III. TREATMENT PROTOCOLS

FOR ALL TREATMENT PROTOCOLS, THE LETTER AND NUMERICAL OUTLINE FORMAT IS STRICTLY FOR RAPID AND UNIFORM REFERENCE AND DOES NOT IMPLY OR DIRECT A MANDATORY SEQUENCE FOR PATIENT CARE.

HOWEVER, THE GENERAL PATIENT CARE SECTION AND THE ALGORITHMS DO HAVE A SPECIFIC SEQUENCE TO BE FOLLOWED.

A. ABUSE/NEGLECT

1. Initiate General Patient Care.

ALL HEALTH CARE PROVIDERS ARE OBLIGATED BY LAW TO REPORT CASES OF SUSPECTED CHILD OR VULNERABLE ADULT ABUSE OR NEGLECT TO EITHER THE LOCAL POLICE OR SOCIAL SERVICE AGENCIES. DO NOT INITIATE REPORT IN FRONT OF THE PATIENT, PARENT, OR CAREGIVER.

DO NOT CONFRONT OR BECOME HOSTILE TO THE PARENT OR CAREGIVER.

2. Presentation
   The patient may present with patterned burns or injuries suggesting intentional infliction, such as injuries in varying stages of healing, injuries scattered over multiple areas of the body, fractures, or injuries inconsistent with stated cause of injury. The patient, parent, or caregiver may respond inappropriately to the situation. Malnutrition or extreme lack of cleanliness of the patient or environment may indicate neglect. Signs of increased intracranial pressure (bulging fontanels and altered mental status in an infant) may also be seen.

3. Treatment
   a) Stabilize injuries according to protocol.

   b) Discourage patient from washing if sexual abuse is suspected.

   c) Document the following information on the PCR:
      (1) All verbatim statements made by the patient, the parent, or caregiver shall be placed in quotation marks, including statements made about the manner of the injuries.

      (2) Any abnormal behavior of the patient, parent, and/or caregiver

      (3) The condition of the environment and other residents present

A. ABUSE/NEGLECT (Continued)

(4) The time the police/welfare agency was notified and the name of the person notified

(5) The name of the receiving health care provider (RN, PA, MD) and any statements made

d) Treat injuries according to presentation.

4. Continue General Patient Care.

B. ALTERED MENTAL STATUS: SEIZURES

1. Initiate General Patient Care.

2. Presentation
   Seizures are a neuromuscular response to an underlying cause such as: epilepsy, hypoxia, hypoglycemia, hypoperfusion, head injury, CVA, alcohol or drug abuse. Consider recent history of possible illness, infection, fever, or stiff neck.

DO NOT ATTEMPT TO FORCE ANY DEVICE INTO THE PATIENT'S MOUTH IF THE PATIENT IS STILL SEIZING.


3. Treatment
   a) If the patient is still seizing:
      (1) DO NOT RESTRAIN.
      (2) Protect from further injury.
      (3) Consider underlying cause of seizure.
   b) When seizure activity has stopped:
      (1) Identify and treat injuries.
      (2) If patient is a known diabetic, glucose paste (10–15 grams) should be administered between the gum and cheek. Consider single additional dose of glucose paste if not improved after 10 minutes.

   c) Use glucometer and treat accordingly.
   d) Consider midazolam.
      (1) If patient has no IV or IO in place or IV/IO is not available: Administer midazolam 5 mg IN or IM.
      (2) If IV/IO is already in place: 0.1 mg/kg in 2 mg increments SLOW IVP/IO over 1–2 minutes per increment with maximum single dose 5 mg.

REDUCE BY 50% FOR PATIENTS 69 YEARS OR OLDER.

      (3)  Additional doses up to a maximum total dose of 10 mg require medical consultation for all providers.
      (4) If patient seizures are refractory to treatment, consider IO administration of midazolam.
      (5) If midazolam is not available, consider diazepam in 2.5 mg increments SLOW IVP/IM. Maximum total dose 10 mg. If patient is in status, consider IO administration of diazepam.
         (a)  IM administration requires all providers to obtain medical consultation. If suspected severe nerve agent exposure, providers may administer midazolam 5 mg IM or diazepam (CANA) without medical consultation.
      (6) Establish IV/IO access with LR.
      (7) If patient is pregnant, actively seizing, consider magnesium sulfate 4 grams IV/IO over 10 minutes (mixed in 50–100 mL of approved diluent).
         (a)  If seizures persist, consult for second dose of magnesium sulfate.

B. ALTERED MENTAL STATUS: SEIZURES (Continued)

ALERT IF PATIENT IS PREGNANT, USE MIDAZOLAM FOLLOWED BY MAGNESIUM SULFATE. MEDICAL CONSULTATION REQUIRED FOR PREGNANT PATIENTS WHO MAY REQUIRE LARGER DOSES OF MIDAZOLAM TO CONTROL SEIZURES.

ALERT IF, FOLLOWING ADMINISTRATION OF MAGNESIUM SULFATE, PATIENT EXHIBITS SIGNS OF TOXICITY, CONSIDER ADMINISTRATION OF CALCIUM CHLORIDE. CONSIDER CALCIUM CHLORIDE 500 MG IVP FOR RESPIRATORY DEPRESSION, DECREASED REFLEXES, FLACCID PARALYSIS, AND APNEA FOLLOWING MAGNESIUM SULFATE ADMINISTRATION. MEDICAL CONSULTATION REQUIRED.

e) If the patient is still seizing:
   (1) DO NOT RESTRAIN.
   (2) Protect from further injury.
   (3) Consider underlying cause of seizure.
f) When seizure activity has stopped:
   (1) Identify and treat any injuries.
   (2) If patient is a known diabetic, glucose paste (10–15 grams) should be administered between the gum and cheek. Consider single additional dose of glucose paste if not improved after 10 minutes.

g) Use glucometer and treat accordingly.
h) ALS providers may assist patients with the administration of their prescribed benzodiazepine.
i) Consider midazolam for seizures lasting greater than 10 minutes.
   (1) If patient has no IV or IO in place or IV/IO is not available: Administer midazolam 0.2 mg/kg IN or IM. Maximum total dose 5 mg.
   (2) If IV or IO is already in place: Administer midazolam 0.1 mg/kg in 2 mg increments SLOW IVP over 1–2 minutes. Maximum total dose 5 mg.

ALERT FOR A CHILD ACTIVELY SEIZING, ADMINISTER MIDAZOLAM IN/IM AND RESERVE IO FOR LIFE-THREATENING ILLNESS

   (3) Additional doses of midazolam up to a maximum total dose of 5 mg require medical consultation for all providers.
   (4) If patient's seizures are refractory to treatment, consider IO administration of midazolam.
   (5) If midazolam is not available, consider diazepam for seizures lasting greater than 10 minutes (paramedic may perform without consult for patients with active seizures).
      (a) Up to 0.2 mg/kg diazepam rectal; maximum total dose 10 mg.
      OR
      0.1 mg/kg in 2.5 mg increments SLOW IVP/IO/IM; maximum total dose 5 mg.

B. ALTERED MENTAL STATUS: SEIZURES (Continued)

(b)  IM requires all providers to obtain medical consultation. If suspected severe nerve agent exposure, providers may administer midazolam as above or diazepam (CANA) without medical consultation.

(6) Establish IV/IO access with LR.

(7) If patient is pregnant, actively seizing, consider magnesium sulfate 4 grams IV/IO over 10 minutes (mixed in 50–100 mL of approved diluent).

(8) Administer fluid bolus, if appropriate, 20 mL/kg of LR IV/IO.

4. Continue General Patient Care.

C. ALTERED MENTAL STATUS: UNRESPONSIVE PERSON

1. Initiate General Patient Care.

2. Presentation
   Patients may exhibit confusion, focal motor sensory deficit, unusual behavior, unresponsiveness to verbal or painful stimulus.

ALCOHOL CAN CAUSE ALTERED MENTAL STATUS BUT IS NOT COMMONLY A CAUSE OF TOTAL UNRESPONSIVENESS TO PAIN.


3. Treatment
   a) Obtain pulse oximetry, if available.

   b) Administer glucose paste (10–15 grams) between the gum and cheek. Consider single additional dose of glucose paste if not improved after 10 minutes.

   c) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
   Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.

   d) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
   Administer naloxone 0.4–2 mg IVP/IO (titrated)/IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. Repeat as necessary to maintain respiratory activity.

   e) Establish IV access with LR.
   Administer fluid bolus, if appropriate.
   20 mL/kg of LR IV

   f) Titrate to a systolic pressure of 100 mmHg.

   g) Consider obtaining blood sample using closed system.

   h) Use glucometer and treat accordingly.

   i) Consider an additional dose of naloxone.

   j) 
   Consider additional fluid administration
   Maximum 2,000 mL without medical consultation.

C. ALTERED MENTAL STATUS: UNRESPONSIVE PERSON (Continued)

k) Obtain pulse oximetry if available.

l) Administer glucose paste (10–15 grams) between the gum and cheek. Consider single additional dose of glucose paste if not improved after 10 minutes.

m) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Aged 28 days to adult: Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.

n) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Aged 28 days to adult: Administer 0.1 mg/kg IVP/IO (titrated)IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. May be repeated as necessary to maintain respiratory activity. ET dose: 0.2–0.25 mg/kg.

o) Consider repeating naloxone.

p) Establish IV/IO access with LR.
(1) If age-related vital signs and patient's condition indicate hypoperfusion, administer initial fluid bolus of 20 mL/kg LR IV/IO.
If patient's condition does not improve, administer the second bolus of fluid at 20 mL/kg LR IV/IO.
OR
For volume-sensitive children administer initial fluid bolus of 10 mL/kg LR IV/IO. If patient's condition does not improve, administer the second bolus of fluid at 10 mL/kg LR IV/IO.

Volume-sensitive children include: neonates (birth to 28 days), children with congenital heart disease, chronic lung disease, or chronic renal failure.

(2) Consider obtaining blood sample using closed system.

q) Use glucometer and treat accordingly.

r) Third and subsequent fluid boluses at 20 mL/kg IV/IO except in volume-sensitive children, then bolus at 10 mL/kg.

4. Continue General Patient Care.

D. APPARENT LIFE-THREATENING EVENT (ALTE)

1. Initiate General Patient Care.

2. Presentation
   An episode in an infant or child less than 2 years old that is frightening to the observer and is characterized by some combination of the following:
   a) Apnea (central or obstructive)
   b) Skin color change: cyanosis, erythema (redness), pallor, plethora (fluid overload)
   c) Marked change in muscle tone
   d) Choking or gagging not associated with feeding or a witnessed foreign body aspiration

MOST PATIENTS WILL APPEAR STABLE AND EXHIBIT A NORMAL PHYSICAL EXAM UPON ASSESSMENT BY RESPONDING FIELD PERSONNEL. HOWEVER, THIS EPISODE MAY BE THE SIGN OF UNDERLYING SERIOUS ILLNESS OR INJURY. FURTHER EVALUATION BY MEDICAL STAFF IS REQUIRED AND IT IS ESSENTIAL TO TRANSPORT ALL PATIENTS WHO EXPERIENCED ALTE.

3. Treatment
   a) Perform an initial assessment utilizing the Pediatric Assessment Triangle.
   b) Obtain a description of the event including nature, duration, and severity.
   c) Obtain a medical history with emphasis on the following conditions:
      (1) Known chronic diseases
      (2) Evidence of seizure activity
      (3) Current or recent infections
      (4) Gastroesophageal reflux
      (5) Recent trauma
      (6) Medications (current or recent)
   d) Apply oxygen.
   e) Be prepared to assist with ventilation if this type of episode occurs again during transport.
   f) Assess environment for possible causes.

   g) Place patient on cardiac monitor.
   h) Consider establishing IV/IO access with LR.

IF THE PARENT OR GUARDIAN REFUSES MEDICAL CARE OR TRANSPORT, PROVIDER SHALL CONTACT A **PEDIATRIC BASE STATION** PHYSICIAN.

4. Continue General Patient Care.

E. BEHAVIORAL EMERGENCIES

1. Initiate General Patient Care.

2. Presentation

   Behavior or actions that indicate the patient's mental function is disturbed and may pose a threat to oneself or to others (suicide, threat of violence, or psychosis).

THE PROVIDER SHOULD RECOGNIZE CRITICAL INCIDENT STRESS AS A STATE OF EMOTIONAL DISTRESS THAT DOES NOT NECESSARILY POSE A THREAT TO ONESELF OR OTHERS (E.G., DEATH IN THE FAMILY, BYSTANDERS AT A CRASH SCENE, OR REACTION TO VIOLENCE).

THE PREHOSPITAL CARE PROVIDER SHOULD NOT BE PLACED IN ANY PHYSICAL JEOPARDY OR ASSUME ANY LAW ENFORCEMENT FUNCTIONS, ESPECIALLY WHEN WEAPONS AND/OR ACTS OF VIOLENCE ARE INVOLVED!

LAW ENFORCEMENT SHOULD BE REQUESTED ON ALL CALLS INVOLVING POTENTIALLY VIOLENT PATIENTS.

3. Treatment

   a) When considering the prehospital use of restraints, a law enforcement officer should apply the device and accompany the provider and the patient in the ambulance.

   b) For interfacility transport, a physician order must be obtained for physical restraint.

   c) Implement **SAFER** model.

      (1) **S**tabilize the situation by containing and lowering the stimuli.

      (2) **A**ssess and acknowledge the crisis.

      (3) **F**acilitate the identification and activation of resources (chaplain, family, friends, or police).

      (4) **E**ncourage patient to use resources and take actions in their best interest.

      (5) **R**ecovery or referral—leave patient in care of responsible person or professional or transport to appropriate facility.

d) Establish IV access with LR, if appropriate.
e) Consider Chemical Restraint.

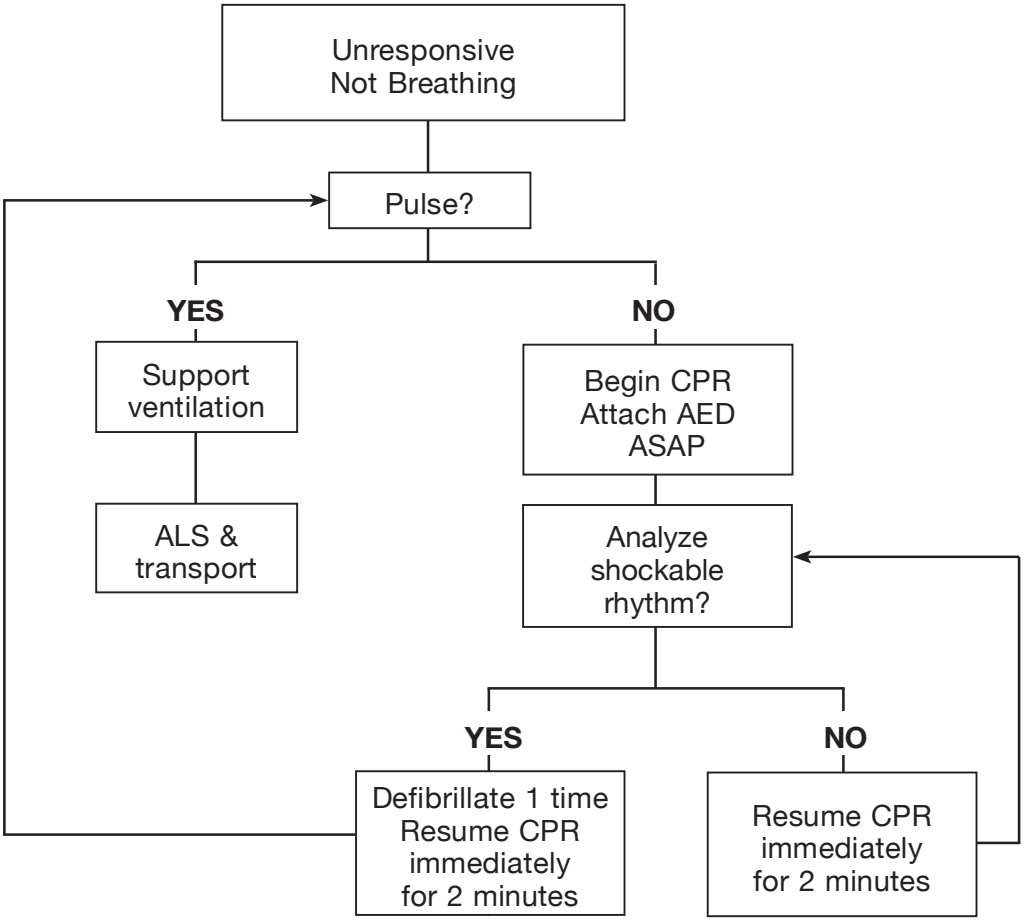
4. Continue General Patient Care.

