

# EMS for Children Update

---

JUSTIN ALLEN, BA, EMT-P

A solid orange horizontal bar at the bottom of the slide.

# Objectives

---

- Understand mandatory reporting obligations
- Safe Transport of Children Protocol
- Understand revisions to the Michigan Medication Emergency Dosing and Intervention Cards (MI-MEDIC)

# Mandated Reporters

---

**The following professions are required by law to report any suspicions of child abuse or neglect:**

- Medical and health care providers
- Social workers and counselors
- Child care providers
- Clergy and faith leaders
- Law enforcement
- School administrators and teachers



# Penalties for Not Reporting

---

## **Criminal penalties:**

- 93 days in jail, or
- Fine (\$500.00), or
- Both

## **Civil penalty:**

- Liable for injuries



# Reporting Obligations

---

- **#1. Immediate verbal report to DHHS**
  - **855-444-3911**
  - Be prepared to give as much demographic information as possible when making the call
  - Providing the family's address is essential
  - Make sure to get log number

# Reporting Obligations

---

- **#2. Written report (DHS-3200) within 72 hours of verbal report**
  - Detailed information
  - Child's statements in quotations

[www.michigan.gov/mandatedreporter](http://www.michigan.gov/mandatedreporter)

[www.michigan.gov/ems](http://www.michigan.gov/ems)

# REPORT OF ACTUAL OR SUSPECTED CHILD ABUSE OR NEGLECT

Michigan Department of Health and Human Services

Was complaint phoned to MDHHS?  
 Yes     No    ▶ If yes, Log # \_\_\_\_\_    ▶ If no, contact Centralized Intake (855-444-3911) immediately

**INSTRUCTIONS: REPORTING PERSON:** Complete items 1-19 (20-28 should be completed by medical personnel, if applicable). Send to Centralized Intake at the address list on page 2. 1. Date  
\_\_\_\_\_

2. List of child(ren) suspected of being abused or neglected (Attach additional sheets if necessary)

NAME	BIRTH DATE	SOCIAL SECURITY #	SEX	RACE
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

3. Mother's name  
\_\_\_\_\_

4. Father's name  
\_\_\_\_\_

5. Child(ren)'s address (No. & Street) \_\_\_\_\_  
 6. City \_\_\_\_\_  
 7. County \_\_\_\_\_  
 8. Phone No. \_\_\_\_\_

9. Name of alleged perpetrator of abuse or neglect \_\_\_\_\_  
 10. Relationship to child(ren) \_\_\_\_\_

11. Person(s) the child(ren) living with when abuse/neglect occurred \_\_\_\_\_  
 12. Address, City & Zip Code where abuse/neglect occurred \_\_\_\_\_

13. Describe injury or conditions and reason for suspicion of abuse or neglect  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

14. Source of Complaint (Add reporter code below)
- |  |                                  |   |
|--|----------------------------------|---|
| 01 Private Physician/Physician's Assistant     | 11 School Nurse                  | 42 MDHHS Facility Social Worker                       |
| 02 Hosp/Clinic Physician/Physician's Assistant | 12 Teacher                       | 43 DMH Facility Social Worker                         |
| 03 Coroner/Medical Examiner                    | 13 School Administrator          | 44 Other Public Social Worker                         |
| 04 Dentist/Register Dental Hygienist           | 14 School Counselor              | 45 Private Agency Social Worker                       |
| 05 Audiologist                                 | 21 Law Enforcement               | 46 Court Social Worker                                |
| 06 Nurse (Not School)                          | 22 Domestic Violence Providers   | 47 Other Social Worker                                |
| 07 Paramedic/EMT                               | 23 Friend of the Court           | 48 FIS/ES Worker/Supervisor                           |
| 08 Psychologist                                | 25 Clergy                        | 49 Social Services Specialist/Manager (CPS, FC, etc.) |
| 09 Marriage/Family Therapist                   | 31 Child Care Provider           | 56 Court Personnel                                    |
| 10 Licensed Counselor                          | 41 Hospital/Clinic Social Worker |   |

