MDHHS
Michigan Department of Health & Human Services

BETP
Bureau of EMS, Trauma & Preparedness

MI-MEDIC

Michigan Medication Emergency Dosing and Intervention Cards

Based on State of Michigan EMS Protocols
2019 Revisions

Version 3.0

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 where 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

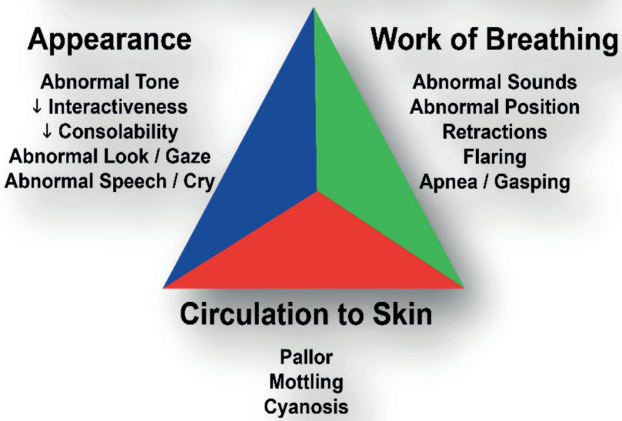
1. Select desired medication or intervention.
2. Assure the medication concentration on-hand is the same as specified on the MI-MEDIC.
3. Administer volume of medication listed at the far right of the card, including dilution amount if necessary.

- ☑ Some medications should be diluted as described on the card.
- ☑ Confirm medication dose and volume to be delivered with colleague when possible.
- ☑ Contact Medical Control for questions or concerns.

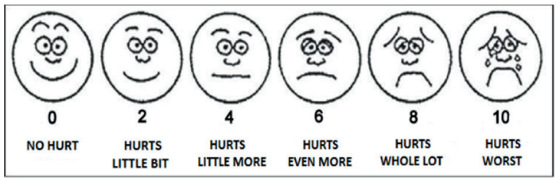
Note: Protocols are dynamic and may change based on current science. EMS personnel must be familiar with the most current set of approved protocols which take precedence over the information included in the MI-MEDIC.

Pediatric Quick Guide

Pediatric Assessment Triangle



Pain Scale



Poison Control Hotline: (800)-222-1222
Child Abuse Hotline: (855)-444-3911
Human Trafficking Hotline: (888)-373-7888

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 (decerabrate)	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: Relfex irritability	No Response	Grimace	Cry or active withdrawal
Activity: Muscle Tone	Limp	Some flexion	Active motion
Respiration	Absent	Weak cry: hypoventilation	Good, crying

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

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)**	**Dose**	**Volume**
Epinephrine 1:10,000 (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 wide-complex tachycardia	5 mg	**0.25 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. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR > 220)**	0.5 mg	**0.5 mL (Diluted)**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR > 220)**	1 mg	**1 mL (Diluted)**
Electrical Therapy	**Initial[2]**	**Repeat[2]**
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	**10 J**	**20 J**
*Synchronized Cardioversion[2] for unstable tachycardia	**5 J**	**10 J**
Equipment		
OPA: **50 mm** NPA: **14 F** BVM: **Infant** Laryngoscope: **0-1 (straight)**		
ET Tube: **2.5 (cuffed)** ET Depth: **9-10 cm** *No ETI unless unable to ventilate*		
Fluid Bolus		
Normal Saline **100 mL IV/IO** - **May repeat x 1 PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mcg/1 mL	5 mcg	**0.5 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1] **CPR if HR < 60 after O_2**