F. CARDIAC EMERGENCIES: NON-ARREST CARDIAC GUIDELINES

1. The following pertains to cardiac emergencies in patients who have a pulse. Several guidelines apply to all algorithms when assessing and treating cardiac patients. These guidelines are:
   a) When the patient's condition changes, indicating the transition to a new treatment algorithm, the new treatment shall take into account prior therapy (e.g., previously administered medications).
   b) As BLS/ALS guidelines indicate, definitive airway control is preferable; if this can be achieved, along with other initial interventions, then the earlier, the better. However, electrical therapy is more important if the patient can be ventilated without intubation.

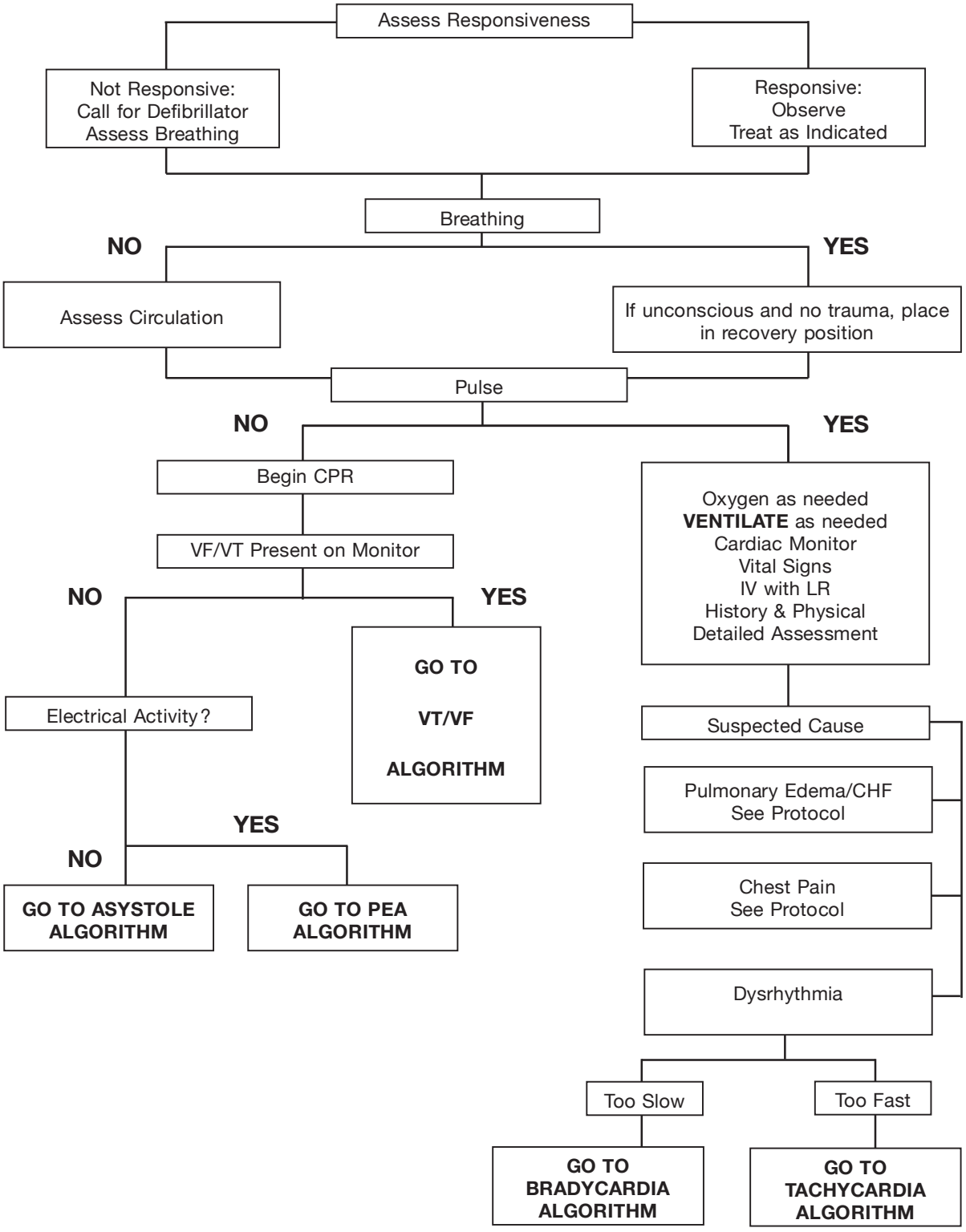
2.

UNIVERSAL ALGORITHM FOR ADULT EMERGENCY CARDIAC CARE FOR BLS



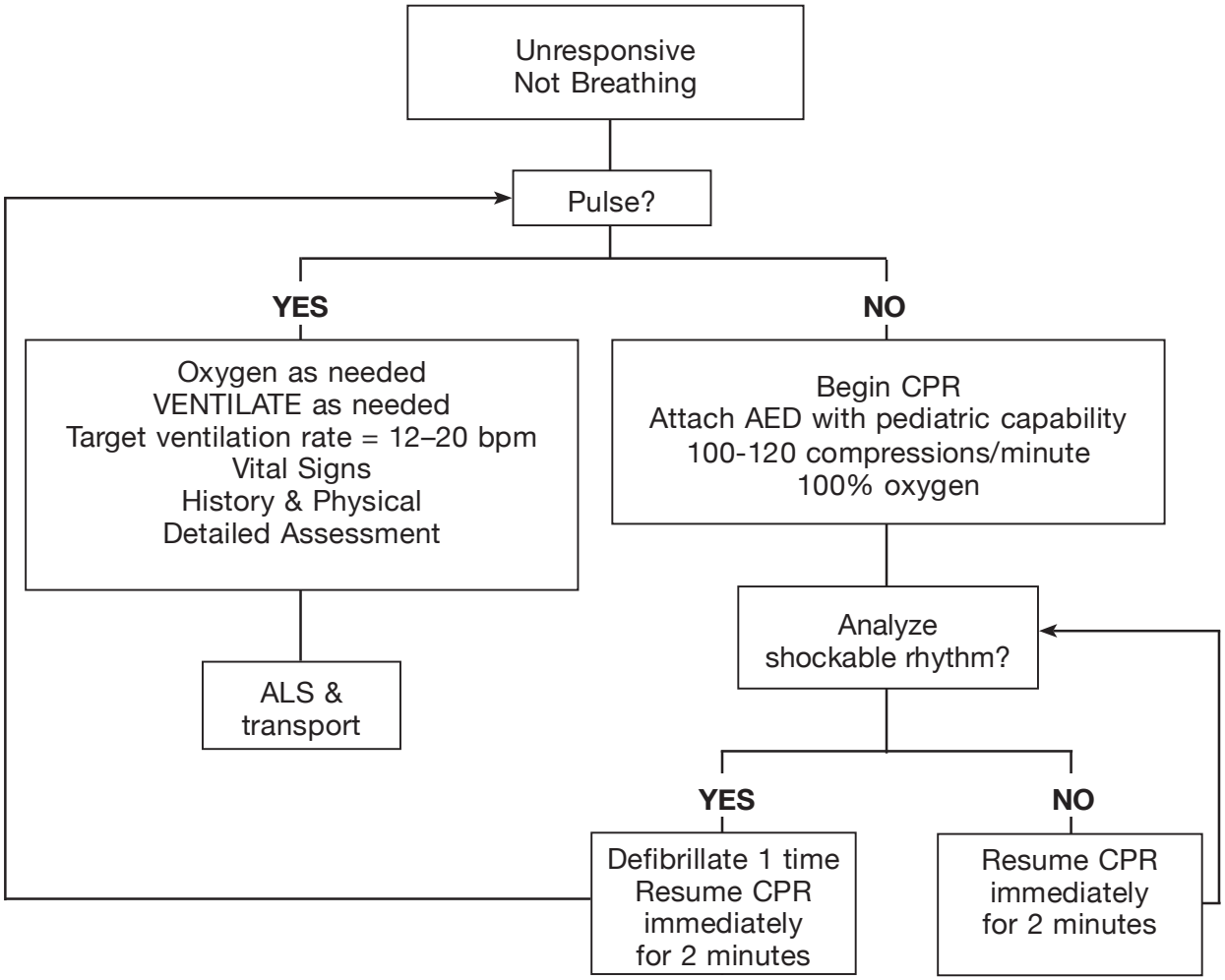
3.

UNIVERSAL ALGORITHM FOR ADULT EMERGENCY CARDIAC CARE FOR ALS



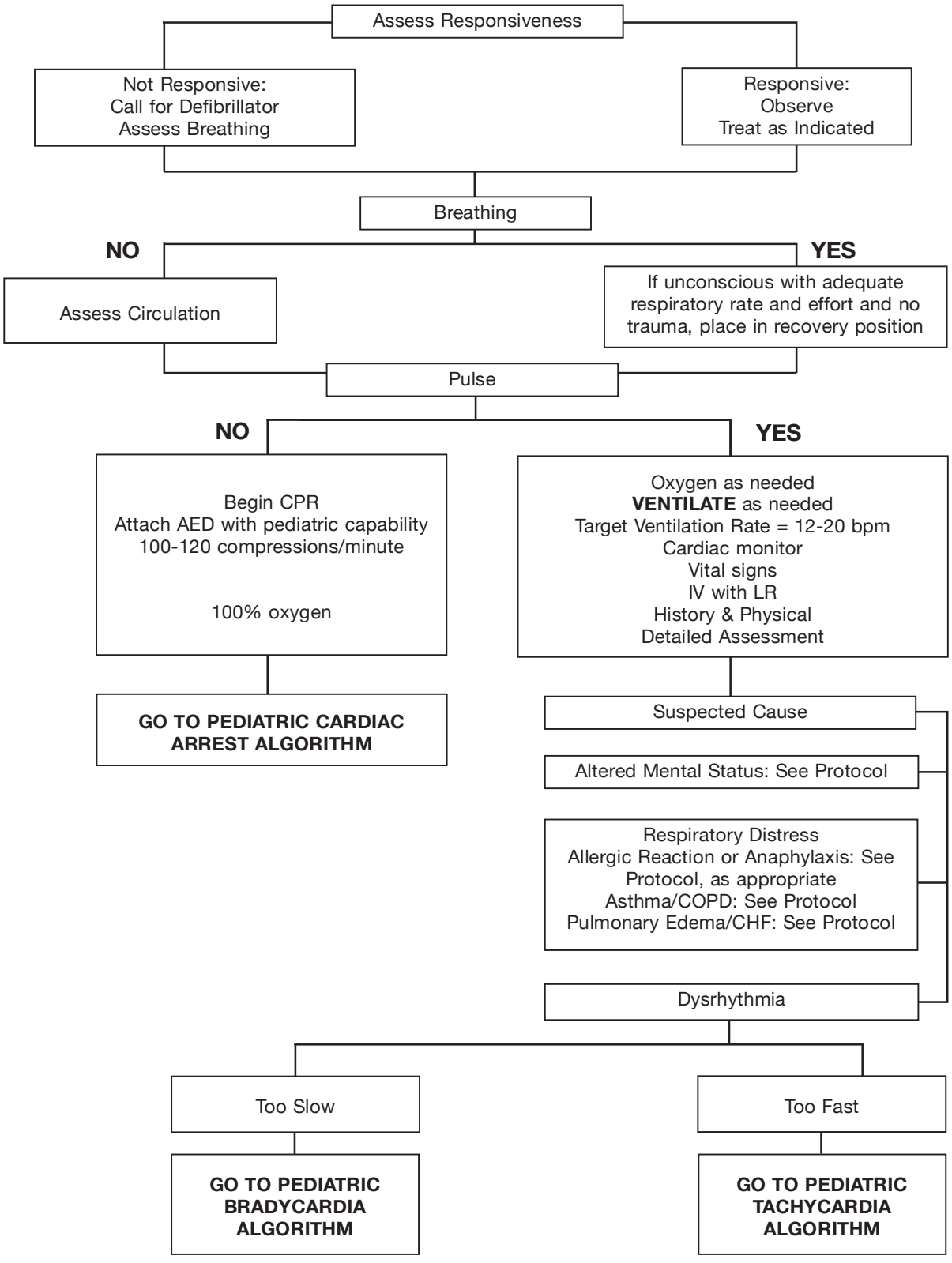
4.

UNIVERSAL ALGORITHM FOR PEDIATRIC
(GREATER THAN 1 HOUR AND LESS THAN 13 YEARS OF AGE)
EMERGENCY CARDIAC CARE FOR BLS
(If less than 1 hour old, refer to Newly Born Protocol)



5.

UNIVERSAL ALGORITHM FOR PEDIATRIC
(GREATER THAN 1 HOUR AND LESS THAN 13 YEARS OF AGE)
EMERGENCY CARDIAC CARE FOR ALS
(If less than 1 hour old, refer to Newly Born Protocol)



G. CARDIAC EMERGENCIES: BRADYCARDIA

1. Initiate General Patient Care.

2. Presentation
   Patient may present with a slow heart rate and chest pain, shortness of breath, decreased level of consciousness, hypotension, hypoperfusion, pulmonary congestion, congestive heart failure, and/or acute myocardial infarction.

3. Treatment

   a) Place patient in position of comfort.

   b) Assess and treat for shock, if indicated.

   c) Continuously monitor airway and reassess vital signs every 5 minutes.

   d) Establish IV access with LR.

   e) If patient is hemodynamically unstable: initiate transcutaneous pacing (TCP).

   f) If TCP is unsuccessful or not available, administer atropine:
   0.5–1 mg IVP
   Atropine should be given in repeat doses in 3–5 minute intervals up to a total of 0.04 mg/kg.

   g)  Consider dopamine
   2–20 **mcg**/kg/min

   h)  If patient is hemodynamically stable and in Type II, second-degree AV Block or third-degree AV Block:

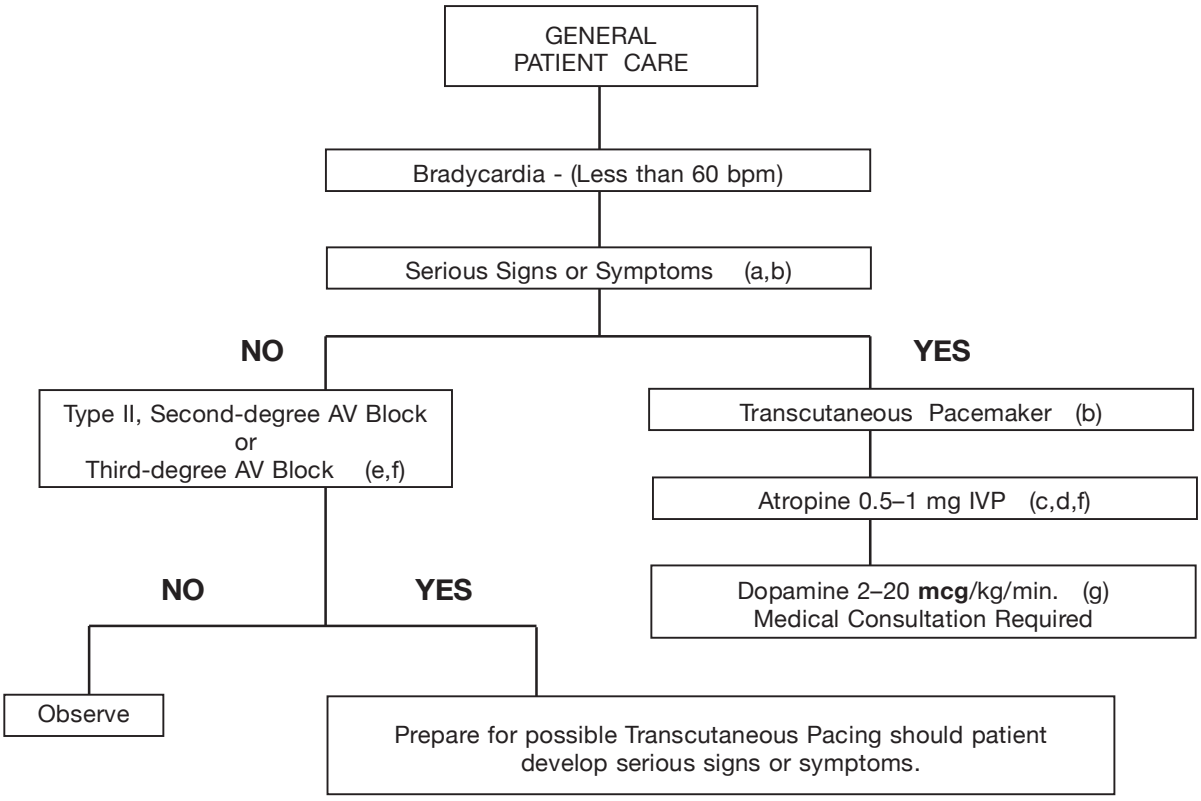
      (1) Consider/prepare for TCP.

      (2) If patient develops discomfort with TCP
      Administer opioid per Pain Management Protocol.
      OR
      Consider midazolam 0.1 mg/kg in 2 mg increments SLOW IVP over 1–2 minutes per increment with maximum single dose 5 mg.
      (Reduce by 50% for patients 69 years or older.)

   i) Refer to appropriate algorithm.

