (HR > 180) | 4.2 mg | 1.4 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 10 mcg | 1 mL (Diluted) |
| Electrical Therapy | Initial² | Repeat² |
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 50 J | 100 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 20 J | 50 J |

Equipment

OPA: **70 mm** NPA: **24 F** BVM: **Child** Laryngoscope: **2 (straight/curved)** iGel: **2.0** LMA Supreme: **2.0** King-LT: **2.0**
 ET Tube: **5 (cuffed)** ET Depth: **16-17 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **400 mL IV/IO - May repeat x 1 PRN**

*CONTACT MEDICAL CONTROL

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

19-23 kilograms (41-51 pounds) / 5-6 Years
CONDITIONS/MEDICATIONS

BLUE

Normal Vitals: HR: 70-110, RR: 18-24, Systolic BP 80-110 mmHg, Blood Glucose > 60 mg/dl

Development: Able to tell a brief story with a complete sentence. Able to balance on one foot for a short period of time.

| <u>Condition</u> | <u>Medication - (confirm concentration is as specified)</u> | <u>Dose</u> | <u>Volume</u> |
|---------------------------------------|--|-------------|---------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 25 mg | 0.5 mg |
| | Methylprednisolone IV/IO/IM (125 mg/2mL) | 37.5 mg | 0.6 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) or 1 Pediatric Epinephrine Autoinjector IM (Severe symptoms only) | 0.2 mg | 0.2 mL |
| Stridor | Racemic epinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5 mg/mL) Give first if no IV | 2 mg | 0.4 mL IM |
| | Midazolam IV (5 mg/mL) | 1 mg | 0.2 mL |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 288 mg | 9 mL PO |
| | Ibuprofen PO (100 mg/5 mL) | 190 mg | 9.5 mL PO |
| Hypoglycemia (<60 mg/dL) | D25% (12.5 g/50 mL) 25 mL of D50% diluted with 25 mL of Normal Saline = D25% Give Slow IV | 10 g | 40 mL (D25%) |
| | Dextrose 10% (100mg/mL) | 10 g | 100 mL |
| | Glucagon IM (1 mg/mL) | 1 mg | 1 mL IM |
| Pain Management | Fentanyl IV/IN (100 mcg/2 mL) For IN, divide dose equally between both nostrils | 20 mcg | 0.4 mL IV/IN |
| | Ketamine IN (100 mg/1 mL) | 20 mg | 0.2 mL IN |
| | Ketorolac IV/IM (15 mg/1 mL) | 10.5 mg | 0.7 mL IV/IM |
| | Morphine IV/IM/IO (10 mg/mL) | 2 mg | 0.2 mL |
| Narcotic OD | Naloxone IV/IM (2 mg/2 mL) | 2 mg | 2 mL |
| | Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils | 2 mg | 2 mL IN |
| Open Fracture | Cefazolin (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 600 mg | 6 mL |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 1 g | 10 mL |

24-29 kilograms (52-64 pounds) / 7-9 Years

ORANGE

CARDIAC RESUSCITATION

Normal Vitals: 70-110, RR: 18-22, Systolic BP: 80-110 mmHg, Blood Glucose > 60 mg/dl

| Resuscitation Medications - (confirm concentration is as specified) | Dose | Volume |
|---|-------------|-----------------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.3 mg | 3 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 125 mg | 2.5 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 30 mg | 1.5 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.5 mg | 5 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose. For SVT (HR > 180) | 3 mg | 1 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose. For SVT (HR > 180) | 6 mg | 2 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 10 mcg | 1 mL (Diluted) IV/IO |

| Electrical Therapy | Initial² | Repeat² |
|--|----------------------------|---------------------------|
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 50 J | 100 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 30 J | 70 J |

Equipment

OPA: **80 mm** NPA: **26 F** BVM: **Child** Laryngoscope: **2-3 (straight/curved)** iGel: **2.0-2.5** LMA Supreme: **2.0-2.5** King-LT: **2.0-2.5**
 ET Tube: **5.5 (cuffed)** ET Depth: **18 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **500 mL IV/IO - May repeat x 1**