14. Source of Complaint (Add reporter code below)

- |  |                                  |   |
|--|----------------------------------|---|
| 01 Private Physician/Physician's Assistant     | 11 School Nurse                  | 42 MDHHS Facility Social Worker                       |
| 02 Hosp/Clinic Physician/Physician's Assistant | 12 Teacher                       | 43 DMH Facility Social Worker                         |
| 03 Coroner/Medical Examiner                    | 13 School Administrator          | 44 Other Public Social Worker                         |
| 04 Dentist/Register Dental Hygienist           | 14 School Counselor              | 45 Private Agency Social Worker                       |
| 05 Audiologist                                 | 21 Law Enforcement               | 46 Court Social Worker                                |
| 06 Nurse (Not School)                          | 22 Domestic Violence Providers   | 47 Other Social Worker                                |
| 07 Paramedic/EMT                               | 23 Friend of the Court           | 48 FIS/ES Worker/Supervisor                           |
| 08 Psychologist                                | 25 Clergy                        | 49 Social Services Specialist/Manager (CPS, FC, etc.) |
| 09 Marriage/Family Therapist                   | 31 Child Care Provider           | 58 Court Personnel                                    |
| 10 Licensed Counselor                          | 41 Hospital/Clinic Social Worker |   |

15. Reporting person's name [Redacted]	Report Code (see above) [Redacted]	15a. Name of reporting organization (school, hospital, etc.) [Redacted]			
15b. Address (No. & Street) [Redacted]		15c. City [Redacted]	15d. State [Redacted]	15e. Zip Code [Redacted]	15f. Phone No. [Redacted]
16. Reporting person's name [Redacted]	Report Code (see above) [Redacted]	16a. Name of reporting organization (school, hospital, etc.) [Redacted]			
16b. Address (No. & Street) [Redacted]		16c. City [Redacted]	16d. State [Redacted]	16e. Zip Code [Redacted]	16f. Phone No. [Redacted]
17. Reporting person's name [Redacted]	Report Code (see above) [Redacted]	17a. Name of reporting organization (school, hospital, etc.) [Redacted]			
17b. Address (No. & Street) [Redacted]		17c. City [Redacted]	17d. State [Redacted]	17e. Zip Code [Redacted]	17f. Phone No. [Redacted]
18. Reporting person's name [Redacted]	Report Code (see above) [Redacted]	18a. Name of reporting organization (school, hospital, etc.) [Redacted]			
18b. Address (No. & Street) [Redacted]		18c. City [Redacted]	18d. State [Redacted]	18e. Zip Code [Redacted]	18f. Phone No. [Redacted]
19. Reporting person's name [Redacted]	Report Code (see above) [Redacted]	19a. Name of reporting organization (school, hospital, etc.) [Redacted]			
19b. Address (No. & Street) [Redacted]		19c. City [Redacted]	19d. State [Redacted]	19e. Zip Code [Redacted]	19f. Phone No. [Redacted]



# Recognizing Physical Abuse

- Injury to torso, ears, neck, face, or any bruising in < 4 month old (TEN 4 FACES)
- Injuries to soft tissue areas
- Linear marks / pattern
- Bites
- Burns
- Delay in seeking care



# Normal Bruising

- Injuries to bony prominences are common in toddlers and young children
- Isolated injuries
- Seeking immediate medical attention



# Recognizing Neglect

## Indicators:

- Physical neglect
- Failure to protect
- Improper supervision
- Abandonment
- Medical neglect