4. Continue Patient Care.

5. ADULT BRADYCARDIA ALGORITHM



(a) - Serious signs and symptoms must be related to the slow rate. Signs and symptoms may include chest pain, shortness of breath, decreased level of consciousness, hypotension, hypoperfusion, pulmonary congestion, CHF, and/or AMI.

(b) - Do not delay TCP while awaiting IV or atropine to take effect if the patient is symptomatic.

(c) - Denervated transplanted hearts will not respond to atropine. Go at once to TCP.

(d) - Atropine shall be given in repeat doses in 3–5 minute intervals up to a total of 0.04 mg/kg. Consider shorter intervals in severe clinical conditions.
Medical consultation required to administer atropine in AV block at the His-Purkinje level (Type II AV block and new third-degree block with wide QRS complexes).

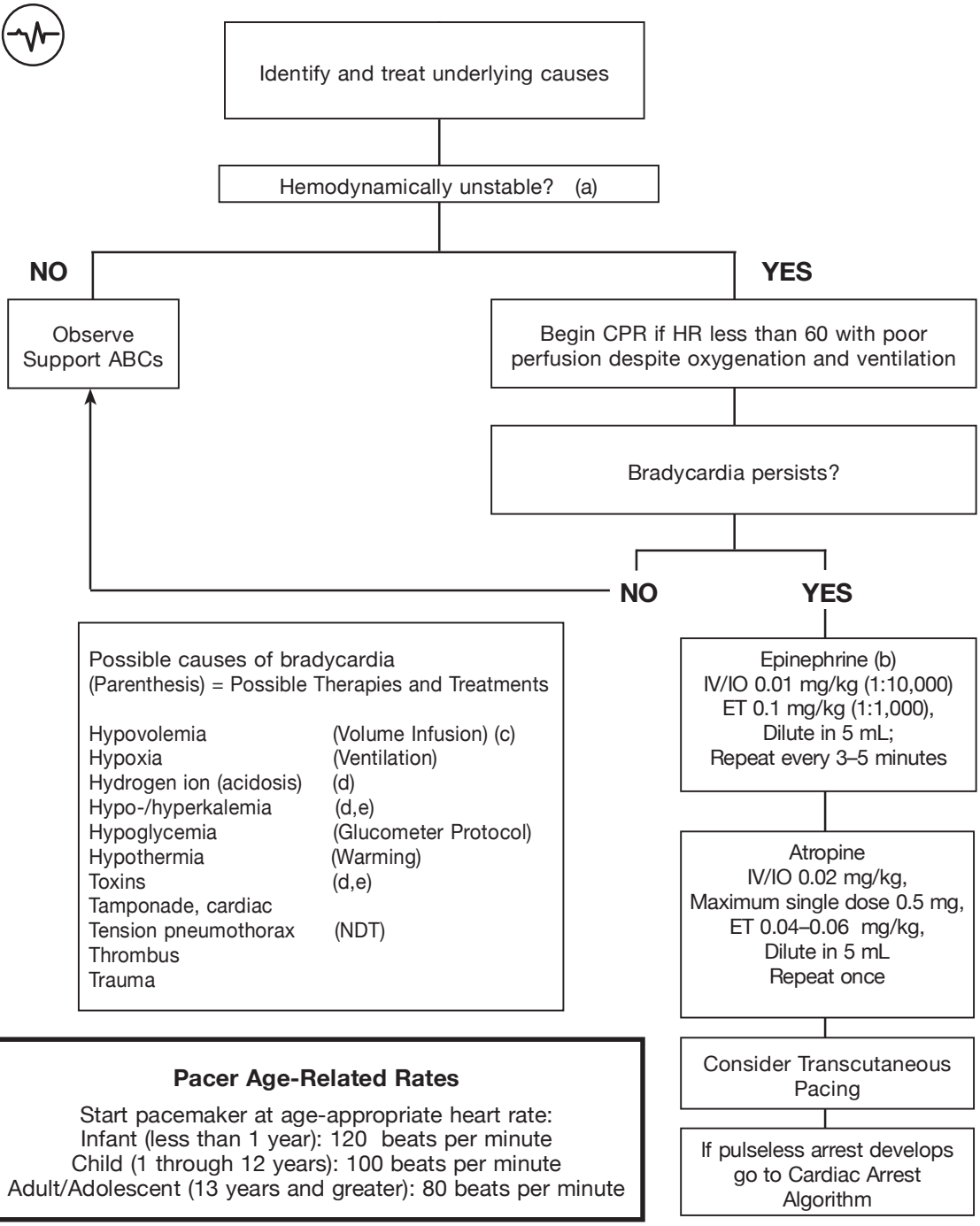
(e) - Never treat third-degree AV block or ventricular escape beats with amiodarone.

(f) - In the presence of Mobitz II and third-degree AV block, medical consultation is required for atropine administration.

(g) - Requires medical consultation for administration of dopamine. Adults: titrate to systolic BP 100 mmHg or medical consultation directed BP. IV infusion pump is preferred.

6.

PEDIATRIC BRADYCARDIA ALGORITHM
(If less than 1 hour old, refer to Newly Born Protocol)



(a) - Hemodynamically unstable is defined as a systolic blood pressure less than 60 in neonates (patients less than 28 days old), less than 70 in infants (patients less than 1 year of age), and less than [70 + (2 x years) = systolic BP] for patients greater than 1 year of age.

(b) - Neonates (birth to 28 days), epinephrine ET 0.03 mg/kg (1:10,000) dilute with 1 mL.

(c) - Volume infusion for neonates and volume-sensitive children, 10 mL/kg; for infant and child 20 mL/kg.

(d) - Sodium Bicarbonate, 1 mEq/kg with medical consultation. See sodium bicarbonate.

(e) - Calcium chloride, 20 mg/kg (0.2 mL/kg) SLOW IVP/IO (50 mg/min). Max dose 1 gram.

H. CARDIAC EMERGENCIES: TACHYCARDIA

1. Initiate General Patient Care.

2. Presentation
   Patient may present with chest pain, shortness of breath, decreased level of consciousness, low blood pressure, hypoperfusion, pulmonary congestion, congestive heart failure, and/or acute myocardial infarction.

3. Treatment
   a) Place patient in position of comfort.

   b) Assess and treat for shock, if indicated.

   c) Continuously monitor airway and reassess vital signs every 5 minutes.

   d) Establish IV access with LR.

   e) Verify presence of pulse.

   f) If no pulse present, treat as pulseless VF/VT.

   g) If patient is hemodynamically unstable with a ventricular rate greater than 150, prepare for immediate cardioversion.

   h) If patient is hemodynamically stable, identify rhythm and proceed to appropriate algorithm.

   i) Place patient in position of comfort.

   j) Assess and treat for shock, if indicated.

   k) Continuously monitor airway and reassess vital signs every 5 minutes.

   l) Establish IV access with LR.

   m) Verify presence of pulse.

   n) If no pulse present, treat as pulseless VF/VT.

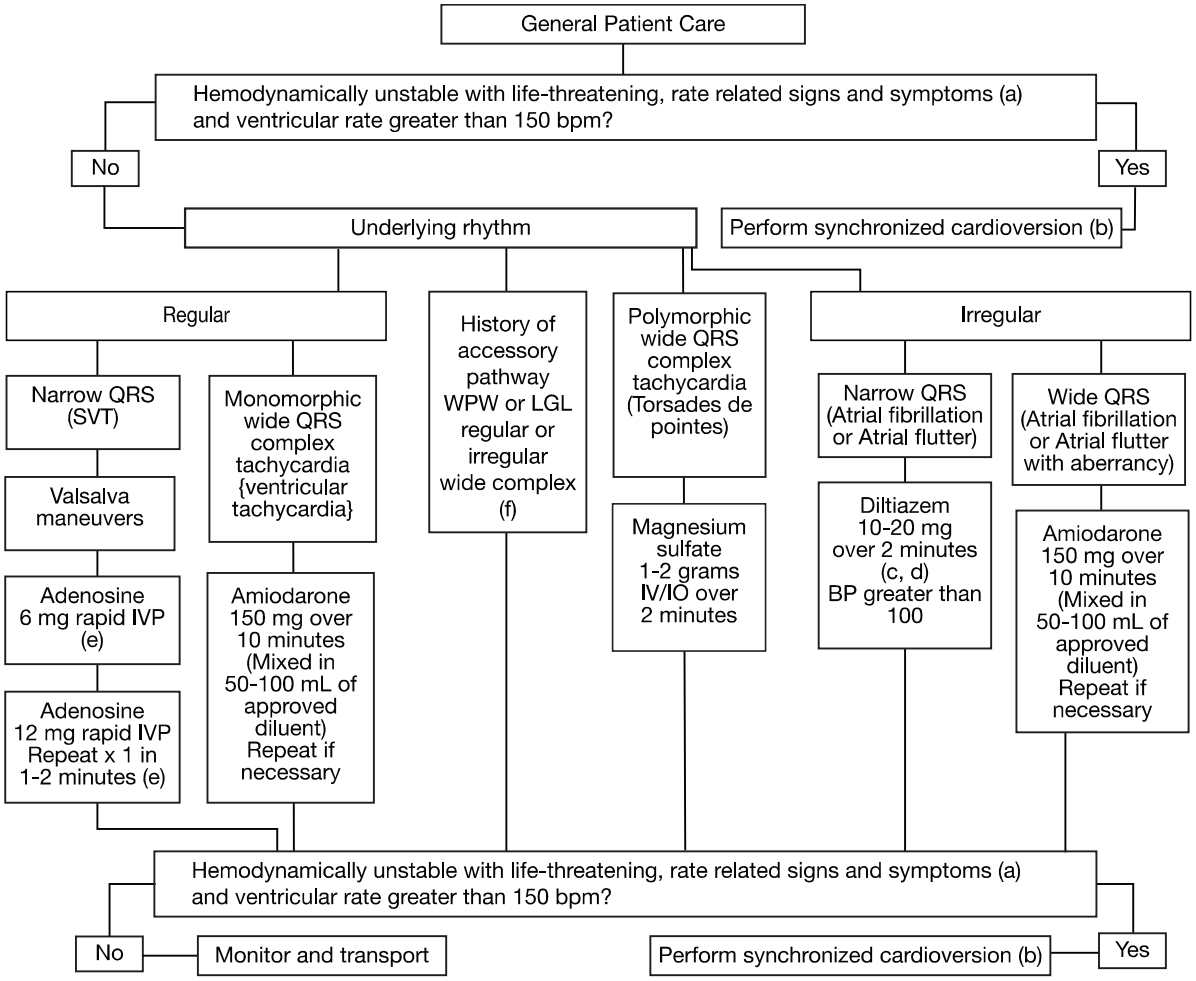
H. CARDIAC EMERGENCIES: TACHYCARDIA (Continued)

o)  If patient is hemodynamically unstable with a ventricular rate greater than 220 for an infant or 180 for a child, prepare for immediate cardioversion.

p) If patient is hemodynamically stable, identify rhythm and proceed to appropriate algorithm.

4. Continue General Patient Care.

5. ADULT TACHYCARDIA ALGORITHM (NEW '19)

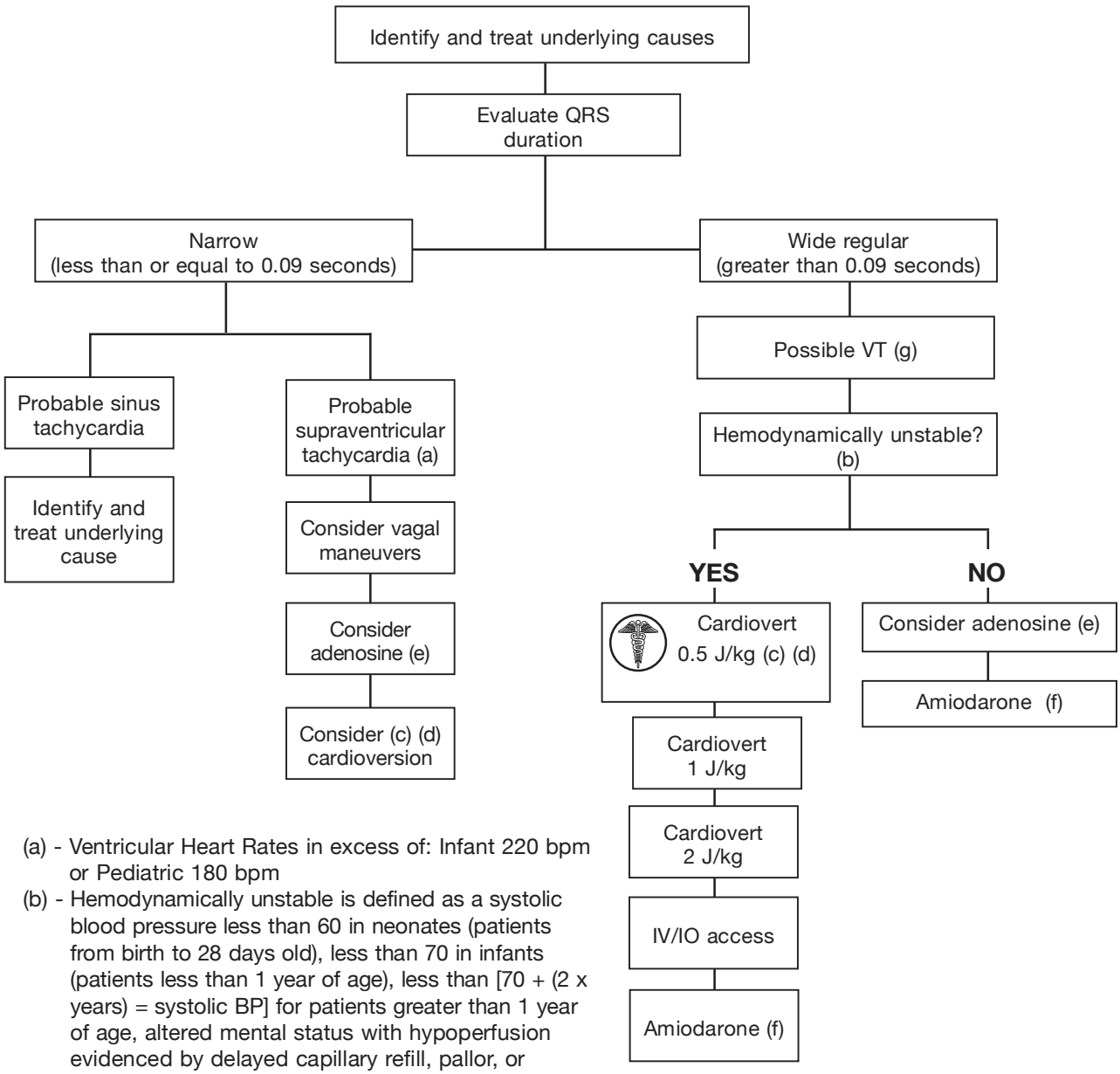


(a) - Signs and symptoms related to tachycardia: hypotension, acutely altered mental status, signs of shock, ischemic chest discomfort/AMI, or acute heart failure
(b) - Consider sedation (midazolam). However, overall patient status, including BP, may affect ability to administer sedative.
(c) - Consider calcium chloride 500 mg IVP for hypotension induced by diltiazem.
(d) - If rate does not slow in 15 minutes, administer a second dose of diltiazem (15 –25 mg over 2 minutes).
(e) - Be prepared for up to 40 seconds of asystole.
(f) - These rhythms include Wolff-Parkinson White (WPW) syndrome, Lown–Ganong–Levine syndrome (LGL), and Mahaim type.

6.

PEDIATRIC TACHYCARDIA ALGORITHM

(If less than 1 hour old, refer to the Newly Born Protocol)



(a) - Ventricular Heart Rates in excess of: Infant 220 bpm or Pediatric 180 bpm

(b) - Hemodynamically unstable is defined as a systolic blood pressure less than 60 in neonates (patients from birth to 28 days old), less than 70 in infants (patients less than 1 year of age), less than [70 + (2 x years) = systolic BP] for patients greater than 1 year of age, altered mental status with hypoperfusion evidenced by delayed capillary refill, pallor, or peripheral cyanosis.

(c) - If calculated joules setting is lower than cardioversion device is able to deliver, use the lowest joules setting possible or obtain medical consultation.

(d) - Consider sedation (midazolam with medical consultation). However, overall patient status, including BP, may affect ability to administer sedative.

(e) - Adenosine: 0.1 mg/kg rapid IV/IO, maximum 6 mg. Second and third doses 0.2 mg/kg rapid IV/IO, maximum single dose 12 mg. Be prepared for up to 40 seconds of asystole. (Contraindicated in polymorphic or irregular wide complex tachycardia)

(f) - Amiodarone: 5 mg/kg IV/IO over 20 minutes (mixed in 50 - 100 mL of approved diluent). Obtain 12-lead EKG prior to administration of amiodarone.