[2] **May adjust to closest available energy setting**

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

CONDITIONS/MEDICATIONS

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

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.25 mg	**1.25 mL**
	Diphenhydramine IM/IV/IO (50 mg/mL) **Diluted with 4mL Normal Saline = 10 mg/mL (Anaphylaxis only)**	5 mg	**0.5 mL (Diluted)**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen Jr. IM (**Severe symptoms only**)	0.05 mg	**0.05 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL) **Diluted with 3mL Normal Saline = 25 mg/mL**	12.5 mg	**0.5 mL (Diluted)**
Seizure	Midazolam IM (5 mg/mL) **Give first if no IV**	0.5 mg	**0.1 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	0.3 mg	**0.3 mL (Diluted)**
Fever	Acetaminophen PO (160 mg/5 mL)	40 mg	**1.25 mL PO**
Hypoglycemia (<40 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%)**
	Glucagon IM (1 mg/mL)	0.5 mg	**0.5 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	5 mcg	**0.5 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	5 mcg	**0.1 mL IN**
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**
Fluid Bolus	Normal Saline **100 mL IV/IO - May repeat x 1 PRN**	N/A	**100 mL**
Equipment	OPA: **50 mm** NPA: **14 F** BVM: **Infant** Laryngoscope: **0-1 (straight)** ET Tube: **2.5 (cuffed)** ET Depth: **9-10 cm** *No ETI unless unable to ventilate*		

3-5 kilograms
6-12 pounds

6-7 kilograms *(13-16 pounds)* / 3-6 Months (Pink)

CARDIAC RESUSCITATION

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 1:10,000 (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 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. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR >220)**	0.7 mg	**0.7 mL (Diluted)**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR > 220)**	1.4 mg	**1.4 mL (Diluted)**
Electrical Therapy	**Initial[2]**	**Repeat[2]**
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)**		
ET Tube: **3 (cuffed)** ET Depth: **10.5 cm** *No ETI unless unable to ventilate*		
Fluid Bolus		
Normal Saline **130 mL IV/IO** - **May repeat x 1 PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mcg/1 mL	7 mcg	**0.7 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1]CPR if HR < 60 after O_2

[2]May adjust to closest available energy setting

6-7 kilograms *(13-16 pounds)* / 3-6 Months (Pink)

CONDITIONS/MEDICATIONS

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
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.25 mg	**1.25 mL**
	Diphenhydramine IM/IV/IO (50 mg/mL) **Diluted with 4 mL Normal Saline = 10 mg/mL (Anaphylaxis only)**	10 mg	**1 mL (Diluted)**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen Jr. IM (**Severe symptoms only**)	0.1 mg	**0.1 mL IM**
	Solu-Medrol IV/IO (125 mg/2mL) **Diluted with 3 mL Normal Saline = 25 mg/mL**	12.5 mg	**0.5 mL (Diluted)**
Seizure	Midazolam IM (5 mg/mL) **Give first if no IV**	1 mg	**0.2 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	0.4 mg	**0.4 mL (Diluted)**
Fever	Acetaminophen PO (160 mg/5 mL)	80 mg	**2.5 mL PO**
Hypoglycemia (<40 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%)**
	Glucagon IM (1 mg/mL)	0.5 mg	**0.5 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	7 mcg	**0.7 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	7 mcg	**0.15 mL IN**
Narcotic OD	Naloxone IV/IM (2 mg/2 mL)	1 mg	**1 mL**
	Naloxone IN (2 mg/2 mL) **Divide dose equally between both nostrils**	1 mg	**1 mL IN**
Fluid Bolus	Normal Saline **130 mL IV/IO - May repeat x 1 PRN**	N/A	**130 mL**
Equipment	OPA: **50 mm** NPA: **14 F** BVM: **Infant** Laryngoscope: **1 (straight)** ET Tube: **3 (cuffed)** ET Depth: **10.5 cm** *No ETI unless unable to ventilate*		

6-7 kilograms
13-16 pounds

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 1:10,000 (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 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. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR > 220)**	1 mg	**1 mL (Diluted)**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR > 220)**	2 mg	**2 mL (Diluted)**
Electrical Therapy	**Initial[2]**	**Repeat[2]**
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	**20 J**	**40 J**
*Synchronized Cardioversion[2] for unstable tachycardia	**10 J**	**20 J**
Equipment		
OPA: **50 mm** NPA: **14 F** BVM: **Infant** Laryngoscope: **1 (straight)**		
ET Tube: **3 (cuffed)** ET Depth: **11 cm** *No ETI unless unable to ventilate*		
Fluid Bolus		
Normal Saline **170 mL IV/IO** - **May repeat x 1 PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mcg/1 mL	9 mcg	**0.9 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1]CPR if HR < 60 after O_2

[2]May 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.