*CONTACT MEDICAL CONTROL

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

24-29 kilograms (52-64 pounds) / 7-9 Years

ORANGE

CONDITIONS/MEDICATIONS

Normal Vitals: HR: 70-110, RR: 18-22, Systolic BP: 80-110 mmHg, Blood Glucose > 60 mg/dl

| Condition | Medication - (confirm concentration is as specified) | Dose | Volume |
|--------------------------------|---|----------|--------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 30 mg | 0.6 mL |
| | Prednisone PO (50 mg tablet) | 50 mg | 1 tablet PO |
| | Methylprednisolone IV/IO/IM (125 mg/2mL) | 50 mg | 0.8 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) or 1 Pediatric Epinephrine Autoinjector IM (Severe symptoms only) | 0.2 mg | 0.2 mL |
| Stridor | Racpinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5 mg/mL) Give first if no IV | 2.5 mg | 0.5 mL IM |
| | Midazolam IV (5 mg/mL) | 1.5 mg | 0.3 mL |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 384 mg | 12 mL PO |
| | Ibuprofen PO (100 mg/5 mL) | 260 mg | 13 mL PO |
| Hypoglycemia (<60 mg/dL) | D50% (25 g/50 mL) Give Slow IV | 12.5 g | 25 mL (D50%) |
| | Dextrose 10% (100mg/mL) | 12.5 g | 125 mL |
| | Glucagon IM (1 mg/mL) | 1 mg | 1 mL IM |
| Pain Management | Fentanyl IV/IN (100 mcg/2 mL) For IN, divide dose equally between both nostrils | 25 mcg | 0.5 mL |
| | Ketamine IN (100 mg/1 mL) Divide dose equally between both nostrils | 30 mg | 0.3 mL |
| | Ketorolac IV/IM (15 mg/1 mL) | 15 mg | 1 mL IV/IM |
| | Morphine IV/IO (10 mg/mL) | 3 mg | 0.3 mL |
| Narcotic OD | Naloxone IV/IM (2 mg/2 mL) | 2 mg | 2 mL |
| | Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils | 2 mg | 2 mL IN |
| Open Fracture | Cefazolin (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 800 mg | 8 mL |
| | Cefazolin (1000 mg/10 mL) Mix as above. Add specific dose to 100 mL NS. | 800 mg | 8 mL in 100 mL NS |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 1.3 g | 13 mL |
| | Ceftriaxone (1000 mg/10 mL) Mix as above. Add specific dose to 100 mL NS. | 1.3 g | 13 mL in 100 mL NS |

30-36 kilograms (65-79 pounds) / 10-14 Years

GREEN

CARDIAC RESUSCITATION

Normal Vitals: HR: 70-110, RR: 16-20, Systolic BP: 90-120 mmHg, Blood Glucose > 60 mg/dl

| Resuscitation Medications - (confirm concentration is as specified) | Dose | Volume |
|---|----------------------------|-----------------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia ¹ | 0.3 mg | 3 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 150 mg | 3 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia*) | 30 mg | 1.5 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia unresponsive to Epinephrine ¹ | 0.5 mg | 5 mL |
| *Adenosine (6 mg/2 mL) IV/IO 1st Dose. For SVT (HR > 180) | 4 mg | 1.3 mL |
| *Adenosine (6 mg/2 mL) IV/IO 2nd Dose. For SVT (HR > 180) | 8 mg | 2.6 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 10 mcg | 1 mL (Diluted) IV/IO |
| Electrical Therapy | Initial² | Repeat² |
| Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior. | 70 J | 150 J |
| *Synchronized Cardioversion ² for unstable tachycardia | 30 J | 70-75 J |

Equipment

OPA: **80 mm** NPA: **30 F** BVM: **Adult** Laryngoscope: **2-3 (straight/curved)** iGel: **2.5-3.0** LMA Supreme: **2.5-3.0** King-LT: **2.5-3.0**
 ET Tube: **6 (cuffed)** ET Depth: **19-19.5 cm** No ETI unless unable to ventilate

Fluid Bolus

Normal Saline **700 mL IV/IO - May repeat x 1 PRN**

*CONTACT MEDICAL CONTROL

¹CPR if HR < 60 after O2

²May adjust to closest available energy setting

30-36 kilograms (65-79 pounds) / 10-14 Years

GREEN

CONDITIONS/MEDICATIONS

Normal Vitals: HR: 70-110, RR: 16-20, Systolic BP: 90-120 mmHg, Blood Glucose > 60 mg/dl