(g) If torsades de pointes, administer magnesium sulfate (25 mg/kg IV/IO to a maximum of 2 grams over 2 minutes).

I. CARDIAC EMERGENCIES: CARDIAC ARREST

1. Initiate General Patient Care.
2. Presentation
   Patient must be unconscious, apneic, and pulseless.
3. Treatment
   a) Perform high quality uninterrupted chest compressions as soon as possible and until defibrillator available.
   b) Apply AED as soon as available.
   c) Follow machine prompts regarding rhythm analyses and shocks.
   d) Limit breaks in compressions to rhythm analysis periods and during shocks; perform compressions while defibrillator is charging.

ALERT ALS PROVIDERS WITH A COMBINATION AED/MANUAL DEFIBRILLATOR SHOULD USE IT IN THE MANUAL MODE TO MINIMIZE BREAKS IN COMPRESSIONS CAUSED BY AED ANALYSIS.

   e) **On-scene resuscitation:** patients who are found in arrest or who arrest prior to transport and are **attended to by BLS providers must only be resuscitated in place** (with minimal movement, no attempts at patient loading, and no attempts at transport) until the following have been accomplished:
      (1) **Medical Etiologies**
         (a) The patient has received a minimum of five two-minute cycles of rhythm interpretation and chest compressions.
      (2) **Trauma Etiologies**
         (a) Penetrating trauma patients should receive the indicated reversible causes treatments listed in section BBB–Trauma Protocol: Trauma Arrest, lines a) through h) of Treatment, while loading and preparing for immediate transport.
         (b) Blunt trauma patients should receive all indicated reversible causes treatments listed in section BBB–Trauma Protocol: Trauma Arrest, lines a) through h) of Treatment, while on scene before termination of resuscitation or transport if ROSC is achieved.
      (3) **Exemptions** from on-scene resuscitation **(NEW ’19)**:
         (a) Where physical barriers prevent resuscitation
         (b) Where providers are in danger
         (c) Pregnant patients
         (d) Patients in cardiac arrest thought to be secondary to hypothermia or submersion
   f) **Following the initial on-scene resuscitation above,** providers may choose to continue the on-scene resuscitation until termination of resuscitation or to transport the patient at any time. Providers should ensure the following prior to transport:
      (1) Mechanical CPR (mCPR) in place (if available)

I. CARDIAC EMERGENCIES: CARDIAC ARREST (Continued)

HIGH-QUALITY CONTINUOUS CHEST COMPRESSIONS WITH FREQUENT PROVIDER ROTATION IS AN ESSENTIAL COMPONENT IN THE SUCCESSFUL RESUSCITATION OF THE CARDIAC ARREST PATIENT. THIS MAY BE ACCOMPLISHED ENTIRELY WITH MANUAL COMPRESSIONS, OR INITIALLY WITH MANUAL AND THEN MECHANICAL COMPRESSIONS, IN ACCORDANCE WITH THE OPTIONAL MECHANICAL CPR (MCPR) PROTOCOL. THE USE OF MCPR IS CONTRAINDICATED IN PATIENTS WHO HAVE NOT YET REACHED THEIR 13TH BIRTHDAY.

g) Assess for shockable rhythm at next appropriate interval and treat appropriately.
h) Minimize peri-shock pauses of compressions to less than 10 seconds.
i) Any interruption of chest compressions, at any time for any reason, should last no more than 10 seconds
j) 10-second interruptions should coincide with two-minute cycles of chest compressions
k) **On-scene resuscitation:** patients who are found in arrest or who arrest prior to transport and are **attended to by ALS providers must remain in place** (with minimal movement, no attempts at patient loading, and no attempts at transport) until the following have been accomplished:
    (1) **Medical Etiologies**
        (a) The patient has received three doses of epinephrine, regardless of algorithm being followed
    (2) **Trauma Etiologies**
        (a) Penetrating trauma patients should receive the indicated reversible causes treatments listed in section BBB–Trauma Protocol: Trauma Arrest, lines a) through h) of Treatment, while loading and preparing for immediate transport
        (b) Blunt trauma patients should receive all indicated reversible causes treatments listed in section BBB–Trauma Protocol: Trauma Arrest, lines a) through h) of Treatment, while on scene before termination of resuscitation or transport if ROSC is achieved.
    (3) **Exemptions** from on-scene resuscitation:
        (a) Where physical barriers prevent resuscitation
        (b) Where providers are in danger
        (c) Pregnant patients
        (d) Patients in cardiac arrest thought to be secondary to hypothermia or submersion
l) **Following the initial on-scene resuscitation above,** providers may choose to continue the on-scene resuscitation until termination of resuscitation or to transport the patient at any time. Providers should ensure the following prior to transport:
    (1) Mechanical CPR (mCPR) in place (if available)
    (2) Placement of an airway that facilitates ventilation during transport by a restrained provider
m) Identify rhythm and treat according to appropriate algorithm.
n) When the patient's condition changes, indicating the transition to a new treatment algorithm, the new treatment shall take into account prior therapy (e.g., previously administered medications).
o) If ROSC, refer to ROSC Protocol.
p) Consider Termination of Resuscitation when appropriate.

I. CARDIAC EMERGENCIES: CARDIAC ARREST (Continued)

For patients who have not reached their 18th birthday:

q) Identify rhythm and treat according to appropriate algorithm.

r) Only in a pediatric or neonatal arrest situation, naloxone, atropine, and epinephrine, can be administered via the ET route. Medications administered for pediatric patients via the endotracheal tube route shall be 2–2.5 times the IV dose for naloxone and atropine, and ten times the IV dose for epinephrine (1:1,000). All ET medications shall be diluted in 5 mL of LR for pediatric patients.

s) If no ROSC, transport to the closest appropriate facility.

t) If ROSC, perform 12-lead EKG and transport the patient to Children's National Medical Center or Johns Hopkins Children's Center by ground or medevac. If arrival time is greater than 30 minutes to either of these destinations, transport to the closest appropriate facility.

4. ADULT ASYSTOLE ALGORITHM

- Continue CPR
- Assure adequate ventilation
- Establish IV access with LR
- Confirm asystole in more than one lead

↓

Consider Possible Causes

↓

Epinephrine 1 mg IVP - Repeat every 3–5 minutes

Consider possible causes of asystole.
(Parenthesis) = Possible Therapies and Treatments

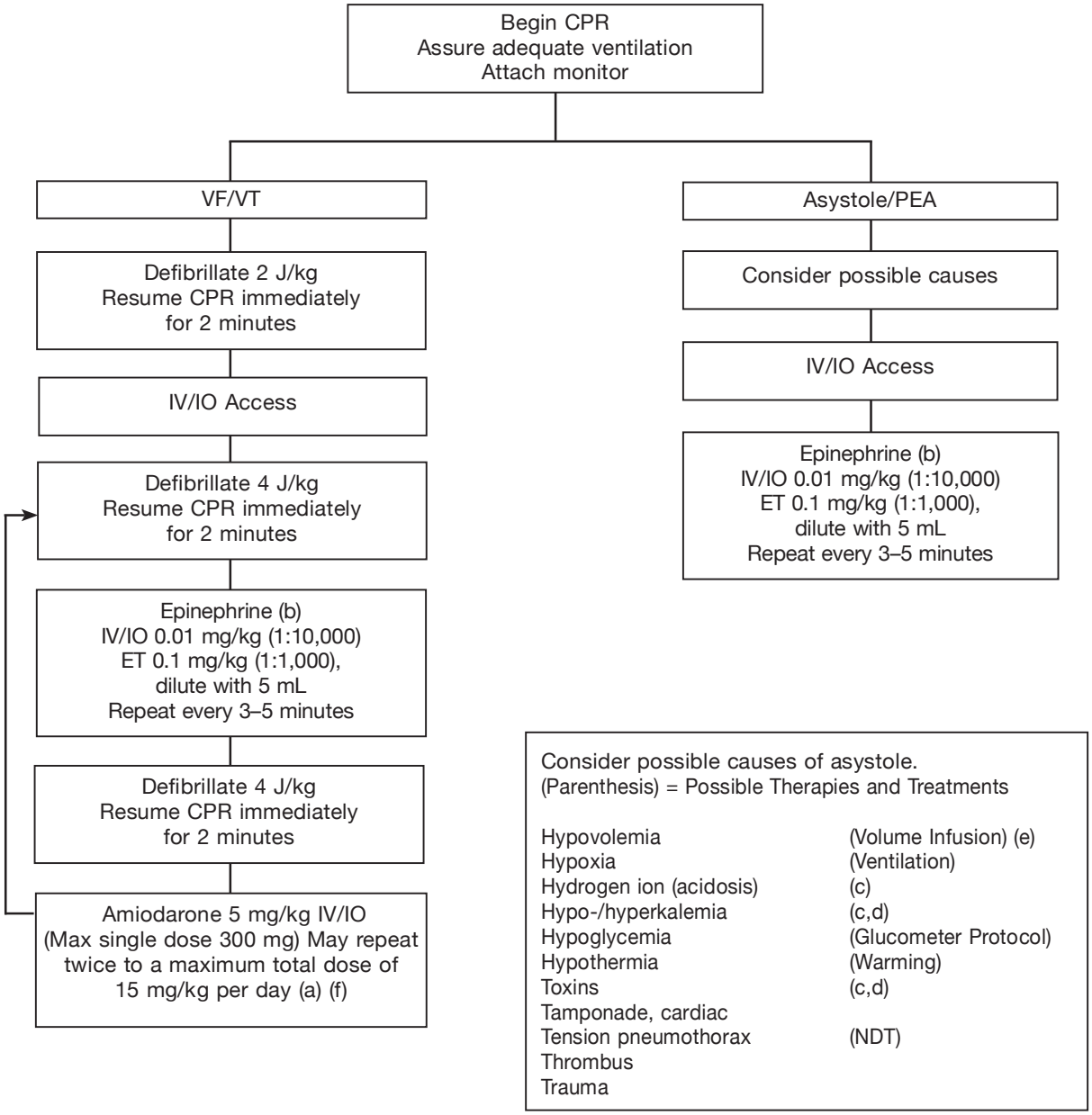
Hypovolemia	(Volume Infusion) (c)
Cardiac Tamponade	(Volume Infusion) (c)
Tension Pneumothorax	(Needle Decompression Thorocostomy–NDT)
Massive Pulmonary Embolism	
Massive AMI	
Drug Overdose	(a,b)
Hypoxia	(Ventilation)
Hypothermia	(Warming)
Acidosis	(a)
Hyperkalemia	(a,b)

(a) - Sodium bicarbonate 1 mEq/kg, with medical consultation. See sodium bicarbonate.

(b) - Calcium chloride, 0.5–1 gram IVP. See calcium chloride.

(c) - Volume infusion is 20 mL/kg.

5. PEDIATRIC CARDIAC ARREST ALGORITHM
(If less than 1 hour old, refer to the Newly Born Protocol)



(a) - Continue cycle of epinephrine, defibrillation (at 4 J/kg), then amiodarone**.** Defibrillate at increasing dosage: 6 J/kg, 8 J/kg, 10 J/kg.

(b) - Neonates (0–28 days), epinephrine ET 0.03 mg/kg (1:10,000) dilute with 1 mL.

(c) - Sodium bicarbonate, 1 mEq/kg, with medical consultation. See sodium bicarbonate.

(d) - Calcium chloride, 20 mg/kg (0.2 mL/kg) SLOW IVP/IO (50 mg/min). Max dose 1 gram.

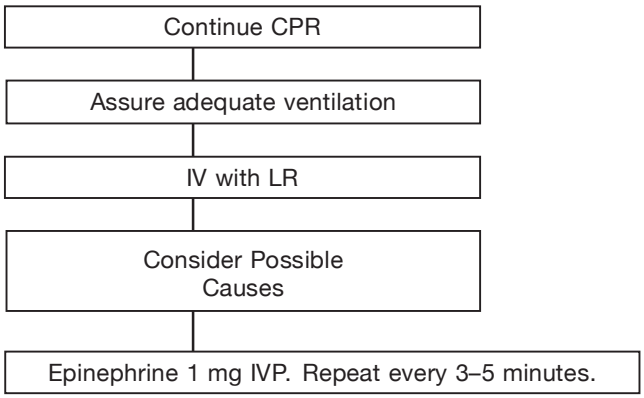
(e) - Volume infusion for neonates and volume-sensitive children, 10 mL/kg; for infant and child 20 mL/kg.

(f) - If torsades de pointes, administer magnesium sulfate (25 mg/kg IV/IO to a maximum of 2 grams over 2 minutes before amiodarone).

6. ADULT PULSELESS ELECTRICAL ACTIVITY (PEA) ALGORITHM

Includes:

- EMD
- Pseudo EMD
- Brady-asystolic Rhythms
- Idioventricular Rhythms
- Ventricular Escape Rhythms
- Post-defibrillation Idioventricular Rhythms



Consider possible causes of PEA.
(Parenthesis) = Possible Therapies and Treatments

Hypovolemia	(Volume Infusion) (c)
Cardiac Tamponade	(Volume Infusion) (c)
Tension Pneumothorax	(Needle Decompression Thorocostomy–NDT)
Massive Pulmonary Embolism	
Massive AMI	
Drug Overdose	(a,b)
Hypoxia	(Ventilation)
Hypothermia	(Warming)
Acidosis	(a)
Hyperkalemia	(a,b)

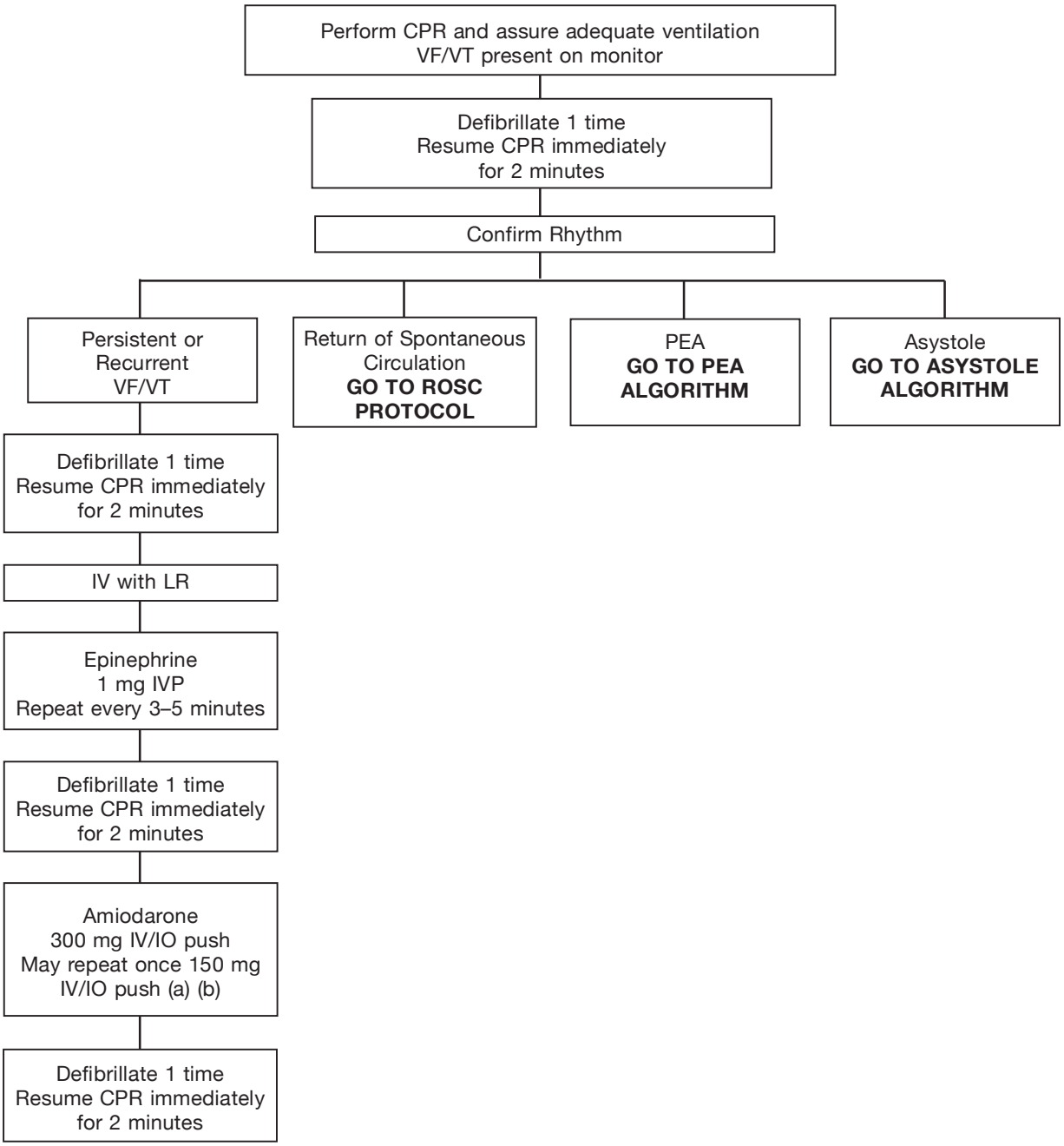
(a) - Sodium bicarbonate 1 mEq/kg, with medical consultation. See sodium bicarbonate.