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.25 mg	**1.25 mL**
	Diphenhydramine IM/IV/IO (50 mg/mL) **Diluted with 4 mL Normal Saline = 10 mg/mL (Anaphylaxis only)**	10 mg	**1 mL (Diluted)**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen Jr. IM (**Severe symptoms only**)	0.1 mg	**0.1 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL) **Diluted with 3 mL Normal Saline = 25 mg/mL**	17.5 mg	**0.7 mL (Diluted)**
Seizure	Midazolam IM (5mg/mL) **Give first if no IV**	1 mg	**0.2 mL IM**
	Midazolam IV (5mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	0.5 mg	**0.5 mL (Diluted)**
Fever	Acetaminophen PO (160 mg/5 mL)	120 mg	**3.75 mL PO**
	Ibuprofen PO (100 mg/5 mL)	80 mg	**4 mL PO**
Hypoglycemia (<40 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%)**
	Glucagon IM (1 mg/mL)	0.5 mg	**0.5 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	10 mcg	**1 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	10 mcg	**0.2 mL IN**
	Ketamine IV/IO (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	1.5 mg	**0.15 mL (Diluted) IV/IO**
	Ketamine IN (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	4 mg	**0.4 mL (Diluted) IN**
Narcotic OD	Naloxone IV/IM (2 mg/2 mL)	1 mg	**1 mL**
	Naloxone IN (2 mg/2 mL) **Divide dose equally between both nostrils**	1 mg	**1 mL IN**
Fluid Bolus	Normal Saline **170 mL IV/IO - May repeat x 1 PRN**	N/A	**170 mL**
Equipment	OPA: **50 mm** NPA: **14 F** BVM: **Infant** Laryngoscope: **1 (straight)** ET Tube: **3 (cuffed)** ET Depth: **11 cm** *No ETI unless unable to ventilate*		

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 1:10,000 (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 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. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR >180)**	1 mg	**1 mL (Diluted)**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR > 180)**	2 mg	**2 mL (Diluted)**
Electrical Therapy	**Initial[2]**	**Repeat[2]**
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	**20 J**	**40 J**
*Synchronized Cardioversion[2] for unstable tachycardia	**10 J**	**20 J**
Equipment		
OPA: **60 mm** NPA: **18 F** BVM: **Child** Laryngoscope: **1 (straight)**		
ET Tube: **3.5 (cuffed)** ET Depth: **12 cm** *No ETI unless unable to ventilate*		
Fluid Bolus		
Normal Saline **200 mL IV/IO** - **May repeat x 1 PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mcg/1 mL	10 mcg	**1 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1]CPR if HR < 60 after O_2

[2]May adjust to closest available energy setting

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

CONDITIONS/MEDICATIONS

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 agilitly.

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.25 mg	**1.25 mL**
	Diphenhydramine IM/IV/IO (50 mg/mL) **Diluted with 4 mL Normal Saline** = **10 mg/mL** (**Anaphylaxis only**)	10 mg	**1 mL (Diluted)**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen Jr. IM (**Severe symptoms only**)	0.1 mg	**0.1 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL) **Diluted with 3 mL Normal Saline** = **25 mg/mL**	20 mg	**0.8 mL (Diluted)**
Seizure	Midazolam IM (5 mg/mL) **Give first if no IV**	1 mg	**0.2 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline** = **1 mg/mL**	0.5 mg	**0.5 mL (Diluted)**
Fever/Pain	Acetaminophen PO (160 mg/5 mL)	120 mg	**3.75 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%)**
	Glucagon IM (1 mg/mL)	0.5 mg	**0.5 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	10 mcg	**1 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	10 mcg	**0.2 mL IN**
	Ketamine IV/IO (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	2 mg	**0.2 mL (Diluted) IV/IO**
	Ketamine IN (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	5 mg	**0.5 mL (Diluted) IN**
	Morphine IV/IM/IO (10 mg/mL) **Diluted with 9 mL Normal Saline = 1 mg/mL**	1 mg	**1 mL (Diluted)**
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**
Fluid Bolus	Normal Saline **200 mL IV/IO** - **May repeat x 1 PRN**	N/A	**200 mL**
Equipment	OPA: **60 mm** NPA: **18 F** BVM: **Child** Laryngoscope: **1 (straight)** ET Tube: **3.5 (cuffed)** ET Depth: **12 cm** *No ETI unless unable to ventilate*		

