Pediatric Altered Mental Status

The purpose of this protocol is to provide for the assessment and treatment of pediatric patients with altered mental status of unknown etiology such as alcohol, trauma, poisonings, seizures, behavioral problems, stroke, environmental causes, infection, etc.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **Pediatric Assessment and Treatment Protocol**.
2. Restrain patient if necessary, refer to **Patient Restraint Procedure**.
3. **If patient is not alert** or vital signs are unstable:
    A. Evaluate and maintain airway, provide oxygenation and support ventilations as needed.
    B. If no concern regarding spinal injury, place the patient on either side.

MFR/EMT/SPECIALIST

C. For a known diabetic, consider small amounts of oral glucose paste, buccal or sublingual.

EMT/SPECIALIST/PARAMEDIC

4. **If the patient is alert** but demonstrating signs of hypoglycemia, measure blood glucose level, if available.
    A. If less than 60 mg/dl administer oral high caloric fluid.

SPECIALIST/PARAMEDIC

5. If glucose is less than 60 mg/dl, administer Dextrose.
    A. Dextrose 12.5% for neonates, (under 1 month of age) 4 ml/kg IV/IO*.
    B. Dextrose 25% for children up to 12 years old, 2 ml/kg IV/IO*.

*The IO route is a last resort if IV cannot be established and Glucagon is not available with online Medical Control approval.

6. If respiratory depression is present, administer Naloxone up to 0.1 mg/kg (maximum dose 2 mg) IV slowly, titrating to improve respiratory status or IM; repeat as needed.
7. Per MCA selection, if unable to start IV, when Dextrose is indicated, administer Glucagon.

Glucagon 1 mg IM
☐ Included
☐ Not Included

Post-Medical Control

1. Repeat Dextrose as indicated.
2. Repeat Naloxone as indicated.

NOTE:

1. To obtain Dextrose 12.5%, discard 37.5 ml out of one amp of D50, then draw 37.5 ml of NS into the D50 amp; administer as indicated above.

2. To obtain Dextrose 25%, discard 25 ml out of one amp of D50, then draw 25 ml of NS into the D50 amp; administer as indicated above.

3. To avoid extravasation, a patent IV must be available for IV administration of Dextrose. Dextrose should always be pushed slowly (e.g., over 1-2 minutes).

The purpose of this protocol is to provide for the assessment and treatment of pediatric patients with altered mental status of unknown etiology such as alcohol, trauma, poisonings, seizures, behavioral problems, stroke, environmental causes, infection, etc.

Follow **Pediatric Assessment & Treatment Protocol**

Restrain patient if necessary, refer to **Patient Restraint Procedure**

If patient is not alert or vital signs are unstable:

- Evaluate & maintain airway, provide oxygenation & support ventilations as needed.
- If no concern regarding spinal injury, place patient on either side.

If the patient is alert but demonstrating signs of hypoglycemia:

- Measure blood glucose level, if available
- If less than 60 mg/dl administer oral high caloric fluid

If Glucose less than 60 mg/dl, administer Dextrose

- Dextrose 12.5% for neonates (under 1 month of age) 4 ml/kg IV/IO*
- Dextrose 25% for children up to12 years old, 2 ml/kg IV/IO*

*The IO route is a last resort if IV cannot be established and Glucagon is not available with online Medical Control approval.

- If respiratory depression is present, administer Naloxone up to 0.1 mg/kg (maximum dose 2 mg) IV slowly, titrating to improve respiratory status or IM; repeat as needed.
- Per MCA selection, if unable to start IV when Dextrose is indicated, administer Glucagon.

Glucagon
1 mg IM
☐ Included
☐ Not Included

Contact Medical Control

- Repeat Dextrose as indicated
- Repeat Naloxone as indicated

NOTE:	
To obtain Dextrose 12.5%, discard 37.5 ml out of one amp of D50, then draw 37.5 ml of NS into the D50 amp; administer as indicated above.	To obtain Dextrose 25%, discard 25 ml out of one amp of D50, then draw 25 ml of NS into the D50 amp; administer as indicated above.

To avoid extravasation, a patent IV must be available for IV administration of Dextrose. Dextrose should always be pushed slowly (e.g., over 1-2 minutes).

Pediatric Anaphylaxis/Allergic Reaction

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **Pediatric Assessment and Treatment Protocol**.
2. Determine substance or source of exposure, remove patient from source if known and able.
3. Assist the patient in administration of their own epinephrine auto-injector, if available.

EMT/SPECIALIST

4. In cases of severe allergic reaction, wheezing or hypotension:
    A. If child appears to weigh less than 10 kg (approx. 20 lbs.), contact medical control prior to epinephrine if possible.
    B. If child weighs between 10-30 kg (approx. 60 lbs.); administer Epi-Pen Jr.
    C. Child weighing greater than 30 kg; administer Epi-Pen.
5. Albuterol may be indicated. Refer to **Nebulized Bronchodilators Procedure**.

PARAMEDIC

6. If patient is symptomatic, administer diphenhydramine 1 mg/kg IM/IV/IO (maximum dose 50 mg).
7. In cases of severe allergic reaction, wheezing or hypotension:
    A. If child appears to weigh less than 10 kg (approx. 20 lbs.), contact medical control prior to epinephrine if possible.
    B. Child weighing less than 30 kg (approx. 60 lbs.); administer Epinephrine 1:1000, 0.15 mg (0.15 ml) IM OR via Epi-Pen Jr., if available.
    C. Child weighing greater than 30 kg; administer Epinephrine 1:1000, 0.3 mg (0.3 ml) IM OR via Epi-Pen if available.
8. In cases of profound anaphylactic shock (near cardiac arrest):
    A. Administer Epinephrine 1:10,000, 0.01 mg/kg (0.1 ml/kg) slow IV/IO to a maximum of 0.3 mg (3 ml).
9. Per MCA selection, administer Bronchodilator per **Nebulized Bronchodilators Procedure**.

10. Per MCA Selection administer Prednisone **OR** Methylprednisolone.

Medication Options:

Prednisone
50 mg tablet PO
(Children 6 and above, if tolerated)

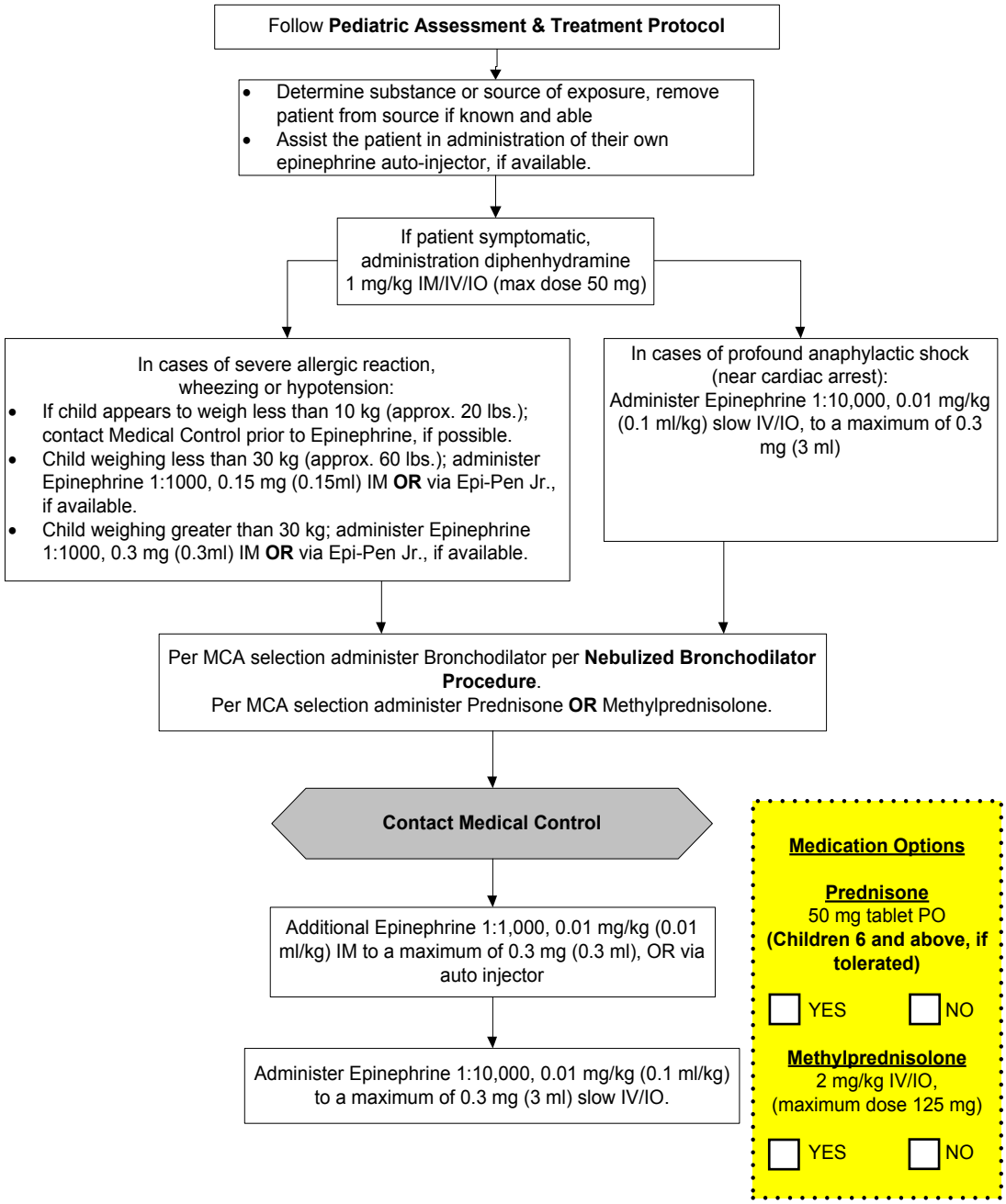
☐ YES ☐ NO

Methylprednisolone
2 mg/kg IV/IO,
(maximum dose 125 mg)

☐ YES ☐ NO

Post-Medical Control:

1. Additional Epinephrine 1:1,000, 0.01 mg/kg (0.01 ml/kg) IM to a maximum of 0.3 mg (0.3 ml), OR via auto-injector.
2. Administer Epinephrine 1:10,000, 0.01 mg/kg (0.1 ml/kg) to a maximum of 0.3 mg (3 ml) slow IV/IO.