| Condition | Medication - (confirm concentration is as specified) | Dose | Volume |
|--------------------------------|---|----------|---------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 40 mg | 0.8 mL |
| | Prednisone PO (50 mg tablet) | 50 mg | 1 tablet PO |
| | Methylprednisolone IV/IO/IM (125 mg/2mL) | 62.7 mg | 1 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) <u>or</u> 1 Epinephrine Autoinjector IM (Severe symptoms only) | 0.3 mg | 0.3 mL |
| Stridor | Racinephrine 2.25% Nebulized (place 0.5 mL in 3 mL normal saline) | 11.25 mg | 3.5 mL |
| | Epinephrine (1 mg/mL) nebulized | 5 mg | 5 mL |
| Seizure | Midazolam IM (5 mg/mL) Give first if no IV | 3 mg | 0.6 mL IM |
| | Midazolam IV (5 mg/mL) | 1.5 mg | 0.3 mL |
| Fever/Pain | Acetaminophen PO (160 mg/5 mL) | 480 mg | 15 mL |
| | Ibuprofen PO (100 mg/5 mL) | 300 mg | 15 mL |
| Hypoglycemia (<60 mg/dL) | D50% (25 g/50 mL) Give Slow IV | 15 g | 30 mL (D50%) |
| | Dextrose 10% (100mg/mL) | 15 g | 150 mL |
| | Glucagon IM (1 mg/mL) | 1 mg | 1 mL IM |
| Pain Management | Fentanyl IV/IN (100 mcg/2 mL) For IN, divide dose equally between both nostrils | 30 mcg | 0.6 |
| | Ketamine IV/IO (100 mg/1 mL) Mix dose in 100 mL NS, administer over 10 minutes | 10 mg | 0.1 mL in 100 mL NS |
| | Ketamine IN (100 mg/1 mL) Divide dose equally between both nostrils | 30 mg | 0.3 mL |
| | Ketorolac IV/IM (15 mg/1 mL) | 15 mg | 1 mL IV/IM |
| | Morphine IV/IO (10 mg/mL) | 4 mg | 0.4 mL |
| Narcotic OD | Naloxone IV/IM/IN (2 mg/2 mL) For IN, divide dose equally between both nostrils | 2 mg | 2 mL |
| Open Fracture | Cefazolin (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 1 g | 10 mL |
| | Cefazolin (1000 mg/10 mL) Mix as above. Add specific dose to 100 mL NS. | 1 g | 10 mL in 100 mL NS |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 1.7 g | 17 mL |
| | Ceftriaxone (1000 mg/10 mL) Mix as above. Add specific dose to 100 mL NS. | 1.7 g | 17 mL in 100 mL NS |

>36 kilograms (> 80lbs) Adult >14 Years

BLACK

CARDIAC RESUSCITATION

Normal Vitals: HR: 60-100, RR: 12-20, Systolic BP: 100-140 mmHg, Blood Glucose > 60 mg/dl

| Resuscitation Medications - (confirm concentration is as specified) | Dose | Volume |
|---|----------------------------|----------------------------|
| Epinephrine (1 mg/10 mL prefilled syringe) IV/IO Q 3-5 min for arrest/bradycardia | 1 mg | 10 mL |
| Amiodarone (150 mg/3 mL) IV/IO for shock resistant V-Fib | 300 mg | 6 mL |
| Lidocaine (100 mg/5 mL) IV/IO for shockable V-Fib (or wide-complex tachycardia) | 100 mg | 5 mL |
| Amiodarone (150 mg/3 mL) IV for stable wide-complex tachy or symptomatic irregular narrow tachy. Over 10 minutes | 150 mg | 3 mL |
| Diltiazam (25 mg/5 mL) IV for symptomatic irregular narrow tachycardia. | 20 mg | 4 mL |
| Verapamil (10 mg/4 mL) IV for symptomatic irregular narrow tachycardia. | 5 mg | 2 mL |
| Atropine (1 mg/10 mL) IV/IO for bradycardia, every 3-5 min to a max of 3 mg | 1 mg | 10 mL |
| Adenosine (6 mg/2 mL) IV/IO 1st Dose. For SVT (HR > 150) | 6 mg | 2 mL |
| Adenosine (6 mg/2 mL) IV/IO 2nd Dose. For SVT (HR > 150) | 12 mg | 4 mL |
| Epinephrine IV/IO (1 mg/10 mL) Push Dose - Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL | 10-20 mcg | 1 - 2 mL (Diluted) |
| Electrical Therapy | Initial¹ | Repeat¹ |
| V-Fib or Pulseless V-Tach: Defibrillation | 120-200 J | Maximum |
| Unstable, wide <u>irregular</u> tachycardia. Heart rate > 150 bpm: Defibrillation | 120-200 J | Maximum |
| Unstable, narrow complex tachycardia. Heart rate > 150 bpm: Synchronized Cardioversion | 100 J | ≥ 100 J² |
| Narcotic Overdose | Dose | Volume |
| Naloxone IV/IM (2 mg/2 mL) | 2 mg | 2 mL |
| Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils | 2 mg | 2 mL IN |