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 1:10,000 (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 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. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR > 180)**	1.5 mg	**1.5 mL (Diluted)**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Dilute with 4 mL Normal Saline to produce 1 mg/mL. For SVT (HR > 180)**	3 mg	**3 mL (Diluted)**
Electrical Therapy	**Initial[2]**	**Repeat[2]**
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	**25 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)**		
ET Tube: 4 **(cuffed)** ET Depth: **13 cm** *No ETI unless unable to ventilate*		
Fluid Bolus		
Normal Saline **250 mL IV/IO** - **May repeat x 1 PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mcg/1 mL	10 mcg	**1 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1] **CPR if HR < 60 after O_2**

[2] **May 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.

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.25 mg	**1.25 mL**
	Diphenhydramine IM/IV/IO (50 mg/mL) **Diluted with 4ml Normal Saline = 10 mg/mL (Anaphylaxis only)**	15 mg	**1.5 mL (Diluted)**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen Jr. IM (**Severe symptoms only**)	0.15 mg	**0.15 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL) **Diluted with 3 mL Normal Saline = 25 mg/mL**	25 mg	**1 mL (Diluted)**
Seizure	Midazolam IM (5 mg/mL) **Give first if no IV**	1.3 mg	**0.25 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	0.7 mg	**0.7 mL (Diluted)**
Fever/Pain	Acetaminophen PO (160 mg/5 mL)	160 mg	**5 mL PO**
	Ibuprofen (100 mg/5 mL)	140 mg	**7 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%)**
	Glucagon IM (1 mg/mL)	0.5 mg	**0.5 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	12 mcg	**1.2 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	12 mcg	**0.25 mL IN**
	Ketamine IV/IO (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	3 mg	**0.3 mL (Diluted) IV/IO**
	Ketamine IN (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	6 mg	**0.6 mL (Diluted) IN**
	Morphine IV/IM/IO (10 mg/mL) **Diluted with 9 mL Normal Saline = 1 mg/mL**	1.2 mg	**1.2 mL (Diluted)**
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**
Fluid Bolus	Normal Saline **250 mL IV/IO** - **May repeat x 1 PRN**	N/A	**250 mL**
Equipment	OPA: **60 mm** NPA: **20 F** BVM: **Child** Laryngoscope: **2 (straight/curved)** ET Tube: 4 **(cuffed)** ET Depth: **13 cm** *No ETI unless unable to ventilate*		

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 1:10,000 (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 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. Dilute with 4 mL Normal Saline to produce 1 mg/1 mL. For SVT (HR >180)**	2 mg	**2 mL (Diluted)**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Dilute with 4 mL Normal Saline to produce 1 mg/1 mL. For SVT (HR >180)**	4 mg	**4 mL (Diluted)**
Electrical Therapy	**Initial[2]**	**Repeat[2]**
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	**40 J**	**80 J**
*Synchronized Cardioversion[2] for unstable tachycardia	**20 J**	**40 J**
Equipment		
OPA: **60 mm** NPA: **22 F** BVM: **Child** Laryngoscope: **2 (straight/curved)**		
ET Tube: **4.5 (cuffed)** ET Depth: **15 cm** *No ETI unless unable to ventilate*		
Fluid Bolus		
Normal Saline **300 mL IV/IO** - **May repeat x 1 PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mcg/1 mL	10 mcg	**1 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1]CPR if HR < 60 after O_2

[2]May adjust to closest available energy setting

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

CONDITIONS/MEDICATIONS

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.