Follow **Pediatric Assessment & Treatment Protocol**
Determine substance or source of exposure, remove patient from source if known and able
Assist the patient in administration of their own epinephrine auto-injector, if available.
If patient symptomatic, administration diphenhydramine 1 mg/kg IM/IV/IO (max dose 50 mg)
In cases of severe allergic reaction, wheezing or hypotension:
If child appears to weigh less than 10 kg (approx. 20 lbs.); contact Medical Control prior to Epinephrine, if possible.
Child weighing less than 30 kg (approx. 60 lbs.); administer Epinephrine 1:1000, 0.15 mg (0.15ml) IM **OR** via Epi-Pen Jr., if available.
Child weighing greater than 30 kg; administer Epinephrine 1:1000, 0.3 mg (0.3ml) IM **OR** via Epi-Pen Jr., if available.
In cases of profound anaphylactic shock (near cardiac arrest):
Administer Epinephrine 1:10,000, 0.01 mg/kg (0.1 ml/kg) slow IV/IO, to a maximum of 0.3 mg (3 ml)
Per MCA selection administer Bronchodilator per **Nebulized Bronchodilator Procedure**.
Per MCA selection administer Prednisone **OR** Methylprednisolone.
Contact Medical Control
Additional Epinephrine 1:1,000, 0.01 mg/kg (0.01 ml/kg) IM to a maximum of 0.3 mg (0.3 ml), OR via auto injector
Administer Epinephrine 1:10,000, 0.01 mg/kg (0.1 ml/kg) to a maximum of 0.3 mg (3 ml) slow IV/IO.
Medication Options
Prednisone
50 mg tablet PO
(Children 6 and above, if tolerated)
YES NO
Methylprednisolone
2 mg/kg IV/IO,
(maximum dose 125 mg)
YES NO

Pediatric Assessment & Treatment

Purpose: This protocol provides general guidelines for pediatric patient management. Unless otherwise stated, pediatric protocols will apply to patients less than or equal to 14 years of age. If the patient's age is not known, then pediatric protocols will apply until there are physical signs that the patient has reached puberty as indicated by armpit hair in boys and breast development in girls.

Assessment

MRF/EMT/SPECIALIST/PARAMEDIC

1. Ensure scene safety.
2. Form a general impression of the patient's condition.
3. Observe standard precautions.
4. Establish patient responsiveness. If cervical spine trauma is suspected, manually stabilize the spine.

Management

MRF/EMT/SPECIALIST/PARAMEDIC

1. Assess the patient's airway and respirations. If compromise is suspected refer to the **Pediatric Respiratory Distress, Failure or Arrest Protocol**.
2. Control hemorrhage using direct pressure or a pressure dressing.
3. Assess circulation and perfusion by measuring heart rate and observing skin color and temperature, capillary refill time, blood pressure, and the quality of central and peripheral pulses.
4. Evaluate mental status, including pupillary reaction, distal function and sensation.
5. If spinal trauma is suspected, continue manual stabilization, place a size appropriately rigid cervical collar, and observe spinal precautions. Refer to **Pediatric Trauma Protocol.**
6. Expose the child only as necessary to perform further assessments. Keep child as warm as possible.
7. Reassess the patient frequently.
8. If pulse absent, refer to **Pediatric Cardiac Arrest - General Protocol**.

EMT/SPECIALIST/PARAMEDIC

9. For pediatric patients with life threatening or potentially life threatening conditions measure the patient with Broselow Pediatric Emergency Care tape to determine color.
10. If the child's condition is critical or unstable, initiate transport as indicated. Perform focused history and detailed physical examination en route to the hospital if patient status and management of resources permit.

SPECIALIST/PARAMEDIC

11. If there is evidence of shock, obtain vascular access using an age-appropriate large-bore catheter. If intravenous access cannot be obtained, proceed with intraosseous access if indicated. Administer an IV/IO fluid bolus of normal saline at 20 ml/kg set to maximum flow rate. Reassess patient after bolus. If signs of shock persist, bolus may be repeated at the same dose for a maximum total of 40 ml/kg.

PARAMEDIC

12. Initiate cardiac monitoring.

Post-Radio

1. Contact Medical Control for additional instructions.

Purpose: This protocol provides general guidelines for pediatric patient management. Unless otherwise stated, pediatric protocols will apply to patients less than or equal to 14 years of age. If the patient's age is not known, then pediatric protocols will apply until there are physical signs that the patient has reached puberty as indicated by armpit hair in boys and breast development in girls.

Assessment

- Ensure scene safety
- Form a general impression of patient's condition
- Observe standard precautions
- Establish patient responsiveness
- If cervical spine trauma is suspected, manually stabilize the spine

Management

Assess patient's airway & respirations → If compromise suspected → Refer to **Pediatric Respiratory Distress, Failure or Arrest Protocol**

Control hemorrhage using direct pressure or a pressure dressing

Assess circulation & perfusion by:

- Measuring heart rate
- Observing skin color & temperature, capillary refill time
- Blood pressure
- Quality of central & peripheral pulses
- Evaluate mental status including pupillary reaction, distal function & sensation

Spinal trauma suspected:

- Continue manual stabilization
- Place a sized appropriately rigid cervical collar & observe spinal precautions

→ Refer to **Pediatric Trauma Protocol**

Expose child only as necessary to perform further assessments
Keep child as warm as possible

Reassess patient frequently → If pulse absent → Refer to **Pediatric Cardiac Arrest General Protocol**

For patients with life threatening or potentially life threating conditions
Measure patient with Broselow Pediatric Emergency Care tape to determine color

If child's condition is critical or unstable, initiate transport as indicated.

Perform focused history & detailed physical exam en route to hospital if patient status & management of resources permit

If evidence of Shock

- Obtain vascular access using age-appropriate large-bore catheter
- If IV access cannot be obtained, proceed with IO, if indicated.
- Administer an IV/IO fluid bolus of NS at 20 ml/kg set to max flow rate
- Reassess patient after bolus
- If signs of shock persist, bolus may be repeated at the same dose for a maximum total of 40 ml/kg

Initiate cardiac monitoring

Contact Medical Control

Pediatric Bronchospasm

Pre-Medical Control:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **Pediatric Assessment and Treatment Protocol**.

MFR/EMT/SPECIALIST

2. Assist the patient in using their own Albuterol Inhaler, if available

EMT/SPECIALIST

3. Albuterol may be indicated. Refer to **Nebulized Bronchodilators Procedure**.
4. Consider CPAP, if available, per **CPAP/BiPAP Procedure.**
5. In cases of severe respiratory distress/failure:
   A. If child appears to weigh less than 10 kg (approx. 20 lbs.), contact medical control prior to epinephrine if possible.
   B. If child weighs between 10-30 kg (approx. 60 lbs.); administer Epi-Pen Jr.
   C. Child weighing greater than 30 kg; administer Epi-Pen.

PARAMEDIC

6. Per MCA selection, administer Bronchodilator per **Nebulized Bronchodilators Procedure**.
7. Per MCA selection, if a second nebulized treatment is needed also administer Prednisone **OR** Methylprednisolone.

Medication Options:

Prednisone
50 mg tablet PO
(Children 6 and above, if tolerated)

☐ YES ☐ NO

Methylprednisolone
2 mg/kg IV/IO,
(maximum dose 125 mg)

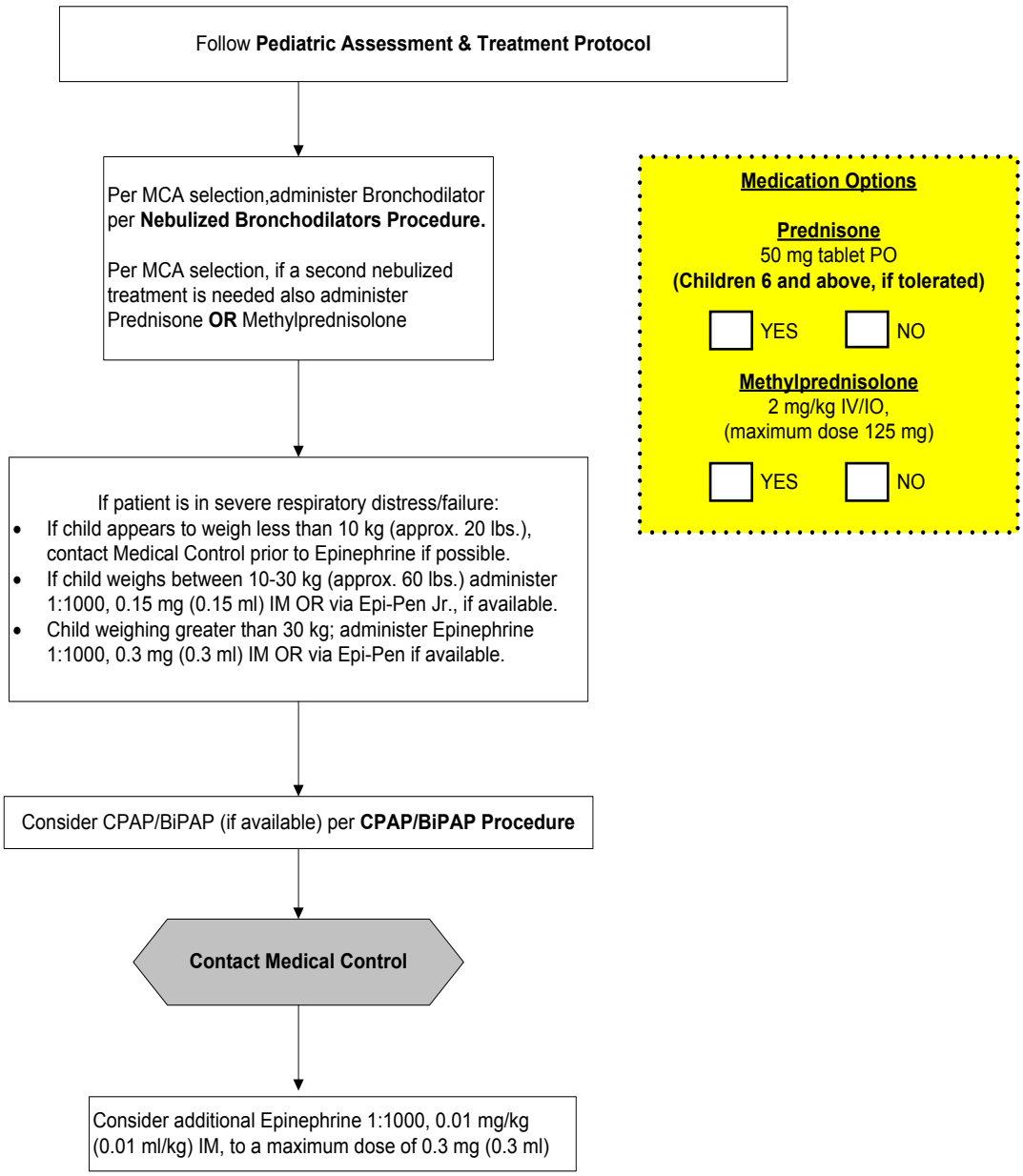
☐ YES ☐ NO

8. If patient is in severe respiratory distress/failure:
   A. If child appears to weigh less than 10 kg (approx. 20 lbs.), contact medical control prior to epinephrine if possible.
   B. If child weighs between 10- 30 kg (approx. 60 lbs.); administer Epinephrine 1:1000, 0.15 mg (0.15 ml) IM OR via Epi-Pen Jr., if available.
   C. Child weighing greater than 30 kg; administer Epinephrine 1:1000, 0.3 mg (0.3 ml) IM OR via Epi-Pen if available.