Fluid Bolus

Normal Saline **1000 mL IV/IO - May repeat one time, PRN**

¹Based on biphasic, use manufacturer's recommended energy

²If no response to first shock, increase energy in a stepwise manner by 20-50 J

>36 kilograms (> 80lbs) Adult >14 Years (Black)

BLACK

CONDITIONS/MEDICATIONS

Normal Vitals: HR: 60-100, RR: 12-20, Systolic BP: 100-140 mmHg, Blood Glucose > 60 mg/dl

| <u>Condition</u> | <u>Medication - (confirm concentration is as specified)</u> | <u>Dose</u> | <u>Volume</u> |
|---------------------------------------|--|-------------|----------------------------|
| Wheezing | Albuterol Nebulized (2.5 mg/3 mL) | 2.5 mg | 3 mL |
| | Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing) | 500 mcg | 2.5 mL |
| Anaphylaxis | Diphenhydramine IM/IV/IO (50 mg/mL) | 50 mg | 1 mL |
| | Prednisone PO (50 mg tablet) | 50 mg | 1 tablet PO |
| | Methylprednisolone IV/IO/IM (125 mg/2mL) | 125 mg | 2 mL |
| Anaphylaxis/ Profound Distress | Epinephrine IM (1 mg/mL) <u>or</u> 1 Epinephrine Autoinjector IM (Severe symptoms only) | 0.3 mg | 0.3 mL |
| Seizure (Sedation) | Midazolam IM (5 mg/mL) Give first if no IV | 10 mg | 2 mL IM |
| | Midazolam IV (5 mg/mL) | 5 mg | 1 mL |
| Fever/Pain | Ibuprofen PO (100 mg/5 mL) | 600 mg | 30 mL PO |
| | Acetaminophen PO (160 mg/5 mL) 15 mg/kg, max dose 1 g | 800 mg | 25 mL PO |
| Hypoglycemia (<60 mg/dL) | D50% (25 g/50 mL) Give Slow IV | 25 g | 50 mL (D50%) |
| | D10% (25 g/250 mL) | 25 g | 250 mL |
| | Glucagon IM (1 mg/mL) | 1 mg | 1 mL IM |
| Pain Management | Fentanyl IV (100 mcg/2 mL) For IN, divide dose equally between nostrils | 50-100 mcg | 1-2 mL |
| | Ketamine IV/IO (500mg/5 mL) Mix dose in 100 mL NS, administer over 10 minutes | 10-20 mg | 1-2 mL in 100 mL NS |
| | Ketamine IN (500 mg/5 mL) Divide dose equally between both nostrils | 30-50 mg | 0.3-0.5 mL |
| | Ketorolac IV/IM (15 mg/ 1 mL) | 15 mg | 1 mL IV/IM |
| | Morphine IV/IO/IM (10 mg/mL) | 4-5 mg | 0.4-0.5 mL |
| Procedural Sedation | Midazolam (5 mg/mL) 1-5 mg titrated SLOWLY | 1-5 mg | 0.2 - 1 mL |
| | Diazepam (10 mg/2mL) 5-10 mg titrated SLOWLY | 5-10 mg | 1 - 2 mL |
| | Fentanyl IV (100 mcg/2 mL) 50-100 mcg titrated SLOWLY | 50-100 mcg | 1 - 2 mL |
| | Ketamine IV (500 mcg/5 mL) 1.5 mg/kg | 75-150 mg | 0.75-1.5 mL |
| Delirium w/Severe Agitation | Ketamine IM (500 mg/5 mL) 4 mg/kg. MAX dose 500 mg FOR SEVERE AGITATION ONLY | 200-400 mg | 2-4 mL IM |
| Open Fracture | Cefazolin (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 2 g | 20 mL |
| | Cefazolin (1000 mg/10 mL) Mix as above. Add specific dose to 100 mL NS. | 2 g | 20 mL in 100 mL NS |
| | Ceftriaxone (1000 mg/10 mL) Mix 1 gm of medication per 10 mL NS. Administer IV SLOWLY. | 2 g | 20 mL |
| | Ceftriaxone (1000 mg/10 mL) Mix as above. Add specific dose to 100 mL NS. | 2 g | 20 mL in 100 mL NS |