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.25 mg	**1.25 mL**
	Diphenhydramine IM/IV/IO (50 mg/mL) **Diluted with 4 mL Normal Saline = 10 mg/mL (Anaphylaxis only)**	20 mg	**2 mL (Diluted)**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen Jr. IM (**Severe symptoms only**)	0.15 mg	**0.15 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL)	~31 mg	**0.5 mL**
Seizure	Midazolam IM (5 mg/mL) **Give first if no IV**	1.5 mg	**0.3 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	1 mg	**1 mL (Diluted)**
Fever/Pain	Acetaminophen PO (160 mg/5 mL)	240 mg	**7.5 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%)**
	Glucagon IM (1 mg/mL)	0.5 mg	**0.5 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	15 mcg	**1.5 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	15 mcg	**0.3 mL IN**
	Ketamine IV/IO (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	3 mg	**0.3 mL (Diluted) IV/IO**
	Ketamine IN (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	7.5 mg	**0.75 mL (Diluted) IN**
	Morphine IV/IM/IO (10 mg/mL) **Diluted with 9 mL Normal Saline = 1 mg/mL**	1.5 mg	**1.5 mL (Diluted)**
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**
Fluid Bolus	Normal Saline **300 mL IV/IO - May repeat x 1 PRN**	N/A	**300 mL**
Equipment	OPA: **60 mm** NPA: **22 F** BVM: **Child** Laryngoscope: **2 (straight/curved)** ET Tube: **4.5 (cuffed)** ET Depth: **15 cm** *No ETI unless unable to ventilate*		

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 1:10,000 (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 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)**	2.5 mg	**0.8 mL**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Follow with 10 mL Normal Saline flush. For SVT (HR > 180)**	5 mg	**1.6 mL**
Electrical Therapy	**Initial[2]**	**Repeat[2]**
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	**40 J**	**80 J**
*Synchronized Cardioversion[2] for unstable tachycardia	**20 J**	**40 J**
Equipment		
OPA: **70 mm** NPA: **24 F** BVM: **Child** Laryngoscope: **2 (straight/curved)**		
ET Tube: **5 (cuffed)** ET Depth: **16 cm** *No ETI unless unable to ventilate*		
Fluid Bolus		
Normal Saline **400 mL IV/IO** - **May repeat x 1 PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL**	10 mcg	**1 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1]CPR if HR < 60 after O_2

[2]May adjust to closest available energy setting

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

CONDITIONS/MEDICATIONS

Normal Vitals: HR: 70-110, RR: 18-24, Systolic BP 80-110 mmHg, Blood Glucose > 60 mg/dl *: Look alike/sound alike drug
Development: Able to tell a brief story with a complete sentence. Able to balance on one foot for a short period of time.

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.5 mg	**2.5 mL**
	Diphenhydramine IV/IO (50 mg/mL) **Diluted with 4 mL Normal Saline = 10 mg/mL (Anaphylaxis only)**	25 mg	**2.5 mL (Diluted)**
	Diphenhydramine IM (50 mg/mL) **(Anaphylaxis only)**	25 mg	**0.5 mL IM**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen Jr. IM (**Severe symptoms only**)	0.15 mg	**0.15 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL)	~44 mg	**0.7 mL**
Seizure	Midazolam IM (5 mg/mL) **Give first if no IV**	2 mg	**0.4 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	1 mg	**1 mL (Diluted)**
Fever/Pain	Acetaminophen PO (160 mg/5 mL)	240 mg	**7.5 mL PO**
	Ibuprofen PO (100 mg/5 mL)	200 mg	**10 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%)**
	Glucagon IM (1 mg/mL)	1 mg	**1 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	20 mcg	**2 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	20 mcg	**0.4 mL IN**
	Ketamine IV/IO (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	4 mg	**0.4 mL (Diluted) IV/IO**
	Ketamine IN (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	10 mg	**1 mL (Diluted) IN**
	*Ketorolac IV/IM (15 mg/1 mL)	15 mg	**1 mL IV/IM**
	Morphine IV/IM/IO (10 mg/mL) **Diluted with 9 mL Normal Saline = 1 mg/mL**	2 mg	**2 mL (Diluted)**
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**
Fluid Bolus	Normal Saline **400 mL IV/IO - May repeat x 1 PRN**	N/A	**400 mL**
Equipment	OPA: **70 mm** NPA: **24 F** BVM: **Child** Laryngoscope: **2 (straight/curved)** ET Tube: **5 (cuffed)** ET Depth: **16 cm** *No ETI unless unable to ventilate*		