9. Consider CPAP/BiPAP (if available) per **CPAP/BiPAP Procedure**.

Post -Medical Control:

1. Consider additional Epinephrine 1:1000, 0.01 mg/kg (0.01 ml/kg) IM, to a maximum dose of 0.3 mg (0.3 ml).


Follow **Pediatric Assessment & Treatment Protocol**
Per MCA selection,administer Bronchodilator per **Nebulized Bronchodilators Procedure.**
Per MCA selection, if a second nebulized treatment is needed also administer Prednisone **OR** Methylprednisolone
Medication Options
Prednisone
50 mg tablet PO
(Children 6 and above, if tolerated)
YES NO
Methylprednisolone
2 mg/kg IV/IO,
(maximum dose 125 mg)
YES NO
If patient is in severe respiratory distress/failure:
• If child appears to weigh less than 10 kg (approx. 20 lbs.), contact Medical Control prior to Epinephrine if possible.
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• Child weighing greater than 30 kg; administer Epinephrine 1:1000, 0.3 mg (0.3 ml) IM OR via Epi-Pen if available.
Consider CPAP/BiPAP (if available) per **CPAP/BiPAP Procedure**
Contact Medical Control
Consider additional Epinephrine 1:1000, 0.01 mg/kg (0.01 ml/kg) IM, to a maximum dose of 0.3 mg (0.3 ml)

Pediatric Burns

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Refer to **Pediatric Assessment and Treatment Protocol**
2. Determine burn extent & severity (rule of nines).
3. Follow local MCA transport protocol.

THERMAL BURNS:

1. Stop the burning process. Remove smoldering and non-adherent clothing.
2. Assess and treat associated trauma.
3. Remove any constricting items.
4. If partial/full burn is moderate-to-severe, more than 15% of body surface area (BSA), cover wounds with dry clean dressings.
5. Use cool, wet dressings in smaller burns, less than 15% BSA, for patient comfort.

CHEMICAL BURNS:

1. Protect personnel from contamination.
2. Remove all clothing and constricting items.
3. Decontaminate patient prior to transport, brushing off dry chemicals prior to irrigation.
4. Assess and treat for associated injuries.
5. Evaluate for systemic symptoms, which might be caused by chemical contamination.
6. Cover burned area in clean, dry dressing for transport.

ELECTRICAL INJURY:

1. Protect rescuers from live electric wires.
2. Remove patient from electrical source when safe.
3. Treat associated injuries, provide spinal immobilization when indicated.
4. Assess and treat entrance and exit wound.

PARAMEDIC

5. Monitor patient ECG for possible arrhythmias. Treat as per specific arrhythmia protocol.

FOR ALL TYPES OF BURNS:

SPECIALIST/PARAMEDIC

6. Obtain vascular access if indicated for pain management or fluid therapy.
7. If partial or full thickness burn is greater than 15% BSA
   A. Administer an IV/IO fluid bolus NS 20 ml/kg set to maximum flow rate. Reassess patient after bolus.

B. If signs of shock are present, bolus may be repeated at the same dose up to a maximum total of 40 ml/kg.

8. Follow local MCA transport protocol.

PARAMEDIC

9. Administer Analgesic Medication, if indicated. Refer to **Pain Management Procedure.**

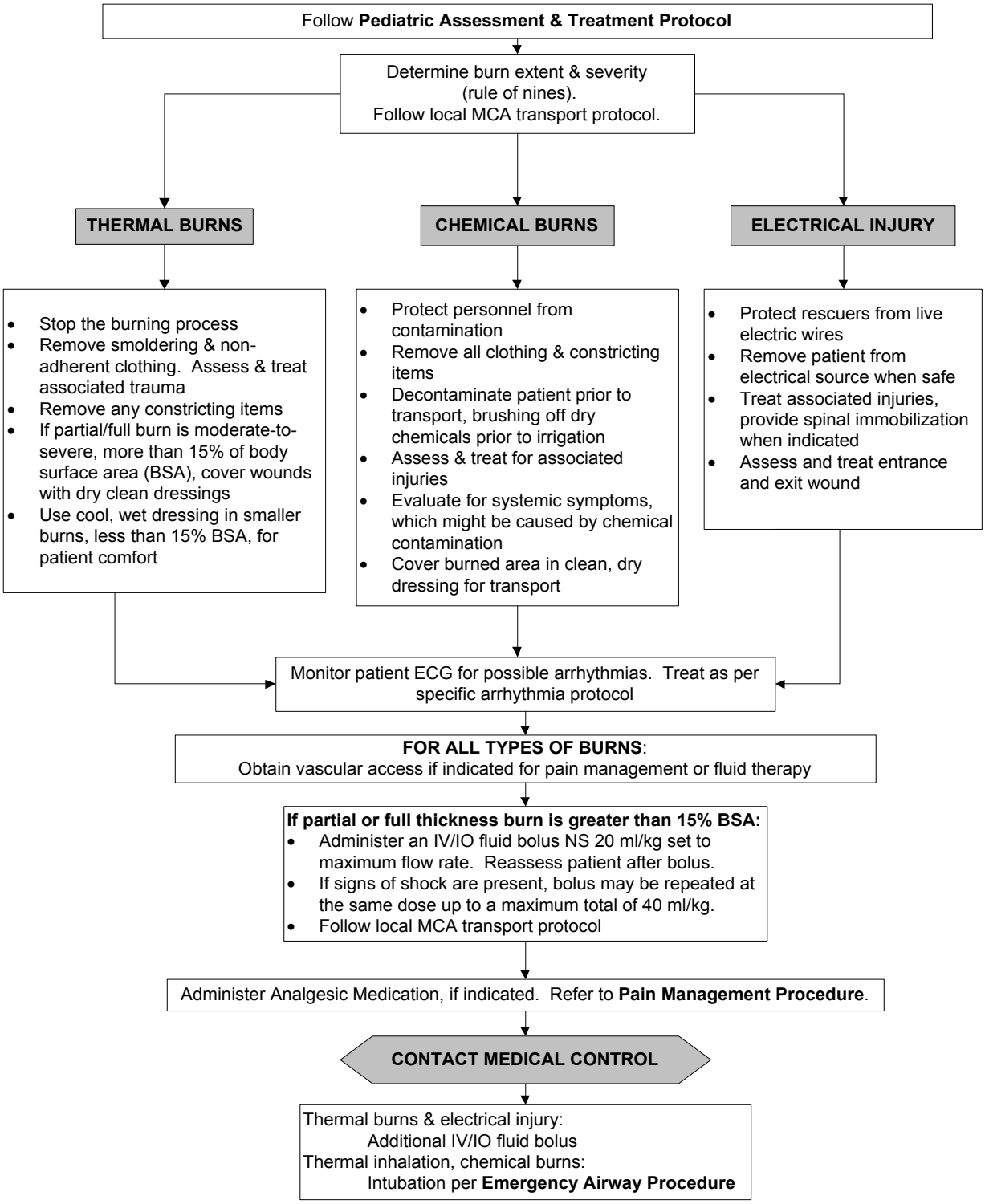
Post-Medical Control

Thermal Burns and Electrical Injury:

1. Additional IV/IO fluid bolus.

Thermal inhalation, chemical burns:

1. Intubation per **Emergency Airway Procedure**.


Follow **Pediatric Assessment & Treatment Protocol**
Determine burn extent & severity (rule of nines). Follow local MCA transport protocol.
THERMAL BURNS
CHEMICAL BURNS
ELECTRICAL INJURY
• Stop the burning process
• Remove smoldering & non-adherent clothing. Assess & treat associated trauma
• Remove any constricting items
• If partial/full burn is moderate-to-severe, more than 15% of body surface area (BSA), cover wounds with dry clean dressings
• Use cool, wet dressing in smaller burns, less than 15% BSA, for patient comfort
• Protect personnel from contamination
• Remove all clothing & constricting items
• Decontaminate patient prior to transport, brushing off dry chemicals prior to irrigation
• Assess & treat for associated injuries
• Evaluate for systemic symptoms, which might be caused by chemical contamination
• Cover burned area in clean, dry dressing for transport
• Protect rescuers from live electric wires
• Remove patient from electrical source when safe
• Treat associated injuries, provide spinal immobilization when indicated
• Assess and treat entrance and exit wound
Monitor patient ECG for possible arrhythmias. Treat as per specific arrhythmia protocol
FOR ALL TYPES OF BURNS: Obtain vascular access if indicated for pain management or fluid therapy
If partial or full thickness burn is greater than 15% BSA:
• Administer an IV/IO fluid bolus NS 20 ml/kg set to maximum flow rate. Reassess patient after bolus.
• If signs of shock are present, bolus may be repeated at the same dose up to a maximum total of 40 ml/kg.
• Follow local MCA transport protocol
Administer Analgesic Medication, if indicated. Refer to **Pain Management Procedure**.
CONTACT MEDICAL CONTROL
Thermal burns & electrical injury:
Additional IV/IO fluid bolus
Thermal inhalation, chemical burns:
Intubation per **Emergency Airway Procedure**