Nerve Agent/Organophosphate Antidotes/Countermeasures

| Weight | Age | Duodote ¹ Mod-Severe Sxs | Atropen ² (1 mg) Mod-Severe Sxs | Atropine Dose (0.1 mg/kg) IM/IV/IO | Atropine Vial ² (1 mg/mL) | Cardiac Atropine ^{2,3} (1 mg/10 mL) | Midazolam ⁴ (10 mg/2 mL) IM/IV/IO |
|----------------------|--------------|---|---|--|---|---|--|
| 3-5 kg (6-11 lbs) | 0-2 months | 1 | 1 | 0.4 mg | 0.4 mL | 4 mL | 0.1 mL |
| 6-7 kg (13-16 lbs) | 3-6 months | 1 | 1 | 0.7 mg | 0.7 mL | 7 mL | 0.2 mL |
| 8-9 kg (17-20 lbs) | 7-10 months | 1 | 1 | 0.9 mg | 0.9 mL | 9 mL | 0.2 mL |
| 10-11 (21-25 lbs) | 11-18 months | 1 | 1 | 1 mg | 1 mL | 10 mL | 0.2 mL |
| 12-14 kg (26-31 lbs) | 19-35 months | 1 | 2 | 1.3 mg | 1.3 mL | 13 mL | 0.25 mL |
| 15-18 kg (32-40 lbs) | 3-4 years | 1 | 2 | 1.6 mg | 1.6 mL | 16 mL | 0.3 mL |
| 19-23 kg (41-51) | 5-6 years | 1 | 2 | 2 mg | 2 mL | 20 mL | 0.4 mL |
| 24-29 kg (52-64) | 7-9 years | 2 | 3 | 2.6 mg | 2.6 mL | 26 mL | 0.5 mL |
| 30-36 kg (65-79 lbs) | 10-14 years | 2 | 3 | 3.3 mg | 3.3 mL | 33 mL | 0.6 mL |
| Adult | >14 years | 2 to 3 | 4 to 6 | 4 to 6 mg | 4 to 6 mL | 40-60 mL | 2 mL |

¹Preferred initial autoinjector, ²May Repeat atropine every 5 minutes until airway secretions decrease (6 mg maximum), ³Not available in MEDDRUN, ⁴Patients with severe symptoms should receive midazolam even if not obviously seizing

Cyanokit® Administration for Suspected Cyanide Poisoning (including serious smoke inhalation)

| Broselow (Weight) | Age | Cyanokit® Dose ¹ (~70 mg/ml +/-) IV/IO | Cyanokit® Volume to Administer ² IV/IO |
|----------------------|--------------|---|--|
| 3-5 kg (6-11 lbs) | 0-2 months | 250 mg | 10 mL ³ |
| 6-7 kg (13-16 lbs) | 3-6 months | 500 mg | 20 mL ³ |
| 8-9 kg (17-20 lbs) | 7-10 months | 625 mg | 25 mL ³ |
| 10-11 (21-25 lbs) | 11-18 months | 750 mg | 30 mL ³ |
| 12-14 kg (26-31 lbs) | 19-35 months | 900 mg | 36 mL ³ |
| 15-18 kg (32-40 lbs) | 3-4 years | 1100 mg | 44 mL ³ |
| 19-23 kg (41-51) | 5-6 years | 1400 mg | 56 mL ³ |
| 24-29 kg (52-64) | 7-9 years | 1750 mg | 70 mL ³ |
| 30-36 kg (65-79 lbs) | 10-14 years | 2500 mg | 100 mL ⁴ (1/2 bottle) |
| Adult | >14 years | 5000 mg | 200 mL ⁴ (full bottle) |

¹The safety and efficacy in pediatrics has not been established, ²Administer slowly over 15 minutes.

³Push slowly over 15 minutes, ⁴Infuse over 15 minutes



Bureau of Emergency Preparedness, EMS and Systems of Care



MICHIGAN
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If you have questions or comments about MI-MEDIC, contact: EMS@Michigan.Gov



Do you need resources related to mental health challenges?
Call 1-833-34-STRONG or go to www.fst5.org

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