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 1:10,000 (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 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. Follow with 10 mL Normal Saline flush. For SVT (HR > 180)**	3 mg	**1 mL**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose**. **Follow with 10 mL Normal Saline flush. For SVT (HR > 180)**	6 mg	**2 mL**
Electrical Therapy	**Initial [2]**	**Repeat [2]**
Defibrillation (pediatric pads preffered) Adult pads may be used anterior/posterior.	**50 J**	**100 J**
*Synchronized Cardioversion [2] for unstable tachycardia	**25 J**	**50 J**
Equipment		
OPA: **80 mm** NPA: **26 F** BVM: **Child** Laryngoscope: **2-3 (straight/curved)**		
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**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline = 10 mcg/1 mL**	10 mcg	**1 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1]CPR if HR < 60 after O_2

[2]May 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 ***: Look alike/sound alike drug**

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.5 mg	**2.5 mL**
	Diphenhydramine IV/IO (50 mg/mL) **Diluted with 4 mL Normal Saline = 10 mg/mL (Anaphylaxis only)**	30 mg	**3 mL (Diluted)**
	Diphenhydramine IM (50 mg/mL) **(Anaphylaxis only)**	30 mg	**0.6 mL IM**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen Jr. IM (**Severe symptoms only**)	0.15 mg	**0.15 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL)	50 mg	**0.8 mL**
Seizure	Midazolam IM (5 mg/mL) **Give first if no IV**	2.5 mg	**0.5 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	1.4 mg	**1.4 mL (Diluted)**
Fever/Pain	Acetaminophen PO (160 mg/5 mL)	320 mg	**10 mL PO**
	Ibuprofen PO (100 mg/5 mL)	250 mg	**12.5 mL PO**
Hypoglycemia (<60 mg/dL)	D50% (25 g/50 mL) **Give Slow IV**	12.5 g	**25 mL (D50%)**
	Glucagon IM (1 mg/mL)	1 mg	**1 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	25 mcg	**2.5 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	25 mcg	**0.5 mL IN**
	Ketamine IV/IO (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	5 mg	**0.5 mL (Diluted) IV/IO**
	Ketamine IN (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	12.5 mg	**1.25 (Diluted) IN**
	*Ketorolac IV/IM (15 mg/1 mL)	15 mg	**1 mL IV/IM**
	Morphine IV/IO (10 mg/mL) **Diluted with 9 mL Normal Saline = 1 mg/mL**	3 mg	**3 mL (Diluted)**
	Morphine IM (10 mg/mL)	3 mg	**0.3 mL IM**
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**
Fluid Bolus	Normal Saline **500 mL IV/IO - May repeat x 1 PRN**	N/A	**500 mL**
Equipment	OPA: **80 mm** NPA: **26 F** BVM: **Child** Laryngoscope: **2-3 (straight/curved)** ET Tube: **5.5 (cuffed)** ET Depth: **18 cm** *No ETI unless unable to ventilate*		