Pediatric Drowning/Near Drowning/Submersion

Pre-Medical Control
MFR/EMT/SPECIALIST/PARAMEDIC

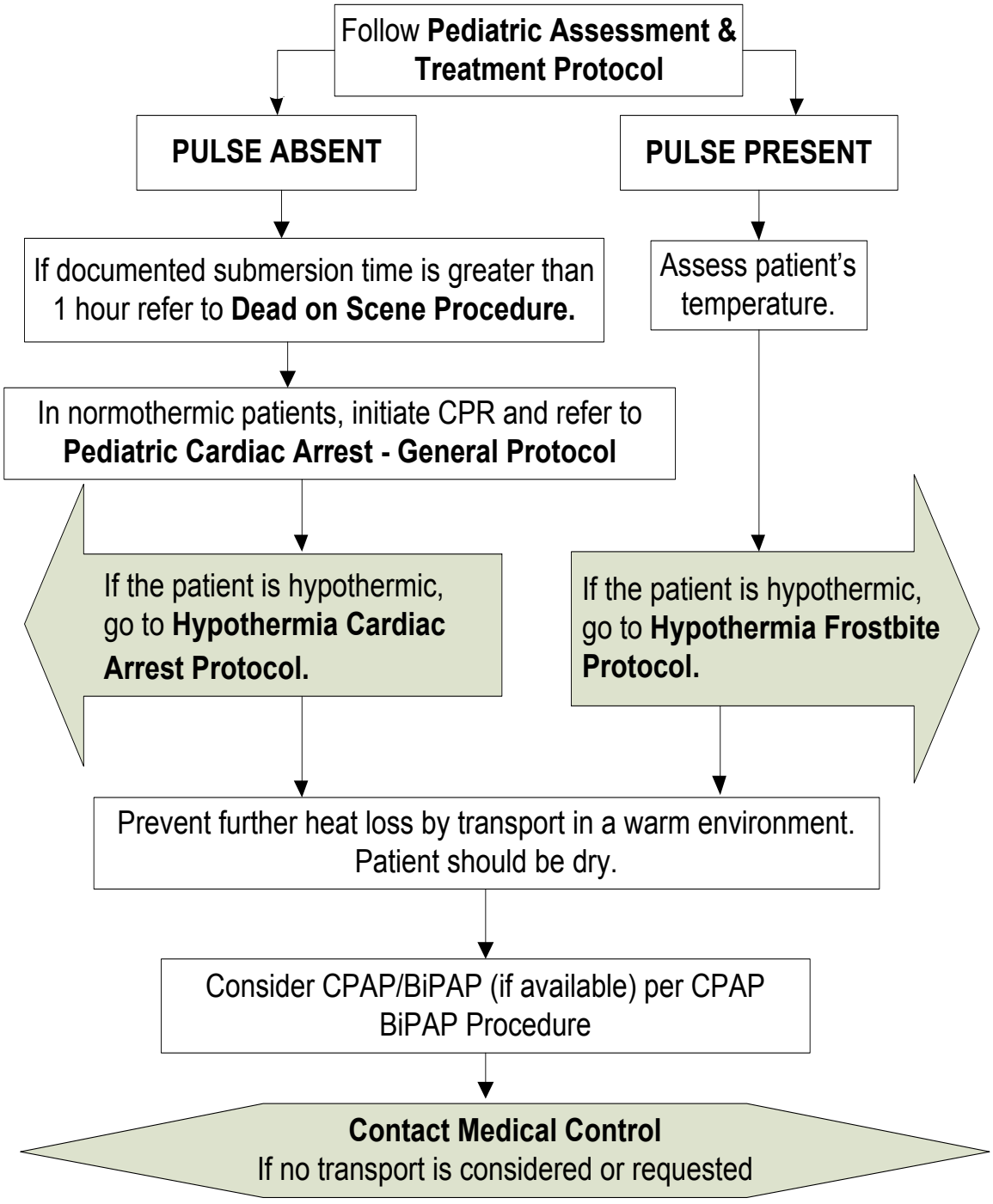
1. Follow **Pediatric Assessment and Treatment Protocol**
2. **If pulse is absent**:
   A. If documented submersion time is greater than 1 hour refer to the **Dead on Scene Procedure.**
   B. In normothermic patients, initiate CPR and refer to **Pediatric Cardiac Arrest - General Protocol**.
   C. If the patient is hypothermic, go to **Hypothermia Cardiac Arrest Protocol.**
   D. Prevent further heat loss by transport in a warm environment. Patient should be dry.

3. **If pulse is present:**
   A. Assess patient's temperature.
   B. If patient is hypothermic, go to **Hypothermia/Frostbite Protocol**.
   C. Prevent further heat loss by transport in a warm environment. Patient should be kept dry.

EMT/SPECIALIST/PARAMEDIC

   D. Consider CPAP/BiPAP (if available) per **CPAP/BiPAP Procedure**

4. Contact Medical Control if no transport is considered or requested.


Follow **Pediatric Assessment & Treatment Protocol**
PULSE ABSENT
PULSE PRESENT
If documented submersion time is greater than 1 hour refer to **Dead on Scene Procedure.**
Assess patient's temperature.
In normothermic patients, initiate CPR and refer to **Pediatric Cardiac Arrest - General Protocol**
If the patient is hypothermic, go to **Hypothermia Cardiac Arrest Protocol.**
If the patient is hypothermic, go to **Hypothermia Frostbite Protocol.**
Prevent further heat loss by transport in a warm environment. Patient should be dry.
Consider CPAP/BiPAP (if available) per CPAP BiPAP Procedure
Contact Medical Control
If no transport is considered or requested

Pediatric Fever

This protocol is intended to assist EMS providers in reducing fever in the pediatric patients prior to arrival to the emergency department. Fever is defined as a core temperature of 101 degrees Fahrenheit (38 degrees Celsius) or greater. Emergency management of the febrile child involves an assessment to determine if any associated problems are present which may require emergency treatment.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Obtain baseline temperature and document method used.
2. Facilitate passive cooling by removing excess clothing and blankets.

PARAMEDIC

3. If the child has not been given acetaminophen in last four (4) hours and is alert, give oral Tylenol (acetaminophen) 15 mg/kg.
4. If any question concerning alertness or ability to swallow, **DO NOT ADMINISTER.**

Acetaminophen Dosing Chart[1]

Child's Weight *Child's Age*	**Children's Suspension Liquid (160 mg/5ml)**
6-11 lbs *0-3 mos*	**¼ tsp or 1.25 mL (40 mg)** *PO q 4h prn; Max 75 mg/kg/day*
12-17 lbs *6-11 mos*	**½ tsp or 2.5 mL (80 mg)** *PO q 4h prn; Max 75 mg/kg/day*
18-23 lbs *12-23 mos*	**¾ tsp or 3.75 mL (120 mg)** *PO q 4h prn; Max 75 mg/kg/day*
24-35 lbs *2-3 yrs*	**1 tsp or 5 mL (160 mg)** *PO q 4h prn; Max 75 mg/kg/day*
36-47 lbs *4-5 yrs*	**1 ½ tsp or 7.5 mL (240 mg)** *PO q 4h prn; Max 75 mg/kg/day*
48-59 lbs *6-8 yrs*	**2 tsp or 10 mL (320 mg)** *PO q 4h prn; Max 75 mg/kg/day*
60-71 lbs *9-10 yrs*	**2 ½ tsp or 12.5 mL (400 mg)** *PO q 4h prn; Max 75 mg/kg/day*
72-95 lbs *11 yrs*	**3 tsp or 15 mL (480 mg)** *PO q 4h prn; Max 75 mg/kg/day*
96+ lbs *12 yrs*	**4 tsp or 20 mL (640 mg)** *PO q 4h prn; Max 75 mg/kg/day*

Safety tips for Acetaminophen

1. ***Don't give to babies under 3 mos. w/o Medical Control Approval***
2. ***Don't confuse infant drops with the new infant liquid. Avoid use of any medication not provided in EMS supply.***
3. ***Always use the measuring device that comes with the medicine.***
4. ***The proper dosage is based on weight, not age. To determine the weight of a very young child, weigh yourself and then weigh yourself while holding the child. Then subtract your weight from the combined weight. Alternately, may use a Broselow Tape, if available.***
5. ***Never give acetaminophen to a child that has been given other medicine that may contain acetaminophen until confirmed otherwise.***
6. ***Don't exceed five doses in a 24 hour period.***

1. http://assets.babycenter.com/ims/Content/first-year-health-guide_acetaminophen_chart_pdf.pdf

Pediatric Nausea & Vomiting

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.

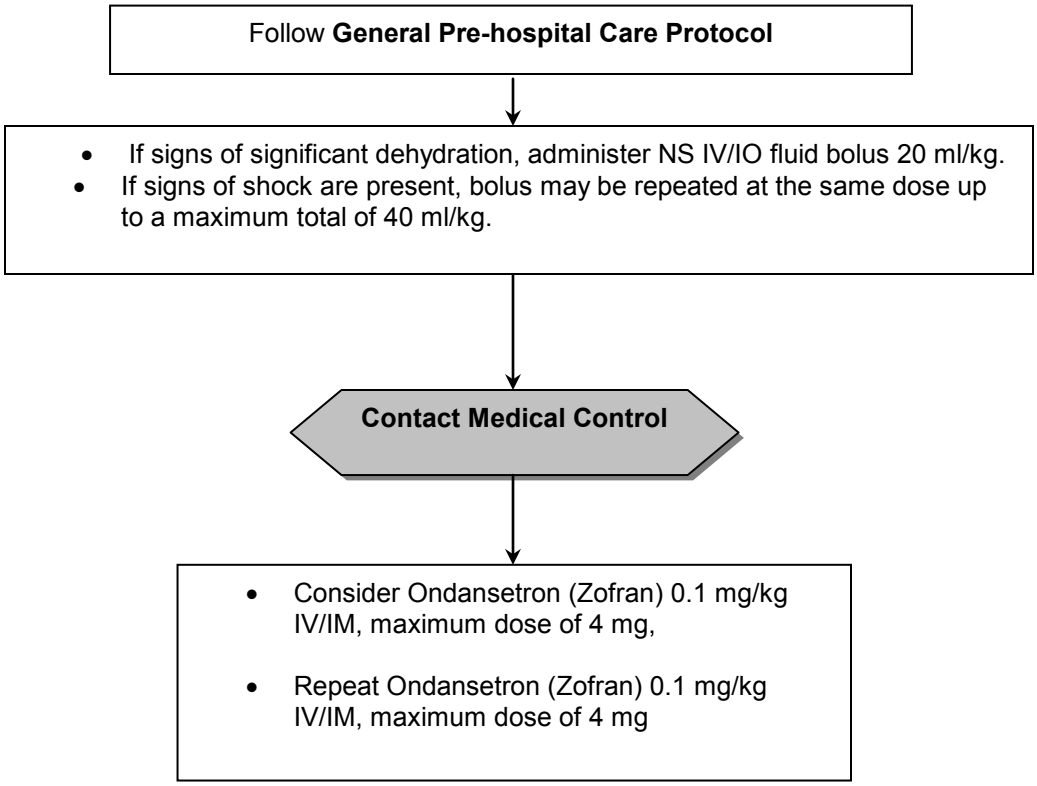
SPECIALIST/PARAMEDIC

2. If signs of significant dehydration, administer NS IV/IO fluid bolus 20 ml/kg.
3. If signs of shock are present, bolus may be repeated at the same dose up to a maximum total of 40 ml/kg.