# Recognizing Neglect



# Recognizing Neglect



# Safe Transport of Children



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

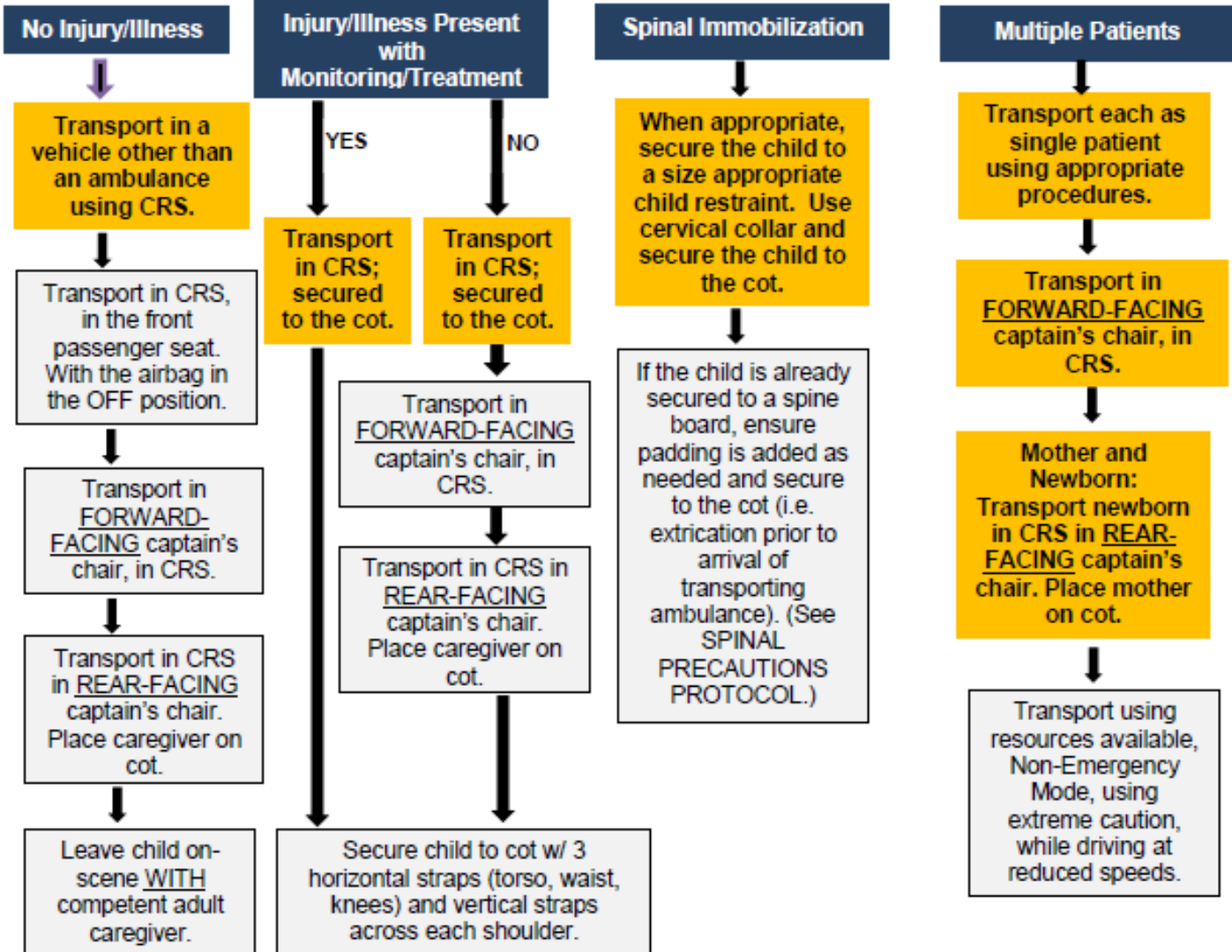


DOT HS 811 677

September 2012

## **Working Group Best-Practice Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances**





**TRANSPORTATION OF A CHILD IN ANY OF THE FOLLOWING WAYS IS NOT ALLOWED UNDER NORMAL CIRCUMSTANCES:**

- 1) Unrestrained
- 2) On someone's lap
- 3) Only using horizontal stretcher straps when the child does not fit according to the manufacturers recommendations
- 4) On the bench seat or any seat perpendicular to the forward motion of the vehicle, even if the child is in a child safety seat

**LEGEND**

= Ideal Transport Method

= Acceptable Alternative Transport Method if Ideal is not achievable

CRS: Appropriately Sized Child Restraint Device (car seat, ACR, Pedi-Mate, Safe Guard, integrated captain's chair, etc.)