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 1:10,000 (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 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. Follow with 10 mL Normal Saline flush. For SVT (HR > 180)**	4 mg	**1.3 mL**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Follow with 10 mL Normal Saline flush. For SVT (HR > 180)**	8 mg	**2.6 mL**
Electrical Therapy	**Initial[2]**	**Repeat[2]**
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	**65 J**	**130 J**
*Synchronized Cardioversion[2] for unstable tachycardia	**30 J**	**60 J**
Equipment		
OPA: **80 mm** NPA: **30 F** BVM: **Adult** Laryngoscope: **2-3 (straight/curved)**		
ET Tube: **6 (cuffed)** ET Depth: **19.5 cm** *No ETI unless unable to ventilate*		
Fluid Bolus		
Normal Saline **700 mL IV/IO** - **May repeat x 1 PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mcg/1 mL	10 mcg	**1 mL (Diluted)**

***CONTACT MEDICAL CONTROL**

[1]CPR if HR < 60 after O_2

[2]May 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 ***: Look alike/sound alike drug**

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.5 mg	**2.5 mL**
	Diphenhydramine IV/IO (50 mg/mL) **Diluted with 4 mL Normal Saline = 10 mg/mL (Anaphylaxis only)**	35 mg	**3.5 mL (Diluted)**
	Diphenhydramine IM (50 mg/mL) **(Anaphylaxis only)**	35 mg	**0.7 mL IM**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen adult IM (**Severe symptoms only**)	0.3 mg	**0.3 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL)	62.5mg	**1 mL**
Seizure	Midazolam IM (5 mg/mL) **Give first if no IV**	3 mg	**0.6 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	2 mg	**2 mL (Diluted)**
Fever/Pain	Acetaminophen PO (160 mg/5 mL)	400 mg	**12.5 mL PO**
	Ibuprofen PO (100 mg/5 mL)	350 mg	**17 mL PO**
Hypoglycemia (<60 mg/dL)	D50% (25 g/50 mL) **Give Slow IV**	15 g	**30 mL (D50%)**
	Glucagon IM (1 mg/mL)	1 mg	**1 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	30 mcg	**3 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	30 mcg	**0.6 mL IN**
	Ketamine IV/IO (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	7 mg	**0.7 mL (Diluted) IV/IO**
	Ketamine IN (100 mg/1 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mg/1 mL	17.5 mg	**1.75 mL (Diluted)**
	*Ketorolac IV/IM (15 mg/1 mL)	15 mg	**1 mL IV/IM**
	Morphine IV/IO (10 mg/mL) **Diluted with 9 mL Normal Saline = 1 mg/mL**	3.5 mg	**3.5 mL (Diluted)**
	Morphine IM (10 mg/mL)	3.5 mg	**0.35 mL IM**
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**
Fluid Bolus	Normal Saline **700 mL IV/IO - May repeat x 1 PRN**	N/A	**700 mL**
Equipment	OPA: **80 mm** NPA: **30 F** BVM: **Adult** Laryngoscope: **2-3 (straight/curved)** ET Tube: **6 (cuffed)** ET Depth: **19.5 cm** *No ETI unless unable to ventilate*		

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 concentation is as specified)**	**Dose**	**Volume**
Epinephrine 1:10,000 (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 wide-complex tachycardia**	100 mg	**5 mL**
*Amiodarone (150 mg/3 mL) IV **for stable wide-complex tachy. Add to 100 mL Normal Saline, run over 10 minutes**	150 mg	**3 mL in 100 mL NSS**
Atropine (1 mg/10 mL) IV/IO **for bradycardia, every 3-5 min to a max of 3 mg**	0.5 mg	**5 mL**
*Adenosine (6 mg/2 mL) IV/IO **1st Dose. Follow with 10 mL Normal Saline flush. For SVT (HR > 150)**	6 mg	**2 mL**
*Adenosine (6 mg/2 mL) IV/IO **2nd Dose. Follow with 10 mL Normal Saline flush. For SVT (HR > 150)**	12 mg	**4 mL**
Electrical Therapy	**Initial[1]**	**Repeat[1]**
V-Fib or Pulseless V-Tach: **Defibrillation**	**120-200 J**	**≥ 120-200 J**
Unstable, wide irregular tachycardia. Heart rate > 150 bpm: **Defibrillation**	**120-200 J**	**≥ 120-200 J**
Unstable, wide regular tachycardia. Heart rate > 150 bpm: **Synchronized Cardioversion**	**100 J**	**≥ 100 J[2]**
Unstable, narrow regular tachycardia. Heart rate > 150 bpm: **Synchronized Cardioversion**	**50-100 J**	**≥ 50-100 J[2]**
Unstable, narrow irregular tachycardia. Heart rate > 150 bpm: **Synchronized Cardioversion**	**120-200 J**	**≥ 120-200 J[2]**
Fluid Bolus		
Normal Saline **1000 mL IV/IO** - **May repeat PRN**		
Shock after IVFs-Epinephrine IV/IO (1 mg/10 mL) **Dilute 1 mL with 9 mL Normal Saline** = 10 mcg/1 mL	10 -20 mcg	**1 - 2 mL (Diluted) IV/IO**