Post-Medical Control

PARAMEDIC

1. Consider Ondansetron (Zofran) 0.1 mg/kg IV/IM, maximum dose of 4 mg.
2. Repeat Ondansetron (Zofran) 0.1 mg/kg IV/IM, maximum dose of 4 mg.


Follow **General Pre-hospital Care Protocol**
• If signs of significant dehydration, administer NS IV/IO fluid bolus 20 ml/kg.
• If signs of shock are present, bolus may be repeated at the same dose up to a maximum total of 40 ml/kg.
Contact Medical Control
• Consider Ondansetron (Zofran) 0.1 mg/kg IV/IM, maximum dose of 4 mg,
• Repeat Ondansetron (Zofran) 0.1 mg/kg IV/IM, maximum dose of 4 mg

Pediatric Newborn Assessment, Treatment and Resuscitation

This protocol should be followed for all newly born infants.

Pre-Medical Control
MFR/EMT/SPECIALIST/PARAMEDIC

1. **As the infant is being born, rapidly evaluate each of these three (3) criteria:**
   A. Is this a full term delivery?
   B. Is the newborn breathing or crying
   C. Is there good muscle tone? (movement vs. flaccid)

2. **If the observation to ALL 3 criteria is YES:**
   A. Place the baby with the mother
   B. Provide warmth (See Preventing Heat Loss below)
   C. Clear the airway if necessary (See Airway Management below)
   D. Dry the baby
   E. Provide ongoing evaluation
   F. Record APGAR scores at 1, 3 and 5 minutes (see APGAR chart)
   G. Cut the umbilical cord (see Umbilical Cord Management below)

3. **If the observation to ANY of the 3 criteria is NO:**
   A. Provide warmth (See Preventing Heat Loss below)
   B. Clear the airway if necessary (see Airway Management below)
   C. Dry the baby
   D. Stimulate

4. **Check Heart Rate**
   A. 100 +, proceed to **Check Breathing**
   B. Under 100
      a. Assist ventilations with a bag valve mask (see Airway Management below)
      b. Monitor SpO2 (see Target SpO2 Goals)
5. **Check Breathing**
   A. Non-labored and no cyanosis
      a. HR 100+: go to "A" above
      b. HR below 100, continue to assist ventilations and reevaluate
   B. Labored breathing or persistent cyanosis
      a. Clear airway
      b. Monitor SpO2 (see target SpO2 goals)
      c. Assist ventilations if HR below 100 or core cyanosis

6. **Reevaluate HR**
   A. 100+: go to "A" above
   B. Below 100 but more than 60: continue to support ventilations
   C. Under 60:

a. Begin compressions at 3:1 ratio (See CPR below)
b. Coordinate compressions with ventilations

7. **Reevaluate HR**
   A. 100+: monitor closely to ensure stability
   B. Below 100 but more than 60: continue to support ventilations

SPECIALIST/PARAMEDIC
   C. If HR begins to decline or cyanosis worsens despite ventilatory support, consider intubation
   D. Establish IO or IV
   E. Reevaluate

MFR/EMT/SPECIALIST/PARAMEDIC
   A. Below 60: Continuous CPR at 3:1

SPECIALIST/PARAMEDIC
   B. Establish IO or IV

PARAMEDIC
   C. Provide epinephrine (1:10,000) 0.01mg/kg IO or IV

8. **Other considerations**

SPECIALIST/PARAMEDIC
   A. If known blood loss, consider Normal Saline bolus 10mL/kg
   B. Evaluate blood glucose, if < 60 mg/dl administer dextrose 10% (1 gm/10 ml), 0.2 gm/kg IV/IO.
   C. To obtain 10 % Dextrose mixture draw 40 ml out of one amp of D50 and discard, then add 40 ml of NS.
   D. If known or suspected narcotics use by the mother, consider naloxone 0.1mg/kg IO or IV

MFR/EMT/SPECIALIST/PARAMEDIC

9. **Preventing Heat Loss:**
   A. Dry off amniotic fluid and remove all wet linen.
   B. Maintain a warm environment for the infant
   C. Rubber gloves filled with warm water (if available) can serve as heat packs. DO NOT apply directly to skin.
   D. Extreme CAUTION should be used if chemical heat packs are used to provide warmth. Never place directly on or near the infant's skin. Keep multiple layers between to avoid burns.

10. **Airway Management**
    A. If the newborn is vigorous (strong respiratory effort, good muscle tone, and a heart rate > 100 bpm), there is no need to suction the airway, even if meconium was in the amniotic fluid or there was meconium staining.
    B. Positive pressure ventilation should use the minimum volume and pressure to achieve perceptible chest rise and/or achieve or maintain a HR>100.

PARAMEDIC

    C. If the newborn is having difficulty breathing, has poor muscle tone, has a heart rate less than 100bpm, or there is visible meconium in the airway,
        a. The patient should be intubated and the lower airway suctioned via ET tube (with LOW PRESSURE (80-120mmHg) suction to the tube)
        b. Repeat suction with new tube each time.
    D. Consider placing a gastric tube, if available, to decompress the stomach when positive pressure ventilation is required.
    E. If intubation is indicated due to ongoing and persistent central cyanosis, lack of chest rise or other complication, despite adequate ventilation:
        a. SpO2 must be measured
        b. Waveform capnography must be used if available
        c. Consider Pneumothorax

MFR/EMT/SPECIALIST/PARAMEDIC

11. **CPR**
    A. Two thumbs encircling the chest technique is preferred. Compressions and ventilations should occur in a 3:1 ratio and should be done quickly enough to provide 90 compressions and 30 ventilations per minute.
    B. Newborns who have required resuscitation are at risk for deterioration even after a return to normal vital signs, reassess frequently
    C. Avoid excessive volume or rate with ventilation.

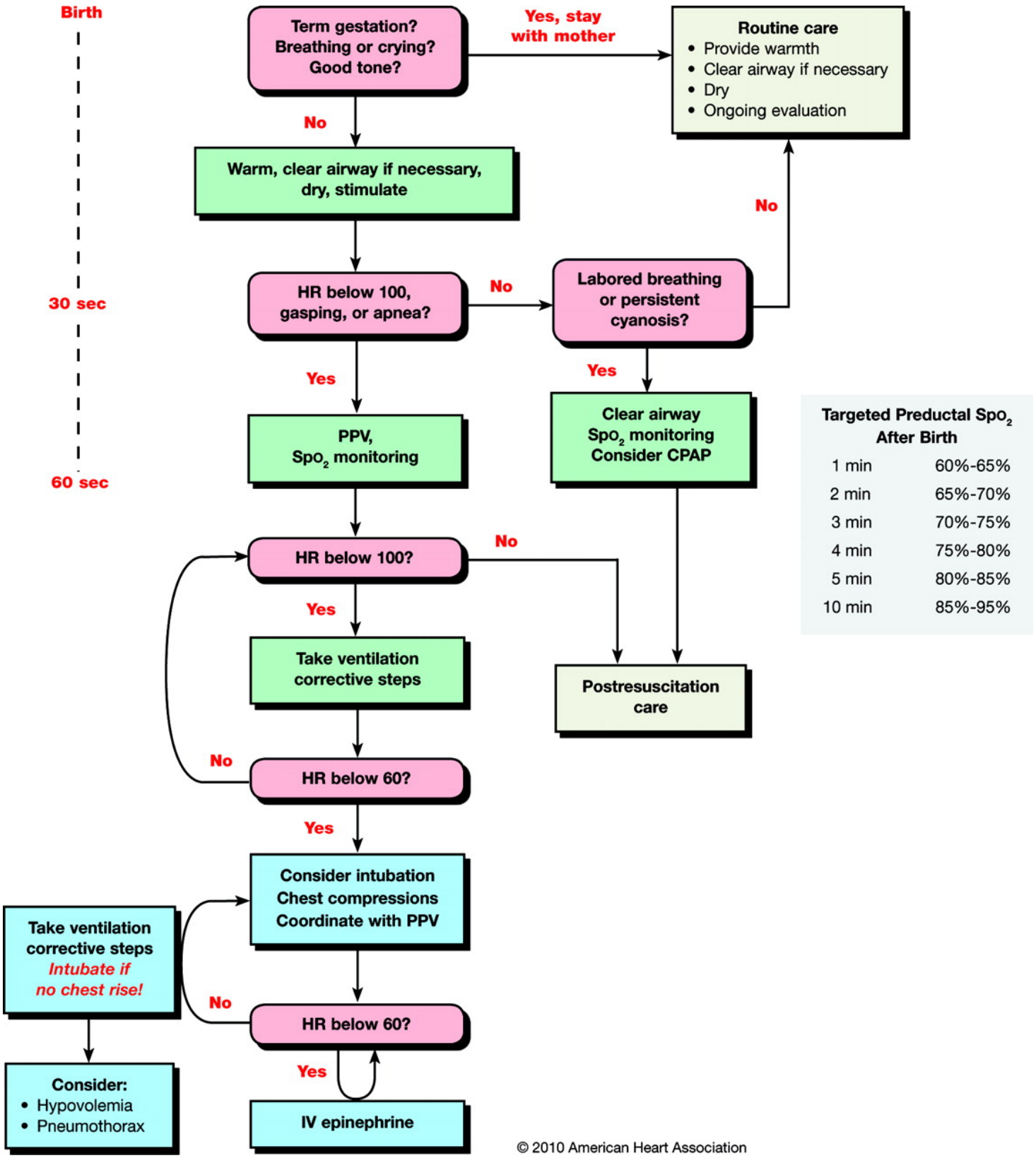
12. **Umbilical Cord Management**
    A. The umbilical cord **should not** be cut immediately; wait until the child is breathing adequately, the cord has stopped pulsating or, in the vigorous infant, two to three minutes post delivery. When prepared to cut the cord, it must be tied or clamped approximately 8" from the infant's abdominal wall with a second tie or clamp 2" further. The cord should be cut between the ties / clamps.

13. **Target SpO2 Goals**
    A. Monitor SpO2 and apply oxygen only if SpO2 goes below target of :
        - 1 minute post delivery (60-65%)
        - 3 minutes post delivery (70-75%)
        - 5 minutes post delivery (80-85%)
        - 10 minutes post delivery (85-95%)

APGAR SCORING

Sign	0	1	2
Appearance – skin color	Bluish or paleness	Pink or ruddy; hands or feet are blue	Pink or ruddy; entire body
Pulse – heart rate	Absent	Below 100	Over 100
Grimace – reflex irritability to foot slap	No response	Crying; some motion	Crying; vigorous
Activity – muscle tone	Limp	Some flexion of extremities	Active; good motion in extremities
Respiratory effort	Absent	Slow and Irregular	Normal; crying

NOTE: Resuscitation may not be appropriate in rare cases where gestational age (confirmed gestational age <20 weeks) or fatal birth defects (for example anencephaly or absence of skull bones and brain hemispheres) are consistently associated with certain early death. Contact Medical Control in these cases.