(b) - Calcium chloride, 0.5–1 gram IVP. See calcium chloride.

(c) - Volume infusion is 20 mL/kg.

7.

VENTRICULAR FIBRILLATION
PULSELESS VENTRICULAR TACHYCARDIA



(a) - Sodium bicarbonate 1 mEq/kg, with medical consultation. See sodium bicarbonate.

(b) - If torsades de pointes is present, give magnesium sulfate 1–2 grams IV/IO over 2 minutes before amiodarone.

J. RETURN OF SPONTANEOUS CIRCULATION (ROSC)

1. Initiate General Patient Care.

2. Presentation
   Patients revived from non-traumatic cardiac arrest.

3. Treatment
   a) Verify presence of carotid pulse. If absent, go to Cardiac Arrest Protocol.

FREQUENTLY REASSESS FOR PRESENCE OF PULSE. IF ANY DOUBT AS TO PRESENCE OF PULSE, REINITIATE CHEST COMPRESSIONS AND RETURN TO APPROPRIATE ALGORITHM FOR CARDIAC ARREST.

   b) If apneic or inadequate respirations, continue to support ventilations. Use supplemental oxygen in accordance with General Patient Care (Breathing in Initial Assessment, page 28).
   c) Reassess vital signs. Treat any abnormalities in accordance with relevant algorithms.
   d) If patient is 18 years of age or older and comatose (GCS less than 8), initiate Neuroprotective Induced Hypothermia Protocol (Medical etiology arrest only).
   e) Rendezvous with ALS or transport to nearest ED.

   f) If available and not already in place, apply mechanical CPR (mCPR) device in standby mode.
   g) Identify rhythm and treat according to appropriate algorithm.
   h) Obtain 12-lead EKG; if STEMI, treat according to STEMI protocol.
   i) Establish IV/IO access, if not yet obtained.
   j) Treat hypotension
      (1) If lungs are clear, consider fluid bolus. 20 mL/kg LR IV. Titrate to SBP of 100 mmHg.
      (2)  Consider dopamine infusion (medical etiology arrest only).
         (a) Adjust infusion rate in accordance with blood pressure and clinical response.
         (b) Adult: Administer 2–20 **mcg**/kg/min IV/IO drip titrated to BP of 100 systolic or medical consultation selected BP; initial infusion rate 2–5 **mcg**/kg/min.
         (c) Pediatric: Administer 2–20 mcg/kg/min IV/IO drip titrated to age specific BP or medical consultation selected BP; initial infusion rate is 2 **mcg**/kg/ min.
   k) Reassess need for intubation if not yet performed.
   l) Identify and treat contributing causes.

J. RETURN OF SPONTANEOUS CIRCULATION (ROSC) (continued)

m) If VF or VT was present during arrest and amiodarone not yet given, consider amiodarone 150 mg IV/IO over ten minutes. (Presence of a perfusing sinus rhythm is necessary for the administration of amiodarone for the ROSC patient post VF/VT conversion.)
n) Initiate transport to appropriate facility.
o) Arrests due to **medical** etiology:
   (1) Most patients should go to a Cardiac Interventional Center. Consider helicopter transport.
   (2) Transport to nearest ED.
      (a) If obvious non-cardiac cause for arrest (e.g., drowning, asphyxiation, opiate overdose). (If cause for arrest is in any way uncertain, patient must be transported to Cardiac Interventional Center, except as under b and c below.)
      OR
      (b) If transport time to Cardiac Interventional Center is more than 45 minutes greater than transport time to nearest ED
      OR
      (c) With medical consultation, if patient's clinical instability will not allow for safe transport to Cardiac Interventional Center due to transport time.
p) Arrests due to **trauma** etiology:
   (1) Transport to closest appropriate trauma center.

q) Arrests due to **medical** etiology:
   (1) Except as under (2) below, most pediatric patients should be transported to Children's National Medical Center or Johns Hopkins Children's Center. Consider helicopter transport.
   (2) Transport to nearest ED.
      (a) If transport time to Children's National Medical Center or Johns Hopkins Children's Center is more than 30 minutes greater than transport time to nearest ED,
      OR
      (b) With medical consultation, if patient's clinical instability will not allow for safe transport to one of the above centers due to transport time.
r) Arrests due to **trauma** etiology:
   (1) Transport to closest appropriate pediatric trauma center.

ALL POST-CARDIAC ARREST PATIENTS ARE PRIORITY 1, AND REQUIRE MEDICAL CONSULTATION. PEDIATRIC PATIENTS REQUIRE CONSULTATION WITH A PEDIATRIC BASE STATION, WHICH MAY ASSIST IN DESTINATION DETERMINATION.

4. Continue General Patient Care.

K. TERMINATION OF RESUSCITATION (Medical and Traumatic)

1. **PURPOSE**

   This evidence-based protocol is designed to properly identify those patients who may benefit from prolonged resuscitation and transport to a hospital-based emergency department, as opposed to those patients whose resuscitations can be reliably and appropriately terminated in the prehospital environment.

2. **CONTRAINDICATIONS TO PREHOSPITAL TERMINATION OF RESUSCITATION**
   a) If arrest is believed to be secondary to hypothermia or submersion, treat according to appropriate protocol and transport to the nearest appropriate facility.
   b) If patient is pregnant, treat according to appropriate protocol and transport to the nearest appropriate facility.
   c) If patient has not reached their 18th birthday, treat according to appropriate protocol and transport to the nearest appropriate facility.

IF PATIENT HAS NOT REACHED THEIR 18TH BIRTHDAY, TERMINATION OF RESUSCITATION MAY BE CONSIDERED IN RARE CIRCUMSTANCES. CONTACT A PEDIATRIC BASE STATION (AT JOHNS HOPKINS CHILDREN'S CENTER OR CHILDREN'S NATIONAL MEDICAL CENTER) FOR ONLINE MEDICAL DIRECTION PRIOR TO TERMINATION. IF ONLINE CONSULTATION WITH A PEDIATRIC BASE STATION IS NOT POSSIBLE, TREAT ACCORDING TO APPROPRIATE PROTOCOL.

3. **PROCEDURE**
   a) Resuscitations started by bystanders prior to EMS arrival (traumatic or non-traumatic etiology):
      (1) EMS providers should terminate resuscitation if the patient meets the criteria listed in the Pronouncement of Death in the Field Protocol (section 2. Indications (a. – f.))
   b) BLS providers may terminate resuscitation if:
      (1) ALS resources are genuinely unavailable, **and**
      (2) The patient has received a minimum of 15 two-minute cycles of high quality CPR, **and**
      (3) During the five AED analyses immediately prior to TOR there was "no shock advised"

   c) Cardiac arrest (non-traumatic etiology)
      (1) EMS providers may terminate resuscitation
         (a) After the patient has received 15 two-minute cycles of CPR, the patients is:
            (i) in asystole, OR
            (ii) in VF, pulseless VT, or PEA with an $EtCO_2$ of less than 15 mmHg
         (b) If patient does not meet TOR criteria, continue resuscitation and reevaluate at the next rhythm check

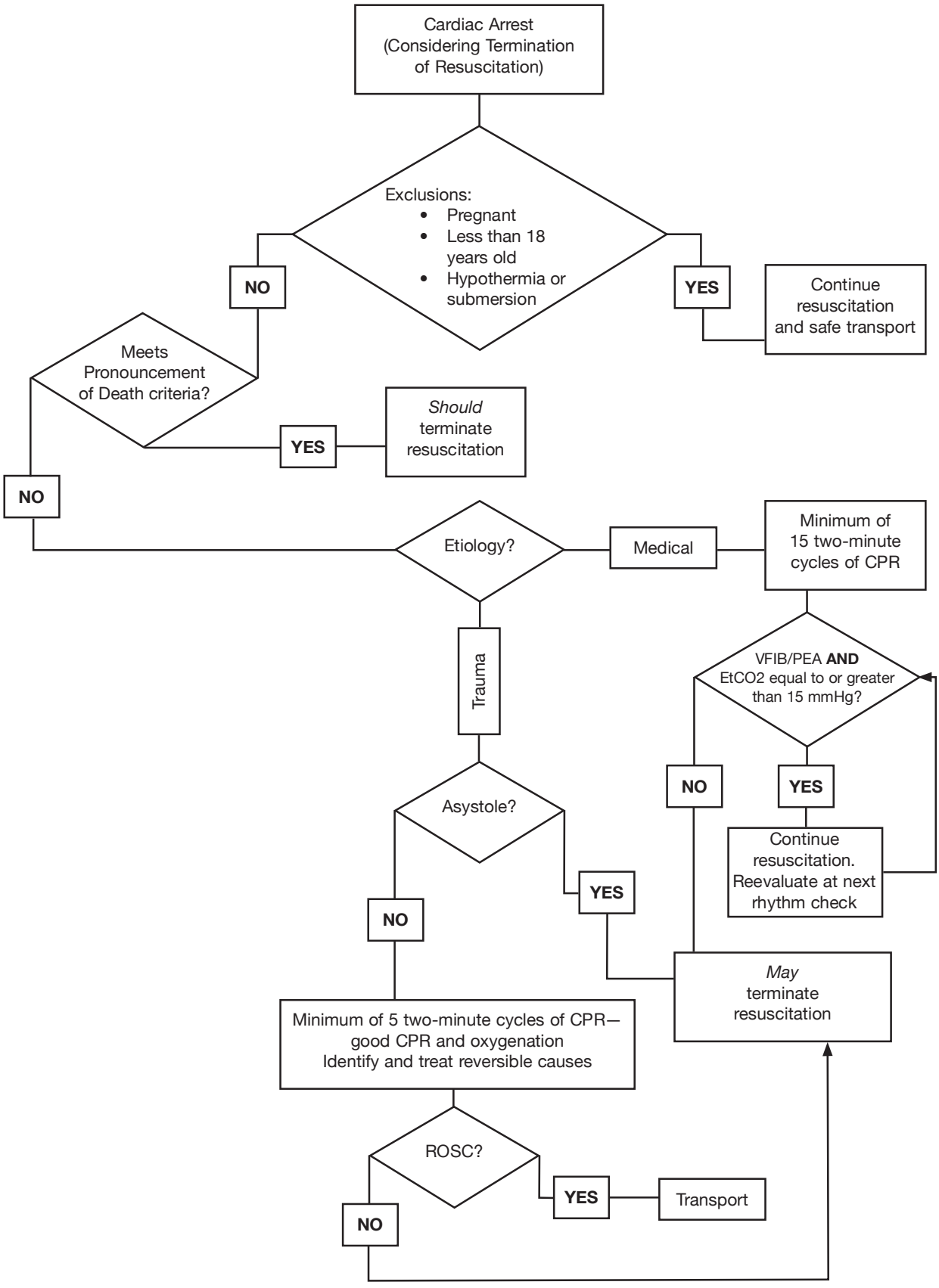
K. TERMINATION OF RESUSCITATION (Medical and Traumatic) (Continued)

d) Cardiac arrest (traumatic etiology)
   (2) EMS providers may terminate resuscitation regardless of total resuscitation time if:
      (a) The patient presents in asystole OR
      (b) The patient's cardiac rhythm changes to asystole during the resuscitation
   (3) EMS providers may terminate resuscitation following five two-minute cycles of CPR according to the Trauma Protocol: Trauma Arrest Protocol for a patient who remains in PEA or VF

ASYSTOLE AND RESUSCITATIONS LASTING LONGER THAN 10 MINUTES ARE INDEPENDENT PREDICTORS OF MORTALITY IN THE TRAUMA PATIENT. TREATMENT OF THE TRAUMA ARREST PATIENT SHOULD FOCUS ON IDENTIFYING AND TREATING REVERSIBLE CAUSES DURING THAT NARROW RESUSCITATIVE WINDOW. TOR AND TRANSPORT DECISIONS SHOULD ONLY BE MADE AFTER ADMINISTERING TIME-SENSITIVE AND APPROPRIATE THERAPIES.

e) Pronouncement of Death in the Field Protocol.

TERMINATION OF RESUSCITATION ALGORITHM



L. PRONOUNCEMENT OF DEATH IN THE FIELD

1. **PURPOSE**
   This protocol is designed to guide the EMS provider in pronouncing death in the field.

   Health General Article §5-202 provides that:

   a) An individual is dead if, based on ordinary standards of medical practice, the individual has sustained either:
      (1) Irreversible cessation of circulatory and respiratory functions; or
      (2) Irreversible cessation of all functions of the entire brain, including the brain stem.

2. **INDICATIONS**
   EMS providers may pronounce the death of a patient when one or more of the following criteria has been met.
   a) Decapitation
   b) Rigor mortis
   c) Decomposition
   d) Dependent lividity
   e)  Pulseless, apneic patient in a multi-casualty incident where system resources are required for the stabilization of living patients
   f)  Pulseless, apneic patient with an injury not compatible with life (with the exception of an obviously pregnant female where resuscitation attempts should be initiated and the patient transported to the nearest appropriate facility)
   g) The EMS provider has terminated resuscitation per the Termination of Resuscitation Protocol.

3. **PROCEDURE**
   a) Confirm that the patient is unresponsive, pulseless, and apneic.
   b) The patient who meets criteria in 2.e may be “black” tagged during triage (by a BLS or ALS provider), but asystole must be confirmed by ALS provider before a formal pronouncement of death.
   c) The patient who meets criteria in 2.f must be confirmed to be in asystole by ALS provider before a formal pronouncement of death. If the condition of the remains precludes obtaining a cardiac rhythm to confirm asystole (e.g., incineration, severe disruption of the torso, etc.), this must be documented on the patient care report.
   d) Document the exact time and location of the pronouncement of death.
   e) Notify law enforcement and follow local jurisdictional policies. If deceased patient is a tissue/organ donor and law enforcement has released the body to the family, please assist the family in calling either 800-923-1133 or (for Charles, Montgomery and Prince George’s counties) 703-641-0100. If death is pronounced during transport, deliver patient to the hospital and follow hospital policies. **(NEW ’19)**

M. EMS DNR/MOLST

AS OF JANUARY 1, 2002, A COPY OF THE MARYLAND EMS DNR ORDER FORM CAN BE ACCEPTED IN LIEU OF THE ORIGINAL.

AS OF OCTOBER 1, 2011, THE MARYLAND MOLST FORM CAN BE ACCEPTED IN LIEU OF THE MARYLAND EMS/DNR FORM.

1. PREFACE EMS/DNR Order or MOLST forms, bracelets, and necklaces will recognize three patient options for care prior to arrest:
   a) **Option A (ALS) (MOLST A1)**—Maximal (Restorative) Care (with intubation) Before Arrest, then DNR
   b) **Option A (DNI) (MOLST A2)**—Comprehensive Efforts to Prevent Arrest But Do Not Intubate, then DNR
   c) **Option B (BLS) (MOLST B)**—Limited (Palliative) Care Only Before Arrest, then DNR

2. VALID EMS/DNR or MOLST BRACELET WITH INSERT or AUTHORIZED METAL EMBLEM HAS THE SAME EFFECT AS THE FORM.
   a) Typically only one EMS/DNR device is needed to initiate the EMS/DNR Protocol.
   b) EMS providers should only request a second instrument (e.g., a bracelet when a form has already been presented) if there is reason to question the validity of the first produced notification device.

3. RECIPROCITY
   a) A standardized EMS/DNR Order from another state may be honored.
   b) Out-of-state EMS/DNR Orders shall be followed to the full extent that is permissible by the Maryland Medical Protocols for Emergency Medical Services Providers. If there is misunderstanding with family members or others present at the scene or if there are other concerns about following the out of state EMS/DNR Order, contact online medical direction for assistance.

4. ORAL EMS/DNR ORDERS
   a) EMS providers may follow an oral EMS/DNR Order directly from a Maryland-licensed physician (MD or DO), physician assistant, or nurse practitioner who is physically present "on-site." EMS shall not accept orders from private physician attendings, physician assistant, or nurse practitioner by telephone.
   b) **EMS providers may follow an oral EMS/DNR Order from a Maryland-licensed physician "on-line" via the EMS Communications System (e.g., radio or telephone consult that is routed through a public service access point (PSAP) for audio recording).**

5. ACCEPTABLE AND UNACCEPTABLE EMS/DNR ORDERS
   a) The following are acceptable for implementing the EMS/DNR Protocol:
      (1) Original Maryland EMS/DNR Order Form
      (2) Copy of the Maryland EMS/DNR Order Form (including an electronic copy on a computer or device for patient care decisions. The sending facility is required to provide a copy of the EMS/DNR Order or MOLST to the transport crew (listed in the instructions of the MOLST form and COMAR 10.01.21.03)).