***CONTACT MEDICAL CONTROL**

[1]Based on biphasic, use manufacturer's recommended energy

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

Adult >14 Years (Black)

CONDITIONS/MEDICATIONS

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

Condition	Medication - (confirm concentration is as specified)	Dose	Volume
Bronchospasm Anaphylaxis	Albuterol Nebulized (2.5 mg/3 mL)	2.5 mg	**3 mL**
	Ipratropium Bromide Nebulized (0.5 mg/2.5 mL if wheezing)	0.5 mg	**2.5 mL**
	Diphenhydramine IM/IV/IO (50 mg/mL) (**Anaphylaxis only**)	50 mg	**1 mL**
	Epinephrine 1:1000 IM (1 mg/mL) ***or*** 1 EpiPen adult. IM (**Severe symptoms only**)	0.3 mg	**0.3 mL IM**
	Solu-Medrol IV/IO (125 mg/2 mL)	125 mg	**2 mL**
Seizure (Sedation)	Midazolam IM (5 mg/mL) **Give first if no IV**	10 mg	**2 mL IM**
	Midazolam IV (5 mg/mL) **Diluted with 4 mL Normal Saline = 1 mg/mL**	5 mg	**5 mL (Diluted)**
Hypoglycemia (<60 mg/dL)	D50% (25 g/50 mL) **Give Slow IV**	25 g	**50 mL (D50%)**
	Glucagon IM (1 mg/mL)	1 mg	**1 mL IM**
Pain Control	Fentanyl IV (100 mcg/2 mL) **Diluted with 8 mL Normal Saline = 10 mcg/mL**	100 mcg	**10 mL (Diluted)**
	Fentanyl IN (100 mcg/2 mL) **Divide dose equally between both nostrils**	100 mcg	**2 mL IN**
	Morphine IV/IO (10 mg/mL) **Diluted with 9 mL Normal Saline = 1 mg/mL**	2-5 mg	**2-5 mL (Diluted)**
	Morphine IM (10 mg/mL)	2-5 mg	**0.2-0.5 mL IM**
	Ketamine IV/IO/IM/IN (500 mg/5 mL)	0.5 mg/kg	**0.25 mL - 0.5 mL**
Sedation	Ketamine IV/IO (500 mg/5 mL)	1 mg/kg	**0.5 mL - 1 mL**
	Ketamine IM (500 mg/5 mL)	5 mg/kg	**2.5 mL - 5 mL IM**
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**
Fluid Bolus	Normal Saline **1000 mL IV/IO - May repeat x 1 PRN**	N/A	**1000 mL**

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**

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

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

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**	1500 mg	**60 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 37-40 kg (80-88 lbs)	**>14 years**	3000 mg	**120 mL[4]**
Adult 41-49kg (89-108 lbs)	**>14 years**	3500 mg	**140 mL[4]**
Adult > or = 50 kg (> or = 109 lbs)	**>14 years**	5000 mg	**200 mL[4] (full bottle)**

[1]The safety and efficacy in pediatrics has not been established, [2]Administer slowly over 15 minutes.
[3]Push slowly over 15 minutes, [4]Infuse over 15 minutes

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If you have questions or comments about MI-MEDIC contact: MI-MEDIC@med.wmich.edu