Birth
30 sec
60 sec
Term gestation? Breathing or crying? Good tone?
Yes, stay with mother
Routine care
• Provide warmth
• Clear airway if necessary
• Dry
• Ongoing evaluation
No
Warm, clear airway if necessary, dry, stimulate
No
HR below 100, gasping, or apnea?
No
Labored breathing or persistent cyanosis?
Yes
Yes
PPV, Spo2 monitoring
Clear airway Spo2 monitoring Consider CPAP
HR below 100?
No
Yes
Take ventilation corrective steps
Postresuscitation care
No
HR below 60?
Yes
Consider intubation Chest compressions Coordinate with PPV
Take ventilation corrective steps Intubate if no chest rise!
No
HR below 60?
Yes
Consider:
• Hypovolemia
• Pneumothorax
IV epinephrine
Targeted Preductal Spo2 After Birth
1 min 60%-65%
2 min 65%-70%
3 min 70%-75%
4 min 75%-80%
5 min 80%-85%
10 min 85%-95%
© 2010 American Heart Association

Pediatric Poisoning/Overdose

Pre-Medical Control

GENERAL MANAGEMENT OF TOXIC EXPOSURE (INCLUDING INGESTION)

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **Pediatric Assessment and Treatment Protocol.**
2. Use proper protective equipment and prepare for decontamination if necessary.
3. Remove clothing exposed to chemical (dry decon).
4. Identification of the substance (patient has been exposed to).

EMT/SPECIALIST/PARAMEDIC

5. Alert receiving hospital if patient may present HAZMAT risk.
6. Sample of drug or substance and any medication or poison containers should be brought in with patient if it does NOT pose a risk to rescuers.

PARAMEDIC

7. Refer to **Pain Management Procedure**

INHALATION EXPOSURES:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Dilute noxious gas inhaled (including carbon monoxide & smoke), ensure high concentration of oxygen is provided.
2. If suspected cyanide gas exposure, refer to **Cyanide Exposure Protocol** and contact medical control immediately.

EYE CONTAMINATION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Irrigate continuously with Normal Saline or tap water for 15 minutes (attempt to continue enroute) or as directed by Medical Control.
2. For alkali exposure, maintain continuous irrigation.

PARAMEDIC

3. If available, administer Tetracaine, 1-2 drops per eye to facilitate irrigation. Ensure patient does not rub eye.

Tetracaine:
☐ Included
☐ Not Included

SKIN ABSORPTION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Brush off dry chemicals before irrigation.
2. Irrigate continuously with Normal Saline, or tap water for 15 minutes or as directed by Medical Control.

INGESTION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. If altered mental status, refer to **Pediatric Altered Mental Status Protocol**.
2. If respiratory distress, refer to **Pediatric Respiratory Distress, Failure or Arrest Protocol**.
3. If the patient is seizing, refer to **Pediatric Seizure Protocol**.

PARAMEDIC

4. If cardiac dysrhythmia, refer to appropriate pediatric dysrhythmia protocol.

ORGANOPHOSPHATE EXPOSURE (MALATHION, PARATHION)

MFR/EMT/SPECIALIST/PARAMEDIC

1. Administer Mark I Kit/Duo Dote auto injector per **Nerve Agent/Organophosphate Pesticide Exposure Treatment Protocol.**
2. Mild or moderate symptoms (e.g., nausea, vomiting, sweating, weakness and mild to moderate shortness of breath)
    A. 14 years old or greater – 1 Mark I Kit/Duo Dote auto injector.
    B. Between 2-14 years old: one 1 mg Atropen if available, otherwise 1 Mark 1Kit /Duo Dote auto injector. Contact Medical Control if time permits.
    C. If less than 2 years old, contact Medical Control.
3. Severe signs & symptoms (e.g. unconscious, seizing, severe respiratory distress)
    A. 14 years old or greater – 2-3 Mark I Kits/Duo Dote auto injectors.
    B. Less than 14 years old: 1-2 Mark 1 Kits/Duo Dote auto injectors.

PARAMEDIC

4. For severe symptoms administer 1 dose of benzodiazepine at appropriate weight-based dose per **Seizure Protocol** regardless of seizure activity.
5. If Mark I Kit/Duo Dote auto injector is not available, administer Atropine 2 mg IV/IM (if available) per each Mark I Kit/Duo Dote auto injector indicated (each Mark I Kit contains 2 mg of Atropine) repeated every 5 minutes until "SLUDGEM" symptoms improve or as directed.(Salivation, Lacrimation, Urination, Defecation, Gastrointestinal hypermotility, Emesis, Muscle twitching or spasm).

MANAGEMENT OF BITES AND STINGS

SPIDERS, SNAKES AND SCORPIONS:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Protect rescuers. Bring in spider, snake or scorpion if captured and contained or if dead for accurate identification.
2. Ice for comfort on spider or scorpion bite; DO NOT apply ice to snake bites.

BEES AND WASPS:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Remove sting mechanism from honey bees only by scraping out. Do not squeeze venom sac if this remains on stinger.
2. Provide wound care.
3. Observe patient for signs of systemic allergic reaction. Treat anaphylaxis per **Pediatric Anaphylaxis/Allergic Reaction Protocol.**

DRUG, CHEMICAL, PLANT, MUSHROOM INGESTION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Use protective eye equipment.
2. In situations of potential ingestion or inhalation of petroleum distillates, DO NOT induce vomiting.

3. Monitor the patient's respiratory and mental status very closely.
4. If patient is alert and oriented, prepare for emesis; recover and save emesis. Use appropriate barriers according to universal precautions guidelines.

SPECIALIST/PARAMEDIC

5. In suspected narcotic overdose with respiratory compromise or hemodynamic instability, consider Naloxone 0.1 mg/kg IV/IM (maximum 2 mg), repeat as indicated.

Post-Medical Control

SPECIALIST/PARAMEDIC

6. If Beta Blocker overdose is suspected AND the patient is bradycardic and hypotensive;
   A. Per MCA selection administer Glucagon 1 mg IV/IM/IO. May be repeated after contact with Medical Control and if additional Glucagon is available.
   B. Consider calcium chloride 20 mg/kg IV, **(**maximum dose 1 gm). NOTE: IV Calcium Chloride should be pushed slowly through a patent IV, avoiding hand and foot IV sites.

Glucagon

☐ Included

☐ Not Included

PARAMEDIC

7. For symptomatic tricyclic antidepressant ingestions (tachycardia or arrythmia, wide complex QRS, seizures or hemodynamic instability), administer sodium bicarbonate 1 mEq/kg IV, repeat as needed.
8. For extrapyramidal dystonic reactions, administer diphenhydramine 1 mg/kg IV, (maximum dose 50 mg).
9. For symptomatic calcium channel blocker overdose, per MCA selection administer Glucagon 1 mg IV/IM/IO. Consider calcium chloride 20 mg/kg IV, **(**maximum dose 1 gm). NOTE: IV Calcium Chloride should be pushed slowly through a patent IV, avoiding hand and foot IV sites.

Follow **Pediatric Assessment & Treatment Protocol**

General Management Toxic Exposure (including ingestion)

- Use proper equipment & prepare for decontamination if necessary
- Remove clothing exposed to chemical (dry decon)
- Identify substance (patient exposed to)
- Alert receiving hospital if patient may present HAZMAT risk
- Sample of drug or substance & any medication or poison containers should be brought in with patient if it does NOT pose a risk to rescuers
- Refer to **Pain Management Procedure**

Management of Bites and Stings

Spiders, snakes & scorpions

- Protect rescuers
- Bring in if captured & contained or dead for accurate I.D.
- Ice for comfort on spider or scorpion bite
- **DO NOT** apply ice to snake bites.

Bees & wasps

- Remove sting mechanism (honeybees only) – scrape out
- Do not squeeze venom sac if this remains on stinger
- Provide wound care
- Observe patient for systematic allergic reaction
- Treat Anaphylaxis per **Pediatric Anaphylaxis/ Allergic Reaction Protocol**

Inhalation exposures

- Dilute noxious gas inhaled including carbon dioxide & smoke
- Ensure high concentration of oxygen is provided
- For suspected cyanide gas exposure – refer to **Cyanide Exposure Protocol** and contact Medical Control immediately

Eye contamination

- Irrigate continuously with Normal Saline or tap water 15 min (attempt to continue enroute) or as directed by Medical Control
- Alkali exposure, maintain continuous irrigation
- If available, administer Tetracaine 1-2 drops per eye, to facilitate irrigation. Ensure patient does not rub eyes.

Tetracaine:
☐ Included
☐ Not Included

Skin absorption

- Brush of dry chemicals before irrigation.
- Irrigate continuously with Normal Saline or tap water 15 minutes or as directed by Medical Control

Ingestion

- Altered Mental Status **– refer to Pediatric Altered Mental Status Protocol**
- Respiratory distress **– refer to Pediatric Respiratory Distress, Failure or Arrest Protocol**
- Seizure **– refer to Pediatric Seizure Protocol**
- Cardiac dysrhythmia – refer to appropriate pediatric dysrhythmia protocol

Organophosphate exposure (Malathion, Parathion)

Organophosphate exposure (Malathion, Parathion)

- Administer Mark I Kit/Duo Dote auto injector per **Nerve Agent/ Organophosphate Pesticide Exposure Treatment Protocol.**
- **Mild or moderate symptoms** (e.g., nausea, vomiting, sweating, weakness & mild to moderate shortness of breath)
  - 14 years old or greater: 1 Mark 1 Kit/Duo Dote auto injector
  - Between 2-14 years: one 1 mg Atropen if available, otherwise 1 Mark 1 Kit/Duo Dote auto injector. Contact Medical Control if time permits.
  - If less than 2 years old: contact Medical Control.
- **Severe signs & symptom**s (e.g., unconscious, seizing, severe respiratory distress)
  - 14 years old or greater: 2-3 Mark I Kits/Duo Dote auto injectors
  - Less than 14 years old: 1-2 Mark 1 Kit/Duo Dote auto injectors
- For severe symptoms administer 1 dose of benzodiazepine at appropriate weight-based dose per **Seizure Protocol** regardless of seizure activity.
- If Mark I Kit/Duo Dote auto injector is unavailable, administer Atropine 2 mg IV/IM, if available, per each Mark I Kit/Duo Dote auto injector indicated, (each Mark I Kit contains 2 mg of Atropine) repeated every 5 min. until SLUDGEM symptoms improve or as directed. (Salivation, Lacrimation, Urination, Defecation, Gastrointestinal hypermobility, Emesis, Muscle twitching or spasm)

Drug, chemical, plant, mushroom ingestion

- Use protective eye equipment
- In situations for potential ingestion or inhalation of petroleum distillates: DO NOT induce vomiting
- Monitor respiratory & mental status very closely
- If patient is alert & oriented: prepare for emesis, recover & save emesis
- Use appropriate barriers according to universal precautions guidelines

In suspected narcotic overdose with respiratory compromise or hemodynamic instability, consider Naloxone 0.1 mg/kg IV/IM (maximum 2 mg), repeat as indicated.