M. EMS DNR/MOLST (Continued)

(3) Other State EMS/DNR Order Form
(4) Maryland EMS/DNR Bracelet Insert
(5) Medic Alert DNR Bracelet or Necklace
(6) Oral DNR Order from EMS System Medical Consultation
(7) Oral DNR Order from other on-site physician, physician assistant, or nurse practitioner
(8) Maryland MOLST Form
(9) Maryland MOLST Bracelet

b) The following **are not** acceptable for implementing the EMS/DNR Protocol:
(1) Advance directives without an EMS/DNR Order
(2) Facility-specific DNR orders
(3) Notes in medical records
(4) Prescription pad orders
(5) DNR stickers
(6) An oral request from someone other than a physician, physician assistant, or nurse practitioner
(7) An oral order from an attending physician, physician assistant, or nurse practitioner who is not on site
(8) Any other device or instrument not listed above as acceptable

6. VALIDITY OF EARLIER VERSIONS OF EMS/DNR ORDERS
a) Older versions of EMS/DNR Orders — i.e., initial version (1995 and first revision, 4/1/96) — **continue to be valid and need not be updated** unless the patient or authorized decision maker wishes to take advantage of new features available in the newer forms.
b) EMS providers should treat older versions of EMS/DNR order (pre 7/1/98) as "Option B (BLS) - Limited (Palliative) Care Only Before Arrest, Then DNR."

7. REVOCATION OF AN EMS/DNR ORDER
a) An EMS/DNR Order may be revoked at any time by:
(1) Physical cancellation or destruction of all EMS/DNR Order devices; or
(2) An oral statement by the patient made directly to emergency medical services personnel requesting only palliative care or resuscitation. If the patient revokes an EMS/DNR order orally, the EMS/DNR Order notification devices do not need to be destroyed. EMS providers should thoroughly document the circumstances of the revocation. An oral revocation by a patient is only good for the single response or transport for which it was issued.
b) An authorized decision-maker, other than the patient, cannot revoke an EMS/DNR Order orally. Because of the difficulty in identifying authorized decision-makers in emergent situations, it is incumbent upon an authorized decision-maker who has authority to revoke an EMS/DNR Order to either void or withhold all EMS/DNR Order devices if they wish resuscitation for the patient. If there is any confusion, the EMS provider should contact a Base Station for medical consult. **(NEW '19)**

M. EMS DNR/MOLST (Continued)

c) Section 5-610 of the Health Care Decision Act (Health General Article, Annotated Code of Maryland) makes willful concealment, cancellation, defacement, obliteration, or damage of an advance directive (including EMS/DNR Orders), without the patient's or authorized decision maker's consent, a misdemeanor subject to a fine not exceeding $10,000, imprisonment not exceeding one year, or both.

8. ANTICIPATED LOCATIONS FOR EMS/DNR ORDER FORMS:
   EMS personnel shall be directed to look for an EMS/DNR Order in the following places:
   a) About a patient's wrist, hung from a necklace, or safety-pinned to a patient's clothing.
   b) At medical facilities, in the patient's chart.
   c) In residences and domicile facilities, by the bedside, behind the patient's bedroom door, or on the refrigerator door.
   d) In schools and educational institutions, in the nurse's office, health room, or with the student's attendant caregiver/aide.
   e) Family or caregivers will be expected to retrieve the original EMS/DNR Order prior to the ambulance's arrival.

9. IDENTIFICATION OF PATIENT
   a) If the patient is able, the patient can self-identify during the initial assessment.
   b) If the patient is unable to communicate, then family, caregivers, or bystanders can identify the patient for EMS providers.
   c) If an EMS/DNR vinyl bracelet with insert or metal emblem (bracelet or necklace) is attached to a patient (on wrist, pendant from neck, pinned to clothing, etc.) the patient's identity can be reasonably assumed by EMS providers.
   d) If an EMS/DNR vinyl bracelet insert or metal emblem (bracelet or necklace) is found detached from the patient, EMS personnel must treat it as an EMS/DNR Order form and identify the subject of the EMS/DNR Order as the patient. A valid bracelet insert alone, without the vinyl bracelet, is a valid EMS/DNR Order so long as EMS providers confirm the patient's identity.
   e) If EMS personnel are unable to ascertain with reasonable certainty, when required to do so, that the subject of the EMS/DNR Order is the patient, they may resuscitate the patient.

10. HEALTH PROVIDER/EMS PERSONNEL IMMUNITY
    a) General immunity provisions, such as Good Samaritan immunity for volunteers and sovereign immunity for government employees, may apply under specific circumstances.

M. EMS DNR/MOLST (Continued)

b) In addition to other immunity that may be provided for in law, the Health Care Decisions Act provides the following specific immunity in cases involving the provision, withdrawal, or withholding of care that may be life-sustaining in nature:
   (1) EMS providers are not subject to criminal prosecution or civil liability or deemed to have engaged in unprofessional conduct as determined by the appropriate licensing, registering, or certifying authority as a result of **withholding or withdrawing** any health care **under authorization** obtained in accordance with the Health Care Decisions Act. See HG (5-609(a)(1)).
   (2) EMS providers **providing, withholding, or withdrawing** treatment under authorization obtained under the Health Care Decisions Act do not incur liability arising out of any claim to the extent the claim is based on **lack of consent or authorization** for the action.
   See HG (5-609(a)(2)).
   (3) EMS providers **providing** treatment because they reasonably believe that an EMS/DNR order, other than a bracelet, is not valid, do not incur liability arising out of any claim to the extent the claim is based on **lack of consent or authorization** for the action.
   See HG (5-608(d)).

11. EMS/DNR MEDICAL PROTOCOLS
   a) DISPATCH
      (1) Option B EMS/DNR patients (7/98 version) or patients with older version EMS/DNR orders only require a BLS response. Once the on-scene BLS provider has determined the need for additional pain control, an ALS Rendezvous may be requested. Medevac requests are not appropriate for these patients.
      (2) Option A or A (DNI) EMS/DNR patients (7/98 version) who are not in arrest may require a range of responses from BLS through the highest echelon of response available. This will depend on the information available to dispatch and the service requested. The response complement in these cases will be dictated by local standard operating procedures (SOP).
      (3) If a dispatch center is unclear whether the DNR order is an EMS/DNR order or is unclear about the pre-arrest patient care option selected (A, A (DNI), or B), the dispatch center shall dispatch the appropriate resources based on the information available.
      (4) In the absence of knowledge to the contrary, information from medical professionals at a health care facility about the EMS/DNR status of a patient may be presumed to be reliable.

M. EMS DNR/MOLST (Continued)

b) PERFORM LIMITED PATIENT ASSESSMENT
Vital signs:
(1) Check for absence of a palpable pulse.
(2) Check for absence of spontaneous respirations in an unresponsive patient.
(3) Check for a valid EMS/DNR Order or MOLST form; vinyl bracelet insert worn either on the wrist, as a necklace, or pinned to clothing; or for a metal emblem (bracelet or necklace).

c) RESUSCITATE/DO NOT RESUSCITATE CRITERIA
(1) If an EMS/DNR Order is not present, revoked, or otherwise void, the EMS provider shall treat and, if necessary, transport the patient.
(2) If an EMS/DNR Order is not present, but the EMS provider believes that resuscitation or further resuscitation is futile, they may initiate the Termination of Resuscitation Protocol.
(3) If a valid EMS/DNR order is found and the patient is in cardiac or respiratory arrest, no resuscitative measures shall be initiated.
(4) If the patient is conscious and able to communicate that they revoke the EMS/DNR orally directly to EMS providers, EMS providers shall treat and, if necessary, transport the patient.
(5) If the EMS/DNR patient (Option A, A (DNI), or B) arrests, withhold or withdraw further resuscitation and provide support to the family and caregivers. Consider notifying appropriate personnel.

d) **OPTION A (MOLST A1)** – MAXIMAL (RESTORATIVE) CARE PROTOCOL
(1) When Option A - "Maximal (Restorative) Care (with intubation) Before Arrest, then DNR" is selected on an EMS/DNR Order or MOLST form, the patient shall receive the full scope of restorative interventions permissible under the Maryland EMS Medical Protocols (including Continuous Positive Airway Pressure (CPAP), cardiac monitoring, synchronized cardioversion for pulse-**present** ventricular or supraventricular tachycardia, cardiac pacing for pulse-**present** symptomatic bradycardia, insertion of IVs, and drug therapy), in an attempt to forestall cardiac or respiratory arrest.
(2) This option was requested primarily by long-term care facilities for their patients who are on DNR orders for potentially prolonged periods of time. Many of these patients are less concerned about palliation of pain and more concerned about the quality of life after a stroke or heart attack. The primary medical conditions seen in the field necessitating this option have been the desire to administer dextrose for diabetic emergencies and epinephrine for anaphylactic reactions in patients who, upon arrest, are not to be resuscitated.

M. EMS DNR/MOLST (Continued)

(3) If, despite these efforts, the patient becomes pulseless or stops breathing spontaneously, EMS providers shall then withhold or withdraw cardiopulmonary resuscitation (including, but not limited to, CPR, cardiac pacing, defibrillation), withdrawal of active ventilatory assistance upon cardiac arrest, and withholding or withdrawal of drug therapy (e.g., chemical resuscitation).

e) **OPTION A (DNI) (MOLST A2)** – COMPREHENSIVE EFFORTS TO PREVENT ARREST BUT DO NOT INTUBATE, THEN DNR
   (1) Option A (DNI) is exactly the same as Option A, which may include limited ventilatory support by CPAP or BiPAP, but Do Not Intubate.
   (2) Therefore, inappropriate care for "Option A (DNI) – Comprehensive Efforts to Prevent Arrest but Do Not Intubate, then DNR" would be nasal or oral intubation.

IF MAXIMAL CARE IS SELECTED AND THE PATIENT'S CONDITION REQUIRES ALS, AN ALS UNIT SHOULD BE REQUESTED IF FEASIBLE GIVEN THE LOCATION OF THE INCIDENT RELATIVE TO THE NEAREST APPROPRIATE FACILITY, THE AVAILABILITY OF AN ALS UNIT, AND ITS ABILITY TO ARRIVE OR RENDEZVOUS IN A MEDICALLY APPROPRIATE PERIOD OF TIME.

f) **OPTION B (MOLST B)**– PALLIATIVE CARE PROTOCOL **(NEW '19)**
   (1) Supportive Care for Control of Signs and Symptoms
      (a) Respiratory distress
         (i) Open the airway using noninvasive means (e.g., chin lift, jaw thrust, finger sweep, nasopharyngeal airway, oropharyngeal airway, Heimlich maneuver, or laryngoscopy with Magill forceps for suspected airway obstruction, **but no cricothyroidotomy and no tracheostomy**).
         (ii) Administer O2 as follows:
            a. If the patient is not on a ventilator and would benefit from oxygen therapy, provide passive oxygen via nasal cannula or nonrebreather mask (but no positive pressure oxygen via ambu bag, demand valve, or ventilator). If available, pulse oximetry and waveform capnography may be used.
            b. If the patient is found on an outpatient ventilator and is not in cardiac arrest, maintain ventilatory support during transport to the hospital.
            c.  If the patient is found on an outpatient ventilator and is in cardiac arrest, contact on-line medical direction to consult about disconnecting the ventilator.
         (iii) Maintain an open airway by noninvasive means (e.g., chin lift, jaw thrust, finger sweep, nasopharyngeal airway, oropharyngeal airway, and Heimlich maneuver or laryngoscopy with Magill forceps for suspected airway obstruction, **but no cricothyroidotomy and no tracheostomy**).
         (iv) Suction as necessary.
         (v) Position for comfort.

M. EMS DNR/MOLST (Continued)

(b) External bleeding
  (i) Standard treatment (direct pressure with dressing, tourniquet)
  (ii) No IVs
(c) Immobilize fractures using skills and devices that minimize pain.
(d) Uncontrolled pain or other symptoms (e.g., severe nausea)
  (i) Allow patient, family, or health care providers (other than the prehospital provider) to administer patient's prescribed medications. Such health care providers administering medication will not have to accompany the patient to the hospital. Any medications administered by the patient, family or healthcare providers must be documented in the patient care report (PCR).
  (ii) Patient controlled analgesia (PCA) systems for pain medication delivery and other patient-controlled medication (PCM) systems shall be left in place in DNR patients and monitored to the extent possible according to the provider's level of certification or licensure.
  (iii) For the patient with significant pain and/or pain with a prolonged transport, the pain management protocol may be initiated.
(e) Existing IV lines may be in place and shall be monitored to the extent possible according to the provider's level of certification and licensure.

(2) Inappropriate Care for a Palliative Care Patient
(a) Cardiac monitoring, including 12-lead EKG, pacing, cardioversion, and defibrillation
(b) Initiation of IV therapy (except for medications listed in the pain management protocol administration for pain control as in 1 (d) (iii))
(c) EMS-initiated medications (except oxygen, and medications listed in the pain management protocol as in 1 (d) (iii))
(d) CPR
(e) Intubation (alternative airway device, endotracheal, nasotracheal, or gastric tube)
(f) Active ventilatory assistance, unless on an outpatient ventilator

g) TRANSPORT
(1) Upon request of the patient, family, or caregivers and in lieu of transport to a hospital-based emergency department, EMS providers may transport Option B EMS/DNR patients who require transportation for pain control or symptom management or respite care to a specified inpatient hospice facility.
(2) A current list of those facilities is available from the MIEMSS Program Development Office 410-706-4367 (4DNR). The receiving status of a particular facility can be ascertained from EMRC (24 hours a day) by EMS radio, EMSTEL, or red phone, or by calling 800-492-3805.

M. EMS DNR/MOLST (Continued)

(3) The State EMS Board may authorize additional facilities under 6.2.2 or 6.2.4 (pp. 35-36), if recognized in the future by DHMH in accordance with 42 CFR 418.98 and 42 CFR 418.100. EMS jurisdictions and commercial ambulance services will be notified by MIEMSS of any facilities that become eligible and elect to receive patients by ambulance, become ineligible, or elect to discontinue their participation.

(4) Take a copy of EMS/DNR Order or MOLST form, vinyl bracelet with insert, or metal emblem (bracelet or necklace) to the hospital with the patient. If returning the patient from a previous transport, be sure to request a copy of the EMS/DNR Order form, vinyl bracelet with insert, or metal emblem (bracelet or necklace) from the staff. The sending facility is required to provide a copy of the EMS/DNR Order or MOLST to the transport crew (listed in the instructions of the MOLST form and COMAR 10.01.21.03).

h) COMMUNICATIONS

(1) Consultation requirements for Option A EMS/DNR patients shall be dictated by the Maryland EMS Medical Protocols in accordance with the patient's medical needs. EMS providers shall notify the hospital of the patient's EMS/DNR status (i.e., Option A) and the identity of patient's physician or nurse practitioner.

(2) No consultation is required for the Option B EMS/DNR patients. The receiving hospital or inpatient hospice facility should be notified to expect the patient and prepare accordingly. Also make the hospital or inpatient facility aware of the patient's EMS/DNR status (i.e., Option B) and the identity of the patient's physician or nurse practitioner.

(3) If there is misunderstanding with family members or others present at the scene or if there are other concerns about following the EMS/DNR Order and the patient's condition permits, contact the physician or nurse practitioner signing the order, or the patient's hospice program, or on-line medical direction for assistance.

i) DOCUMENTATION

(1) If possible, make or retain a copy of the EMS/DNR Order or MOLST form and attach it to the official copy of the patient care report that is kept by the EMS service. **Having a copy of the EMS/DNR Order or MOLST form can significantly reduce documentation requirements.** Encourage sending facilities to provide you with an additional copy of the EMS/DNR order or MOLST form with the patient's transfer documents.

M. EMS DNR/MOLST (Continued)

(2) If the EMS/DNR Protocol is initiated:
   (a) Document, in the narrative section:
      (i) Who gave you the EMS/DNR Order or MOLST form (as an applicable person physically providing the written order, name of on-site physician or nurse practitioner, or name of on-line medical direction physician) or
      (ii) Where the EMS/DNR Order or MOLST form was found;
   (b) Document the EMS/DNR order number, the effective date of the order, the name of the patient, the patient's date of birth, and the name of the physician, nurse practitioner, or physician assistant who signed the order;
   (c) Document the time the EMS/DNR Protocol was initiated;
   (d) Document any care rendered;
   (e) If the patient arrests while under your care, document the time the patient lost spontaneous respirations or palpable pulse, if able to determine, and
   (f) If the patient arrests while under your care, document the chain of custody until the body is out of custody of EMS.