**MUST REFER TO MANUFACTURER'S INSTRUCTIONS.**

# Ambulance Child Restraint™





# Safe Transport Projects

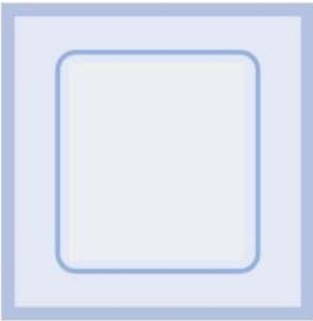
## INFANT WARMING MATTRESS

**PRODUCT #: S2RHIM**

An air activated warming mattress which heats to 100° F in 15-20 minutes and stays warm for 8 hours.

We recommend the Ready-Heat™ Infant Warming Cocoon be used in conjunction with our Ready-Heat™ Warming Transport Mattress, the mattress to be placed outside and underneath the infant for constant warming should the cocoon front need to be opened for patient access. We also recommend this warming mattress for use within a hospital environment while moving and transporting infants for tests and outside an incubated and controlled temperature environment.

<b>WARMING TEMPERATURE</b>	100°F / 38°C IN 15-20 MINUTES	<b>SIZE</b>	11" X 13" / 28 CM X 33 CM
<b>MAINTAINS HEAT</b>	8 HOURS	<b>WEIGHT</b>	7 OZ. / 198 GM



# MI-MEDIC 2.0



# MI-MEDIC

---

***MICHIGAN MEDICATION EMERGENCY DOSING AND INTERVENTION CARDS***

---

Based on State of Michigan EMS Protocols  
2017 Revisions

Version 2.0

# Drug Dosage Calculation

$$\frac{\text{Desired Dose} \times \text{Volume on Hand}}{\text{Concentration}} = \text{Volume to be Administered}$$

## Midazolam

Desired Dose

.05 mg/kg

Patient Weight

10 kg

Concentration

5 mg/1 mL

.05 mg/kg x 10 kg = **0.5 mg**

0.5 mg x 1 mL

5 mg

= **0.1 mL** Volume to be Administered



# MI-MEDIC

---

## *MICHIGAN MEDICATION EMERGENCY DOSING AND INTERVENTION CARDS*

---

Based on State of Michigan EMS Protocols  
2017 Revisions

Version 2.0

3-5 kilograms  
6-12 pounds

6-7 kilograms  
13-16 pounds

8-9 kilograms  
17-20 pounds

10-11 kilograms  
21-25 pounds

12-14 kilograms  
26-31 pounds

15-18 kilograms  
32-40 pounds

19-23 kilograms  
41-51 pounds

24-29 kilograms  
52-64 pounds

30-36 kilograms  
65-79 pounds

Adult >14 Years

# 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 ( $\leq 14$ 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.

**FREE TUTORIALS AND CE'S AVAILABLE ON THE MI-MEDIC AT: [AmericanCME.com](http://AmericanCME.com)**



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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>2</sup>	Repeat <sup>2</sup>
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	20 J	40 J
*Synchronized Cardioversion <sup>2</sup> 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

\*Contact Medical Control Prior to Administering

<sup>1</sup>CPR if HR < 60 after O<sub>2</sub>

<sup>2</sup>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 agility.