Contact Medical Control

If Beta Blocker overdose is suspected AND patient is bradycardic & hypotensive; per MCA selection, administer Glucagon 1 mg IV/IM/IO. May be repeated after MCA contact & if additional Glucagon available. Consider calcium chloride 20 mg/kg IV, (maximum dose 1 gm). **NOTE:** IV Calcium Chloride should be pushed slowly through a patent IV, avoiding hand & foot IV sites.

Glucagon
☐ Included
☐ Not Included

Symptomatic tricyclic antidepressant ingestion (tachycardia, or arrythmia, wide complex, QRS), administer sodium bicarbonate 1 mEq/kg IV repeat as needed.

Extrapyramidal dystonic reactions, administer diphenhydramine 1 mg/kg IV, (maximum dose 50 mg).

Symptomatic calcium channel blocker overdose, per MCA selection administer Glucagon 1 mg IV/IM/IO. Consider calcium chloride 20 mg/kg IV, (maximum dose 1 gm).
NOTE: IV Calcium Chloride should be pushed slowly through a patent IV, avoiding hand & foot IV sites.

Pediatric Respiratory Distress, Failure or Arrest

Pre-Medical Control
MRF/EMT/SPECIALIST/PARAMEDIC

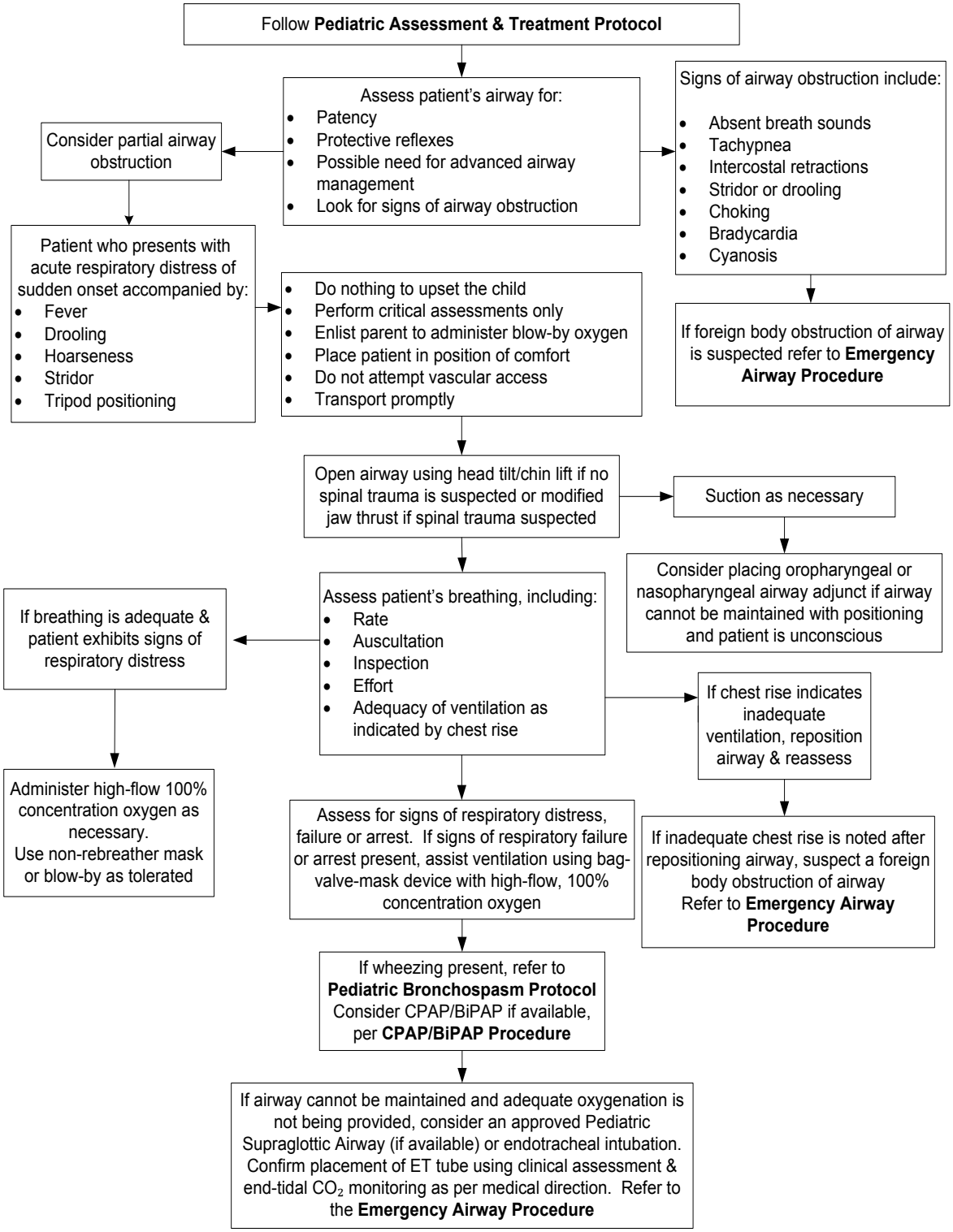
1. Follow **Pediatric Assessment and Treatment Protocol.**
2. Assess the patient's airway for patency, protective reflexes and the possible need for advanced airway management. Look for signs of airway obstruction. Signs include:
   A. absent breath sounds
   B. tachypnea
   C. intercostal retractions
   D. stridor or drooling
   E. choking
   F. bradycardia
   G. cyanosis
3. If foreign body obstruction of the airway is suspected, refer to the **Emergency Airway Procedure.**
4. Consider partial airway obstruction in a patient who presents with acute respiratory distress of sudden onset accompanied by fever, drooling, hoarseness, stridor, and tripod positioning.
   A. Do nothing to upset the child.
   B. Perform critical assessments only.
   C. Enlist the parent to administer blow-by oxygen.
   D. Place the patient in a position of comfort.
   E. Do not attempt vascular access.
   F. Transport promptly
5. Open the airway using head tilt/chin lift if no spinal trauma is suspected, or modified jaw thrust if spinal trauma is suspected.
6. Suction as necessary.
7. Consider placing an oropharyngeal or nasopharyngeal airway adjunct if the airway cannot be maintained with positioning and the patient is unconscious.
8. Assess the patient's breathing, including rate, auscultation, inspection, effort, and adequacy of ventilation as indicated by chest rise.
9. If chest rise indicates inadequate ventilation, reposition airway and reassess.
10. If inadequate chest rise is noted after repositioning airway, suspect a foreign body obstruction of the airway. Refer to the **Emergency Airway Procedure.**
11. If breathing is adequate and patient exhibits signs of respiratory distress, administer high-flow, 100% concentration oxygen as necessary. Use a non-rebreather mask or blow-by as tolerated.
12. Assess for signs of respiratory distress, failure, or arrest. If signs of respiratory failure or arrest are present, assist ventilation using a bag-valve-mask device with high-flow, 100% concentration oxygen.

EMT/SPECIALIST

13. If wheezing is present, refer to the **Pediatric Bronchospasm Protocol**.
14. Consider CPAP if available, per **CPAP/BiPAP Procedure**.
15. If the airway cannot be maintained and adequate oxygenation is not being provided, consider an approved Pediatric Supraglottic Airway, if available. Refer to the **Emergency Airway Procedure**.

PARAMEDIC

16. If wheezing is present, refer to the **Pediatric Bronchospasm Protocol**.
17. Consider CPAP/BiPAP if available, per **CPAP/BiPAP Procedure**.
18. If the airway cannot be maintained and adequate oxygenation is not being provided, consider an approved Pediatric Supraglottic Airway, if available or endotracheal intubation.
19. Confirm placement of endotracheal tube using clinical assessment and end-tidal CO_2 monitoring, if available. Refer to the **Emergency Airway Procedure**.


Follow **Pediatric Assessment & Treatment Protocol**
Assess patient's airway for:
• Patency
• Protective reflexes
• Possible need for advanced airway management
• Look for signs of airway obstruction
Consider partial airway obstruction
Signs of airway obstruction include:
• Absent breath sounds
• Tachypnea
• Intercostal retractions
• Stridor or drooling
• Choking
• Bradycardia
• Cyanosis
Patient who presents with acute respiratory distress of sudden onset accompanied by:
• Fever
• Drooling
• Hoarseness
• Stridor
• Tripod positioning
• Do nothing to upset the child
• Perform critical assessments only
• Enlist parent to administer blow-by oxygen
• Place patient in position of comfort
• Do not attempt vascular access
• Transport promptly
If foreign body obstruction of airway is suspected refer to **Emergency Airway Procedure**
Open airway using head tilt/chin lift if no spinal trauma is suspected or modified jaw thrust if spinal trauma suspected
Suction as necessary
Consider placing oropharyngeal or nasopharyngeal airway adjunct if airway cannot be maintained with positioning and patient is unconscious
Assess patient's breathing, including:
• Rate
• Auscultation
• Inspection
• Effort
• Adequacy of ventilation as indicated by chest rise
If breathing is adequate & patient exhibits signs of respiratory distress
If chest rise indicates inadequate ventilation, reposition airway & reassess
Administer high-flow 100% concentration oxygen as necessary.
Use non-rebreather mask or blow-by as tolerated
Assess for signs of respiratory distress, failure or arrest. If signs of respiratory failure or arrest present, assist ventilation using bag-valve-mask device with high-flow, 100% concentration oxygen
If inadequate chest rise is noted after repositioning airway, suspect a foreign body obstruction of airway
Refer to **Emergency Airway Procedure**
If wheezing present, refer to **Pediatric Bronchospasm Protocol**
Consider CPAP/BiPAP if available, per **CPAP/BiPAP Procedure**
If airway cannot be maintained and adequate oxygenation is not being provided, consider an approved Pediatric Supraglottic Airway (if available) or endotracheal intubation. Confirm placement of ET tube using clinical assessment & end-tidal CO_2 monitoring as per medical direction. Refer to the **Emergency Airway Procedure**

Pediatric Seizures

Pre-Medical Control

MRF/EMT/SPECIALIST/PARAMEDIC

1. Follow **Pediatric Assessment and Treatment Protocol**.
2. **IF PATIENT IS ACTIVELY SEIZING:**
   A. Protect patient from injury.
   B. Do not force anything between teeth.