(3) If resuscitation protocols are initiated, document:
   (a) Care rendered as per normal practice;
   (b) The reason the EMS/DNR Protocol was not initiated, if relevant (e.g., unable to find EMS/DNR Order, EMS/DNR is not or does not appear to be valid, patient request);
   (c) If resuscitation was started because there was reasonable doubt as to the validity of an EMS/DNR Order;
      (i) The EMS/DNR Order number, the effective date of the order, the name of the patient, the patient's date of birth, and the name of the physician, nurse practitioner, or physician assistant signing the order; and
      (ii) Who gave you the EMS/DNR Order or where the EMS/DNR Order or MOLST form was found.

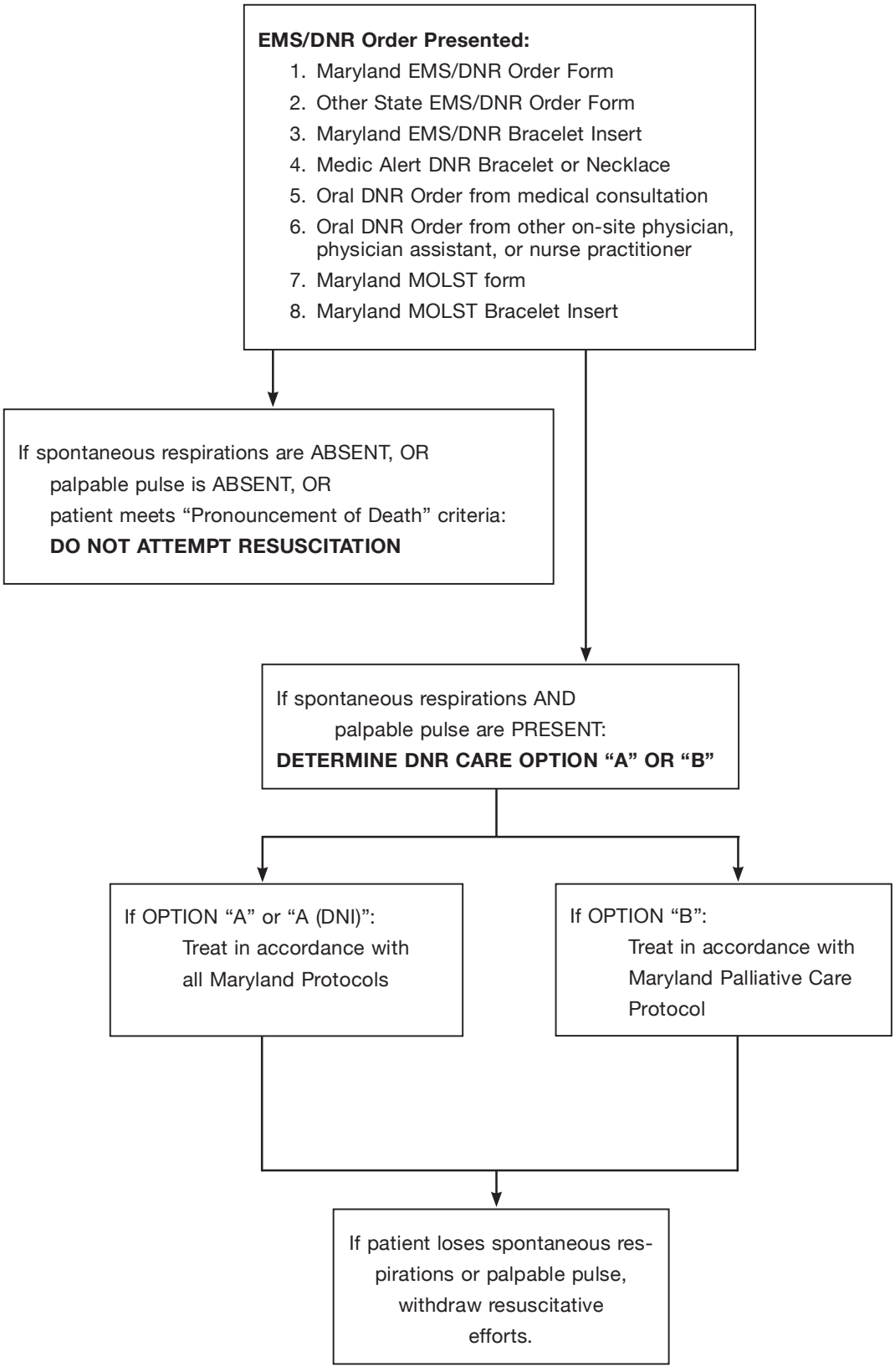
(4) Transfer any EMS/DNR Order or MOLST form to the appropriate authorities (e.g., to hospital or in-patient hospice personnel of the facility where the patient was transferred or, if the patient is deceased, to the physician/police/medical examiner). If possible at the receiving facility, and if not already done, make a copy of the EMS/DNR Order or MOLST form. **DO NOT RETAIN** an original EMS/DNR Order or MOLST form.

M. EMS DNR/MOLST (Continued)

(5) If a copy of the EMS/DNR Order or MOLST form is available to EMS providers, it should be attached to the official copy of the patient care report that is retained by the EMS service.
(6) A vinyl bracelet with insert or metal emblem (bracelet or necklace) shall be left where found on the patient. Bracelets or metal emblems shall not be removed without the permission of the patient or the patient's authorized decision maker and, when possible, shall be returned with the patient to the sending facility.

j) PATIENT DISPOSITION IF NOT TRANSPORTED
If the EMS/DNR Protocol is implemented and the patient is not transported because the patient arrested at the response site, EMS personnel shall:
(1) Follow local operational procedures for handling deceased patients.
(2) Do **not** remove an EMS/DNR vinyl bracelet or metal emblem (bracelet or necklace) from the deceased patient.
(3) Law enforcement personnel or a representative of the medical examiner's office needs to be notified only in the case of sudden or unanticipated death that occurs:
(a) By violence
(b) By suicide
(c) As a result of an accident
(d) Suddenly, if the deceased was in apparent good health, or
(e) In any suspicious or unusual manner.

N. EMS DNR Flowchart



O. CARDIAC EMERGENCIES: CHEST PAIN/ACUTE CORONARY SYNDROME

1. Initiate General Patient Care.

2. Presentation
   Chest discomfort that may radiate to the arm, shoulders, jaw, or back.
   Generally described as a crushing pain or toothache. May be accompanied by shortness of breath, sweating, nausea, or vomiting.

ALERT ACUTE CORONARY SYNDROME (ACS) IS DEFINED AS PATIENTS PRESENTING WITH ANGINA OR ANGINAL EQUIVALENTS SUCH AS SHORTNESS OF BREATH; CHEST, EPIGASTRIC, ARM, OR JAW PAIN OR DISCOMFORT; DIAPHORESIS; AND/OR NAUSEA.

3. Treatment

a) Place patient in position of comfort.

b) Assist patient with administration of patient's own prescribed nitroglycerin. May be repeated in 3–5 minutes if chest pain persists, blood pressure is greater than 90 mmHg, and pulse is greater than 60 bpm. Maximum three doses total (patient and EMT assisted).

c) Assess and treat for shock if indicated.

d) Continuously monitor airway and reassess vital signs every 5 minutes.

e) Consider aspirin 324 mg or 325 mg chewed, if acute myocardial infarction is suspected.

ALERT NITROGLYCERIN IS CONTRAINDICATED FOR ANY PATIENT HAVING TAKEN MEDICATION FOR PULMONARY ARTERY HYPERTENSION (E.G., ADCIRCA™ OR REVATIO™) OR ERECTILE DYSFUNCTION (E.G., VIAGRA™, LEVITRA™, OR CIALIS™) WITHIN THE PAST 48 HOURS. MEDICAL CONSULTATION IS REQUIRED TO OVERRIDE THIS CONTRAINDICATION.

IF THE PATIENT'S BLOOD PRESSURE DROPS MORE THAN 20 mmHg AFTER ADMINISTRATION OF NITROGLYCERIN, OBTAIN MEDICAL CONSULTATION BEFORE FURTHER ADMINISTRATION.

f) Additional doses of nitroglycerin require medical consultation.

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g) Establish IV access with LR.

h) Shall perform a 12-lead EKG for patients with ACS.
   (If trained, providers may perform a 15-lead EKG.)

i) If patient has a prescription or previous history of nitroglycerin use, administer nitroglycerin: 0.4 mg SL. May be repeated if symptoms persist, and BP is greater than 90 mmHg and pulse is greater than 60 bpm, to a maximum dose of 1.2 mg.

O. CARDIAC EMERGENCIES: CHEST PAIN/ACUTE CORONARY SYNDROME (Continued)

j) If patient does **not** have a prescription or previous history of nitroglycerin use, an IV must be established prior to administration; then administer nitroglycerin as above.

k) If IV cannot be established, nitroglycerin may be administered with medical consultation.

l) Identify rhythm and treat according to appropriate algorithm.

m) Administer additional doses of nitroglycerin.

n) Administer opioid per Pain Management Protocol.

CONSULT A PEDIATRIC BASE STATION FOR CHILDREN (WHO HAVE NOT REACHED THEIR 18TH BIRTHDAY) WITH CHEST PAIN WITH ASSOCIATED DYSRHYTHMIAS, CARDIAC DISEASE, OR BLUNT CHEST TRAUMA.

4. Continue General Patient Care.

P. CARDIAC EMERGENCIES: HYPERKALEMIA (RENAL DIALYSIS/FAILURE OR CRUSH SYNDROME)

1. Initiate General Patient Care.

2. Presentation
   Certain conditions may produce an elevated serum potassium level that can cause hemodynamic complications.

3. Treatment

   a) Patients must meet the following criteria:

      (1) Suspected hyperkalemia patient
         (a) Renal dialysis/failure with poor or non-functioning kidneys or
         (b) Crush syndrome or patients with functional kidneys by history
         AND
      (2) Hemodynamically unstable renal dialysis patients or patients suspected of having an elevated potassium with bradycardia and wide QRS complexes.

   b) Place patient in position of comfort.

   c) Assess and treat for shock, if indicated.

   d) Continuously monitor airway and reassess vital signs every 5 minutes.

   e) Establish IV access with LR.

   f) Initiate Bradycardia Protocol.

   g) Consider calcium chloride 0.5–1 gram SLOW IVP over 3–5 minutes. Maximum dose 1 gram or 10 mL.

   h)  Consider sodium bicarbonate 50 mEq IV over 5 minutes.

   i)  Consider albuterol 20 mg (high dose) via nebulizer (if available).

FLUSH IV WITH 5 ML OF LR BETWEEN CALCIUM AND SODIUM BICARBONATE ADMINISTRATION.

   j) Crush syndrome or patients with functional kidneys by history

   Consider sodium bicarbonate 50 mEq SLOW IV over 5 minutes and then initiate drip of sodium bicarbonate 100 mEq in 1,000 mL to run over 30–60 minutes (reserve for patient suspected of crush syndrome or patients with functional kidneys by history).

P. CARDIAC EMERGENCIES: HYPERKALEMIA (Continued)

k) Place patient in position of comfort.

l) Assess and treat for shock, if indicated.

m) Continuously monitor airway and reassess vital signs every 5 minutes.

n) Establish IV access with LR.

o) Initiate Bradycardia Protocol.

p) Administer calcium chloride 20 mg/kg (0.2 mL/kg) slow IVP/IO (50 mg/min). Maximum dose 1 gram or 10 mL.

q)  Consider albuterol via nebulizer

(1) For patients 2 years of age or greater, administer albuterol 2.5 mg.

(2) For patients less than 2 years of age, administer albuterol 1.25 mg.

FLUSH IV WITH 5 ML OF LR BETWEEN CALCIUM AND SODIUM BICARBONATE ADMINISTRATION.

r) Crush syndrome or patients with functional kidneys by history

Consider sodium bicarbonate 1 mEq/kg IV over 5 minutes. Maximum dose 50 mEq. (Reserve for patient suspected of crush syndrome or patients with functional kidneys by history.) For patients less than 1 year of age, must be diluted (1:1) with LR.

4. Continue General Patient Care.

Q. CARDIAC EMERGENCIES: IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) MALFUNCTION

1. Initiate General Patient Care.

2. Presentation
   An implantable cardioverter defibrillator (ICD) is a device that delivers an internal defibrillation (shock) whenever the patient's heart rhythm/rate exceeds defined limits. EMS providers may encounter ICD devices that are appropriately or inappropriately delivering shock therapy. Internal shocks cause patient discomfort but **DO NOT** pose a danger to EMS personnel even when in direct contact with patient receiving an internal shock.

3. Treatment

   a) Place patient in position of comfort.
   b) Assess and treat for shock if indicated.
   c) Continuously monitor airway and reassess vitals every 5 minutes.

IF PATIENT IS IN CARDIAC ARREST, PERFORM CPR AND USE AED AS APPROPRIATE DESPITE THE PATIENT'S ICD, WHICH MAY OR MAY NOT BE DELIVERING SHOCKS.

   d) Establish IV access with LR.
   e) Monitor cardiac rhythm and treat according to appropriate algorithm(s).
   f) ICD deactivation: Patient must meet the following criteria:
      (1) Three or more distinct shocks and
      (2) Obvious device malfunction with an EMS provider-witnessed inappropriate shock (e.g., alert patient in atrial fibrillation with rapid ventricular rate or SVT)
   g) Place an EMS donut magnet directly over device. Magnet placed directly over will deactivate device and shocks will not be delivered. After defibrillator is deactivated, tape magnet firmly in place and treat according to the appropriate algorithm(s).

IF THE PATIENT HAS A COMBINATION ICD AND PACEMAKER, DEACTIVATING THE ICD MAY OR MAY NOT DEACTIVATE THE PACEMAKER.

   h) Regardless of the decision to deactivate the ICD device, be prepared to manage the underlying rhythm (e.g., treat wide complex tachycardia with cardioversion or amiodarone per protocol as appropriate).

Q. CARDIAC EMERGENCIES: IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) MALFUNCTION (Continued)

ALERT IF PATIENT BECOMES UNSTABLE OR IN THE EVENT OF A RHYTHM CHANGE WHERE A SHOCK IS DESIRED, REMOVE THE MAGNET TO REACTIVATE THE ICD. IF REACTIVATION DOES NOT OCCUR, USE MANUAL DEFIBRILLATOR IN ACCORDANCE WITH TACHYCARDIA PROTOCOL.

CONTINUE CHEST COMPRESSIONS FOR PEDIATRIC PATIENTS WHO REMAIN POORLY PERFUSED DESPITE PACEMAKER CAPTURE.

i) If ICD deactivation indications are questionable or deactivation is unsuccessful (or a donut magnet is not available) and undesired shocks continue, medications may be administered for patient comfort.
   (1) Administer opioid per Pain Management Protocol.
   OR
   (2) Midazolam 0.1 mg/kg SLOW IVP/IN/IM/IO. Maximum single dose is 5 mg. (Paramedic may perform without consult.)
   IN administration max 1 mL per nare
   IM administration requires all providers to obtain consultation

j) Transport to the closest appropriate facility.

– –

Consult a Pediatric Base Station for children (who have not reached their 18th birthday) with an ICD device delivering shock therapy or malfunctioning.

k) If ICD deactivation indications are questionable or deactivation is unsuccessful (or a donut magnet is not available) and undesired shocks continue, medications may be administered for patient comfort.
   (1) Administer opioid per Pain Management Protocol.
   OR
   (2) Midazolam 0.1 mg/kg SLOW IV/IO over 1–2 minutes. Maximum single IV/IN/IO dose 2 mg. Maximum total dose 5 mg. IN administration max 1 mL per nare. If IV cannot be established, administer 0.2 mg/kg IM. Max single IM dose is 5 mg. (IM requires all providers to obtain medical consultation.) Maximum total dose 5 mg.

l) Transport to the closest appropriate facility.

4. Continue General Patient Care.

R. CARDIAC EMERGENCIES: ST ELEVATION MYOCARDIAL INFARCTION (STEMI)

1. Initiate General Patient Care.

2. Presentation

ACUTE CORONARY SYNDROME (ACS) IS DEFINED AS PATIENTS PRESENTING WITH ANGINA OR ANGINAL EQUIVALENTS SUCH AS SHORTNESS OF BREATH; CHEST, EPIGASTRIC, ARM, OR JAW PAIN OR DISCOMFORT; DIAPHORESIS; AND/OR NAUSEA.