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) <i>or</i> 1 EpiPen Jr. IM (Severe symptoms only)	0.1 mg	0.1 mL IM
Seizure	Solu-Medrol IV/IO (125 mg/2 mL) Diluted with 3 mL Normal Saline = 25 mg/mL	20 mg	0.8 mL (Diluted)
	Midazolam IM (5 mg/mL) Give first if no IV	1 mg	0.2 mL IM
Fever	Midazolam IV (5 mg/mL) Diluted with 4 mL Normal Saline = 1 mg/mL	0.5 mg	0.5 mL (Diluted)
	Acetaminophen PO (160 mg/5 mL)	120 mg	3.75 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
	Morphine IV/IM/IO (10 mg/mL) Diluted with 9 mL Normal Saline = 1 mg/mL	1 mg	1 mL (Diluted)
Narcotic OD	Morphine IM (10 mg/mL)	1 mg	1 mL
	Naloxone IV/IM (2 mg/2 mL)	1 mg	1 mL IN
Fluid Bolus	Naloxone IN (2 mg/2 mL) Divide dose equally between both nostrils	1 mg	1 mL IN
	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 <i>No ETI unless unable to ventilate</i>		

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 > 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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>2</sup>	Repeat <sup>2</sup>
Defibrillation (pediatric pads preferred) Adult pads may be used anterior/posterior.	10 J	20 J
*Synchronized Cardioversion <sup>2</sup> 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

\*CONTACT MEDICAL CONTROL

<sup>1</sup>CPR if HR < 60 after O<sub>2</sub>

<sup>2</sup>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 > 60 mg/dl.

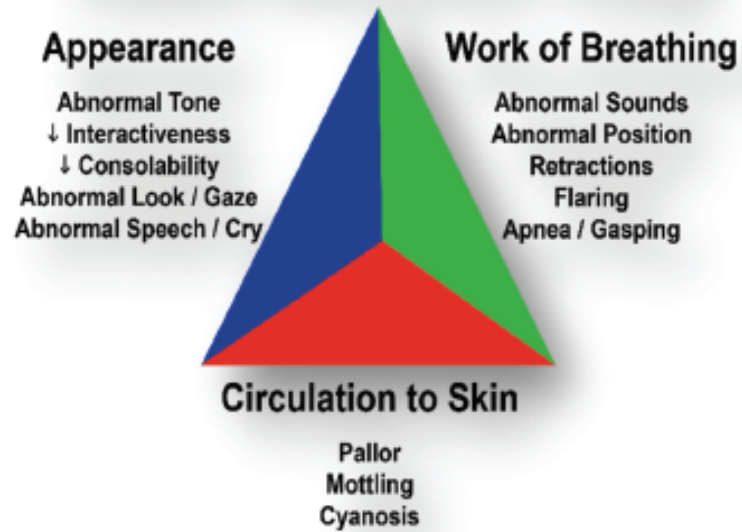
**Special Precautions:** Be sure to keep the baby warm.

**Development:** Flexed position when prone. Inhibited grasp reflex

<u>Condition</u>	<u>Medication</u> - (confirm concentration is as specified)	<u>Dose</u>	<u>Volume</u>
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) <u>or</u> 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 PG (160 mg/5 mL)	40 mg	1.25 mL PO
Hypoglycemia (<40 mg/dL)	D12.5% (6.25 g/50 mL) <u>12.5 mL of D50% diluted with 37.5 mL Normal Saline = D12.5%</u> 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/ 2mL) 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 <u>No</u> ETI unless unable to ventilate		



## Pediatric Assessment Triangle



American Academy of Pediatrics, Pediatric Education for Perioperative Professionals, Third edition, 2014. Jones and Bartlett Learning, Burlington, MA. [www.jblearning.com](http://www.jblearning.com). Reprinted with permission.

## 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 (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

# Medication Changes

---

- Morphine Sulfate dosage has been changed to 0.1 mg/kg instead of .05 mg/kg.
- Morphine Sulfate has been eliminated from the Gray, Pink and Red cards.
- Diazepam has been eliminated from the MI-MEDIC.
- Ketamine has been added on the adult card for pain control and sedation per MCA protocols.
- Fentanyl Intranasal dosage is now 1 mcg/kg which matches the IV dosage.
- Acetaminophen has been added to the MI-MEDIC.

# Thank You!

**Justin Allen**

**[allenj29@Michigan.gov](mailto:allenj29@Michigan.gov)**

**517-335-5860**