SPECIALIST/PARAMEDIC

C. Start an IV/IO NS KVO.
D. Measure blood glucose level.
E. If glucose is less than 60 mg/dl, administer Dextrose.
   a. Dextrose 12.5% for neonates, (under 1 month of age) 4 ml/kg IV/IO*.
   b. Dextrose 25% for children up to 12 years old, 2 ml/kg IV/IO*.

*The IO route is a last resort if IV cannot be established and glucagon is not available with online Medical Control approval.

PARAMEDIC

F. Administer Midazolam 0.1mg/kg IM, maximum individual dose 10 mg prior to IV start, if patient is actively seizing
G. If IV established and Midazolam IM has not been administered, administer Midazolam, Lorazepam or Diazepam per MCA selection.

Medication Options:
(Choose One)

☐ Midazolam 0.05 mg/kg IV/IO, maximum individual dose 5 mg

OR

☐ Lorazepam - 0.1 mg/kg IV/IO, max single dose 4 mg, may repeat in 5 minutes if seizure activity continues; not to exceed 0.2 mg/kg total (maximum of 8 mg)

OR

☐ Diazepam - 0.1 mg/kg IV/IO or 0.5 mg/kg rectally (maximum individual dose 10 mg)

H. If seizures persist, per MCA selection, repeat Midazolam, Lorazepam or Diazepam at the same dose or contact medical control for further instructions.

MFR/EMT/SPECIALIST/PARAMEDIC

1. **IF PATIENT IS NOT CURRENTLY SEIZING, BUT HAS ALTERED MENTAL STATUS REFER TO ALTERED MENTAL STATUS PROTOCOL.**

NOTE:

To obtain Dextrose 12.5%, discard 37.5 ml out of one amp of D50, then draw 37.5 ml of NS into the D50 amp; administer as indicated above.

To obtain Dextrose 25%, discard 25 ml out of one amp of D50, then draw 25 ml of NS into the D50 amp; administer as indicated above.

Follow **Pediatric Assessment & Treatment Protocol**

PATIENT IS ACTIVELY SEIZING

YES

- Protect patient from injury
- Do not force anything between teeth
- Start an IV/IO NS KVO.
- Measure blood glucose level.

If glucose is less than 60 mg/dl administer Dextrose

- Dextrose 12.5% for neonates, (under 1 month of age) 4 ml/kg IV/IO*
- Dextrose 25% children up to 12 yrs. old, 2 ml/kg IV/IO*.

*The IO route is a last resort if IV cannot be established and glucagon is not available with online Medical Control approval.

NO

Altered mental status present refer to **Altered Mental Status Protocol**

- Administer Midazolam 0.1 mg/kg IM, maximum individual dose 10 mg prior to IV start, if patient is actively seizing.
- If IV established & Midazolam IM has not been administered, administer Midazolam, Lorazepam or Diazepam, per MCA selection

If seizures persist, per MCA selection repeat Midazolam, Lorazepam or Diazepam at the same dose or contact medical control for further instructions.

Contact Medical Control

Medication Options:
(Choose One)

☐ Midazolam 0.05 mg/kg IV/IO, maximum individual dose 5 mg

OR

☐ Lorazepam 0.1mg/kg IV/IO, maximum single dose 4 mg, may repeat in 5 minutes if seizure activity continues; not to exceed 0.2 mg/kg total (maximum of 8 mg)

OR

☐ Diazepam 0.1 mg/kg IV/IO or 0.5 mg/kg rectally (maximum individual dose 10 mg)

NOTE: To obtain Dextrose 12.5%, discard 37.5 ml out of one amp of D50, then draw 37.5 ml of NS into the D50 amp; administer as indicated above.

To obtain Dextrose 25%, discard 25 ml out of one amp of D50, then draw 25 ml of NS into the D50 amp; administer as indicated above.

Pediatric Shock

Assessment: Consider multiple etiologies of shock (hypovolemic, distributive – neurogenic, septic and anaphylactic, and cardiogenic)

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **Pediatric Assessment and Treatment Protocol**.
2. If anaphylaxis shock suspected follow **Pediatric Anaphylaxis/Allergic Reaction Protocol.**
3. Control major bleeding

SPECIALIST/PARAMEDIC

4. Establish vascular access using an age-appropriate large-bore catheter. If intravenous access cannot be obtained, proceed with intraosseous access. Do not delay transport to obtain vascular access.
5. If evidence of shock, administer an IV/IO fluid bolus 20 ml/kg of normal saline
    A. At 20 ml/kg set to maximum flow rate. Reassess patient after bolus.
    B. If signs of shock persist, bolus may be repeated at the same dose up to a maximum total of 40 ml/kg.

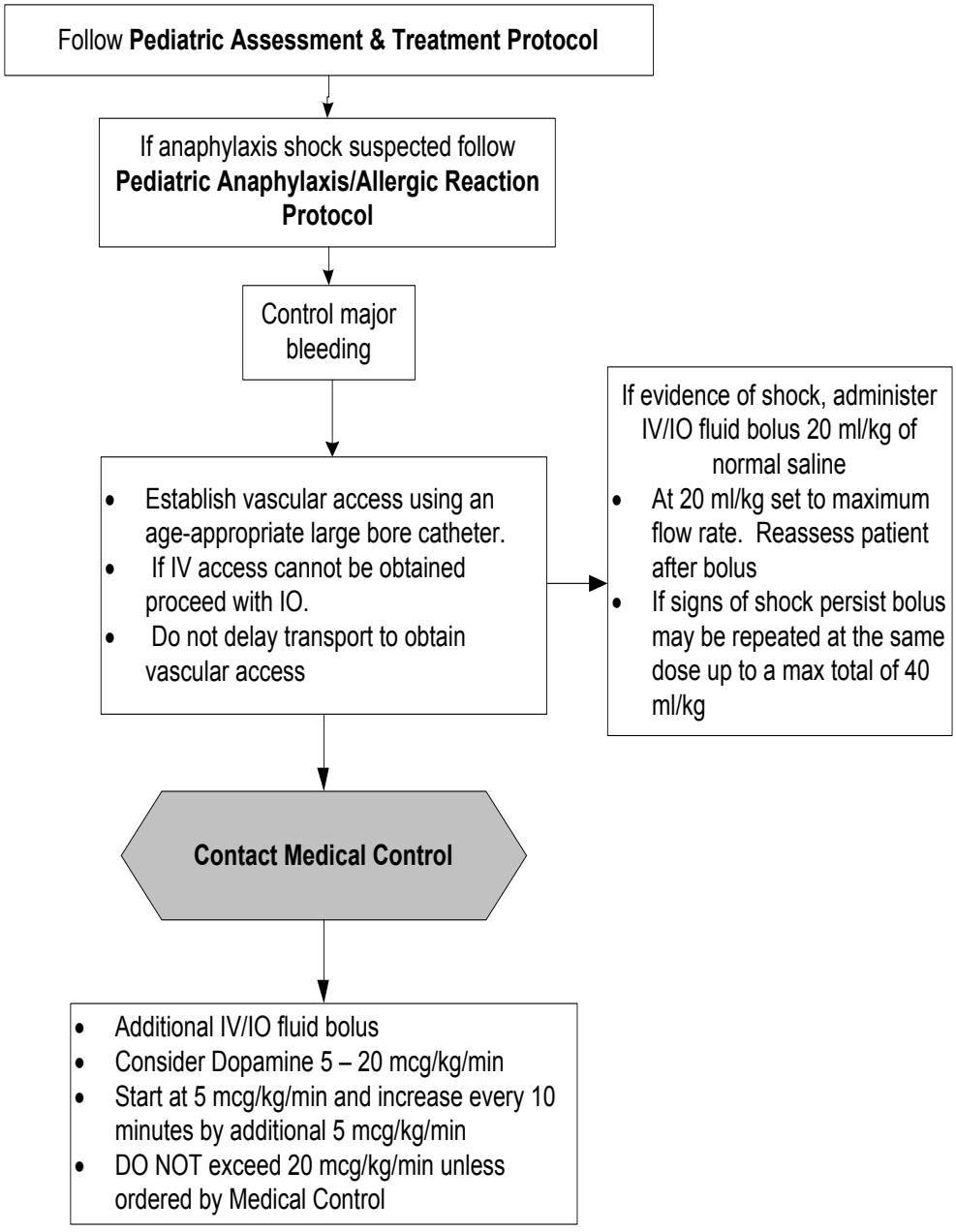
Post-Medical Control

1. Additional IV/IO fluid bolus.

PARAMEDIC

2. Consider Dopamine 5-20 mcg/kg/min. Start at 5 mcg/kg/min, and increase every 10 minutes by an additional 5 mcg/kg/min. DO NOT exceed 20 mcg/kg/min unless ordered by Medical Control.

Assessment: Consider multiple etiologies of shock (hypovolemic, distributive – neurogenic, septic, anaphylactic, and cardiogenic)



Pediatric Trauma

The priorities in pediatric trauma management are to prevent further injury, provide rapid transport, notify the receiving facility, and initiate definitive treatment.

Management
MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **Pediatric Assessment and Treatment Protocol**.
2. If the airway or breathing management is needed see **Pediatric Respiratory Distress, Failure or Arrest Protocol.**
3. If breathing is adequate, provide high flow oxygen as necessary. Use a non-rebreather mask or blow-by as tolerated.
4. Control bleeding and splint injuries appropriately.
5. Assess for potential spine injury. Provide for spinal precautions as indicated. See **Spinal Injury Assessment Protocol**.

EMT/SPECIALIST/PARAMEDIC

6. Initiate transport per MCA transport protocol.

SPECIALIST/PARAMEDIC

7. Obtain vascular access using an age-appropriate large-bore catheter and administer NS KVO. If extenuating circumstances delay transport, obtain vascular access on the scene, but do not delay transport to obtain vascular access.
8. If there is evidence of shock see **Pediatric Shock Protocol.**

PARAMEDIC

9. If tension pneumothorax is suspected see **Pleural Decompression Procedure**.
10. Refer to **Pain Management Procedure.**

The priorities in pediatric trauma management are to prevent further injury, provide rapid transport, notify the receiving facility, and initiate definitive treatment.