Inclusion Criteria:
Patient presents with Acute Coronary Syndrome (ACS) symptoms and has one of the following in a diagnostic quality EKG:

a) Greater than 1 mm of ST elevation in two or more contiguous limb leads
b) Greater than 1.5 mm of ST elevation in two or more precordial leads (in women)
c) Greater than 2 mm of ST elevation in two or more precordial leads (in men)
d) Anterior, Inferior, or Lateral MI: ST elevation greater than 1 mm in two or more contiguous leads **and**
   QRS complex is narrower than 0.12 seconds; (if wider than 0.12, you are unable to diagnose as STEMI)
   OR
e) Posterior MI: ST depression greater than 1 mm in V1 and V2 with an R/S ratio of greater than or equal to one **and**
   QRS complex is narrower than 0.12 seconds; (if wider than 0.12, you are unable to diagnose as STEMI)

IF PATIENT MEETS ABOVE STEMI CRITERIA, THIS PATIENT IS A PRIORITY 1 PATIENT AND REQUIRES NOTIFICATION OF THE NEAREST DESIGNATED CARDIAC INTERVENTIONAL CENTER AS SOON AS POSSIBLE TO ALLOW FOR HOSPITAL PREPARATION. DURING THE CONSULTATION WITH THE RECEIVING FACILITY, THE PROVIDER SHALL USE THE VERBIAGE, “STEMI ALERT” AS THE UNIVERSAL METHOD OF NOTIFYING THE FACILITY THAT THE PATIENT MEETS THE STEMI INCLUSION CRITERIA.

DETECTION OF RIGHT VENTRICULAR AND POSTERIOR WALL INFARCTION IS IMPORTANT, AS APPROXIMATELY 40% OF PATIENTS WITH INFERIOR WALL INFARCTIONS HAVE RIGHT VENTRICULAR AND/OR POSTERIOR WALL INVOLVEMENT, WHICH PREDISPOSES THEM TO MORE COMPLICATIONS AND INCREASED MORTALITY.

R. CARDIAC EMERGENCIES: ST ELEVATION MYOCARDIAL INFARCTION (STEMI) (Continued)

Consider the following presentations as indicative of increased cardiovascular risk and request guidance from the closest appropriate EMS Base Station or Cardiac Interventional Center.

a) **Left bundle branch block (LBBB)**: LBBB is rare in the setting of acute myocardial infarction and often indicates underlying cardiovascular disease. LBBB is more likely to signal a myocardial infarction if one of the following conditions are met:
   1) Patient presents in cardiogenic shock
   2) EKG shows excessive ST segment elevation greater than 5 mm
   3) EKG shows ST segment deviation (elevation or depression) in the same direction as the QRS complex. This concept is known as inappropriate concordance.

b) **Wellens' Wave**: Biphasic T waves or deeply inverted T waves in precordial leads (V2-V3, +/-V4).

c) **ST segment elevation in Lead aVR**: Multilead ST segment depression with coexisting ST segment elevation in lead aVR.

d) **Hyperacute T waves**: Peaked, broad-based T waves

3. Treatment

a) Follow Chest Pain Protocol for nitrate, aspirin, and pain management.

b) If patient meets above STEMI criteria, this patient is a Priority 1 patient and requires a medical consult.

c) If a patient meets one of the above condition sets for STEMI inclusion criteria, the patient shall be transported to the closest Cardiac Interventional Center by air or ground as long as the delivery time is not more than 45 minutes greater than transport to the nearest ED.
   (1) When indicated and based on the EMS provider's report, the Base Station physician at the receiving Cardiac Interventional Center will activate its Cardiac Interventional Team.
   (2) The receiving ED physician will determine if the patient can bypass the ED and go directly to the cardiac catheterization lab to meet the cardiac interventional team.
   (3) If the patient cannot be delivered to a Cardiac Interventional Center within the allotted time, complete the Fibrinolytic Therapy Checklist for STEMI.
      (a) If the patient meets all of the criteria for fibrinolytic therapy, transport to the nearest ED.
      (b) If the patient does not meet all of the criteria for fibrinolytic therapy, consult with the nearest Cardiac Interventional Center and the nearest ED to determine the most appropriate receiving facility.

R. CARDIAC EMERGENCIES: ST ELEVATION MYOCARDIAL INFARCTION (STEMI) (Continued)

d) If patient does not have EKG ST elevations greater than 1 mm in two contiguous leads, the patient shall be transported to the closest appropriate facility.

e) If a patient presents with IWMI, obtain a tracing of V4R to rule out right ventricular involvement. If ST elevation noted in V4R, withhold nitrates. The triad of RVMI often includes clear lung sounds, hypotension, and JVD. 40% of IWMI have right ventricular involvement. If hypotensive with clear lung sounds, administer 250–500 mL of LR.

For additional bolus, perform medical consultation.

CONSULT A PEDIATRIC BASE STATION FOR CHILDREN WITH ST ELEVATIONS WHO HAVE **NOT** REACHED THEIR 18TH BIRTHDAY.

Fibrinolytic Therapy Checklist for STEMI

Use this checklist if a STEMI patient cannot be delivered to a Cardiac Interventional Center within 45 minutes greater than transport to the nearest ED. All of the **"YES"** boxes and all of the **"NO"** boxes must be checked before a patient should be transported to the nearest emergency department.

INCLUSION CRITERIA

(**All** of the **"YES"** boxes must be checked)

YES

- ❑ 18 years of age or older
- ❑ Signs and symptoms of STEMI
- ❑ Patient cannot be delivered to a Cardiac Interventional Center within 45 minutes greater than transport to the nearest ED

EXCLUSION CRITERIA

(If any of the **"NO"** are unchecked, provider **must consult** with a Cardiac Interventional Center and nearest ED to determine most appropriate receiving facility.)

PATIENT HAS NO:

- ❑ Active internal bleeding (e.g., GI or urinary bleeding within the last 21 days)
- ❑ Known bleeding disorder
- ❑ Within 3 months of intracranial surgery, serious head trauma, or stroke
- ❑ Within 14 days of major surgery or serious trauma
- ❑ History of intracranial hemorrhage
- ❑ Witnessed seizure at onset
- ❑ History of cancer of the brain

S. SUDDEN INFANT DEATH SYNDROME (SIDS)

1. Initiate General Patient Care.

2. Presentation
   The unexpected arrest of an apparently healthy infant in which resuscitation is unsuccessful and there is no attributable cause of death.
   The infant is often discovered by a caretaker in the early morning hours after having been uneventfully laid down to sleep the night before.

3. Treatment
   a) Perform an initial patient assessment, assign a treatment priority, and perform CPR, if indicated.

RIGOR MORTIS MAY BE PRESENT (SEE PRONOUNCEMENT OF DEATH IN THE FIELD PROTOCOL).

   b) Move patient to the transport unit.

   c) Establish communications and obtain medical direction.

   d) If physician consultation is genuinely unavailable, monitor cardiac rhythm and treat according to the appropriate algorithm(s).

   e) Transport quickly to the closest appropriate facility.

SIDS IS ONE OF THE LEADING CAUSES OF DEATH IN THE 1–12 MONTH AGE GROUP AND SEEMS TO PEAK AT 2 TO 4 MONTHS OF AGE.

HOW YOU INTERACT WITH THE FAMILY MAY HAVE A SIGNIFICANT IMPACT ON HOW THEY DEAL WITH THE LOSS OF THE INFANT. BE CAUTIOUS OF STATEMENTS OR ACTIONS THAT MAY BE JUDGMENTAL.

SPECIAL ATTENTION SHOULD BE PAID TO THE CONDITION OF THE INFANT, INCLUDING THE PRESENCE OF ANY MARKS OR BRUISES, AND TO PRESERVATION OF THE ENVIRONMENT, INCLUDING ANY BED CLOTHING AND THE CONDITION OF THE ROOM.
RIGOR MORTIS MAY BE PRESENT (SEE PRONOUNCEMENT OF DEATH IN THE FIELD PROTOCOL).

4. Continue General Patient Care.

T. ENVIRONMENTAL EMERGENCIES: COLD EMERGENCIES (FROSTBITE)

1. Initiate General Patient Care.

2. Presentation

   Exposure to cold environment (not necessarily outdoors). Frostbite usually affects the feet first followed by the hands, face, and/or ears. The skin initially appears reddened, then turns mottled, bluish, white and/or gray with continued freezing of the flesh. Pain persists during initial stages followed by numbness.

3. Treatment

   a) Remove patient from cold environment.

   b) Handle potential frostbitten areas gently.

   c) Cover lightly with gauze.

   d) Protect from further heat loss.

DO NOT RUB THE AFFECTED AREAS, AS THIS WILL CAUSE MORE DAMAGE TO THE FROZEN TISSUE.

   e) Establish IV access with LR.

   f) Administer opioid per Pain Management Protocol.

PEDIATRIC SECTION ON NEXT PAGE

T. ENVIRONMENTAL EMERGENCIES: COLD EMERGENCIES (FROSTBITE) (Continued)

g) Remove patient from cold environment.

h) Handle potential frostbitten areas gently.

i) Cover lightly with gauze.

j) Protect from further heat loss

k) Establish IV/IO access with LR, if appropriate.

l) Administer opioid per Pain Management Protocol.

4. Continue General Patient Care.

U. ENVIRONMENTAL EMERGENCIES: COLD EMERGENCIES (HYPOTHERMIA)

1. Initiate General Patient Care.

2. Presentation
   a) Mild to moderate hypothermia (90°–95° F)
      Core body temperature (if available) less than 95° F but greater than 90° F. Patient may present with a history of exposure to cold, altered level of consciousness, shivering, stiffness of muscles, stumbling or staggering gait, cool or cold skin, mottled or pale skin, absent or difficult to detect respiratory effort and/or peripheral pulses, respiratory and/or cardiac arrest.

   b) Severe hypothermia (less than 90° F)

   c) Core body temperature (if available) less than 90° F. Patient may present with any of the symptoms listed above except shivering.

HANDLE ALL HYPOTHERMIC PATIENTS CAREFULLY. ROUGH HANDLING MAY PRECIPITATE CARDIAC ARREST.

IF HYPOTHERMIA IS SUSPECTED AND THE PATIENT DOES NOT HAVE INJURIES INCOMPATIBLE WITH LIFE, THE PATIENT SHOULD BE RESUSCITATED.


3. Treatment
   a) Remove the patient from the cold environment.
   b) Avoid further heat loss by removing wet clothing, replacing with dry blankets and insulating material. Use a thermal type blanket and special attention to covering the patient's head.
   c) PASSIVELY rewarm patient within a warm environment.
   d) If available, administer warmed oxygen.

ADMINISTER SHOCK(S) WITH THE AED IF INDICATED.

   e)  For further AED shocks, obtain medical consultation.

U. ENVIRONMENTAL EMERGENCIES: COLD EMERGENCIES (HYPOTHERMIA) (Continued)

f) Monitor EKG closely.

g) Establish IV access with LR, if appropriate.

h) Identify rhythm and treat according to appropriate algorithm.

ALERT CONSIDER, WITH MEDICAL CONSULTATION, CONTINUED CARDIOPULMONARY ARREST PROTOCOLS WITH LONGER MEDICATION INTERVALS.

4. Continue General Patient Care.

V. ENVIRONMENTAL EMERGENCIES: DEPRESSURIZATION

1. Initiate General Patient Care.

2. Presentation

   History of SCUBA, breathing in a pressurized environment, or altitude chamber usage with sudden depressurization. Patients may present with any of the following symptoms: fatigue and itching, pain, vertigo, focal weakness, visual disturbances, speech difficulty, marbled rash, numbness, tingling, confusion, seizure, and/or cardiac arrest.

CONSIDER TRANSPORT TO HYPERBARIC MEDICINE SPECIALTY CENTER.

AEROMEDICAL TRANSPORT MAY BE APPROPRIATE FOR PATIENTS WITH BAROTRAUMA.

FOR ADDITIONAL INFORMATION CONCERNING SCUBA INJURIES, CONTACT THE DIVING ALERT NETWORK VIA EMRC 1-800-648-3001.

3. Treatment
   a) Remove patient from water.

   b) Protect patient from and/or treat for hypothermia.

   c) Establish IV access with LR.

4. Continue General Patient Care.

W. ENVIRONMENTAL EMERGENCIES: HAZARDOUS MATERIALS EXPOSURE

1. Initiate General Patient Care.

2. Presentation
   Exposure to a known or unknown hazardous material. Patient may present with a wide array of signs and symptoms due to the variables of substance exposure. Any patient who is exposed to a hazardous material is considered contaminated until the patient is decontaminated thoroughly.

3. Treatment

DO NOT ENTER THE SCENE UNLESS PROPERLY TRAINED AND EQUIPPED TO DO SO.

PROPER LEVELS OF PERSONAL PROTECTIVE EQUIPMENT (PPE) ARE TO BE WORN BY ALL PERSONNEL, DEPENDING ON THE MATERIAL INVOLVED AND THE ZONE OCCUPIED.

IT IS ESSENTIAL TO HAVE THE EMS PROVIDER IN CHARGE NOTIFY EMRC AND POTENTIAL RECEIVING HOSPITALS OF A HAZARDOUS MATERIALS EVENT IN WHICH THEY MAY BE CONSULTED. NOTIFY EMRC/RECEIVING HOSPITALS ABOUT THE FIRST PATIENT'S ETA, THE NUMBER OF VICTIMS, AND THE TYPE OF HAZARDOUS MATERIAL AS SOON AS INFORMATION BECOMES AVAILABLE.

a) Transport of patients even after decontamination will be by ground units only.

THE USE OF AEROMEDICAL TRANSPORT IS CONTRAINDICATED FOR ANY POTENTIALLY CONTAMINATED PATIENT

b) Triage and decontaminate if indicated.

c) Protect the patient from the environment and ensure the patient is not/does not become hypothermic.

d) Establish IV access with LR in a clean area if medication administration is anticipated.

e)  Consider antidote to specific agent if available.

f)  Consider antibiotic specific to agent in mass casualty incident, if available.

W. ENVIRONMENTAL EMERGENCIES: HAZARDOUS MATERIALS EXPOSURE (Continued)

g) Medical Follow-Up

All public safety personnel who come into close contact with hazardous materials should receive an appropriate medical examination, post-incident, based on information from the designated poison control center. This should be completed within 48 hours of the incident and compared with the findings of any recent pre-incident examination. Personnel who routinely respond to hazardous materials emergencies should have periodic pre-incident examinations. Personnel should be advised of possible latent symptoms at the time of their exams.

4. Continue General Patient Care.

X. ENVIRONMENTAL EMERGENCIES: HEAT-RELATED EMERGENCIES

1. Initiate General Patient Care

2. Presentation
   a) **Heat Cramps:** Moist, cool skin, cramps, normal to slightly elevated temperature

   b) **Heat Exhaustion:** Moist, cool skin, cramps, weakness, dizziness, normal to elevated temperature, nausea

   c) **Heat Stroke:** Hot, dry skin (25% of patients will still be moist), seizures, altered mental status, dilated pupils, rapid heart rate, or arrhythmia

3. Treatment
   a) Remove patient from hot environment.

   b) Cool patient as appropriate.

DO NOT GIVE ANYTHING BY MOUTH TO A PATIENT WITH AN ALTERED MENTAL STATUS.

   c) If patient is fully conscious and not nauseated, give electrolyte-rich fluid by mouth if available.

   d) If **heat stroke**, aggressively cool patient and place patient in semi-fowler's position.

   e) Establish IV access with LR.

   f) Administer fluid bolus, if appropriate.
      20 mL/kg of LR IV
      Titrate to a systolic pressure of 100 mmHg.

4. Continue General Patient Care.

Y. ENVIRONMENTAL EMERGENCIES: NEAR-DROWNING

1. Initiate General Patient Care.

2. Presentation
   Confirmed or suspected near drowning, altered level of consciousness, dyspnea, cyanosis, vomiting, seizures, or cardiopulmonary arrest.

3. Treatment
   a) Remove patient from water.

ALERT ABDOMINAL THRUSTS ARE CONTRAINDICATED, UNLESS THE PATIENT HAS A FOREIGN BODY AIRWAY OBSTRUCTION.

ALL NEAR-DROWNING VICTIMS SHOULD BE TRANSPORTED EVEN IF THEY APPEAR UNINJURED OR APPEAR TO HAVE RECOVERED.

ENTER WATER ONLY IF TRAINED AND AS A LAST RESORT.
(REACH, THROW, ROW, GO WITH ASSISTANCE)

   b) Protect from and/or treat for hypothermia.

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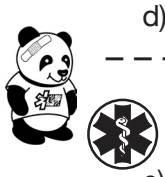
   c) Establish IV access with LR.

   d) Identify rhythm and treat according to appropriate algorithm.



   e) Protect from and/or treat for hypothermia.

---

   f) Establish IV/IO access with LR.

   g) Identify rhythm and treat according to appropriate algorithm.

ALERT IF THE PARENT OR GUARDIAN REFUSES MEDICAL CARE OR TRANSPORT, PROVIDER SHALL CONTACT A **PEDIATRIC BASE STATION** PHYSICIAN.

4. Continue General Patient Care.

Z. ENVIRONMENTAL EMERGENCIES: OVERPRESSURIZATION

1. Initiate General Patient Care.

2. Presentation

   History of SCUBA, breathing in a pressurized environment and altitude chamber or exposure to blast concussion waves. Patients may present with any of the following symptoms: fatigue and itching, pain, vertigo, visual disturbances, dyspnea, bleeding from any body orifice, hearing difficulty, speech difficulty, numbness, tingling, confusion, seizure, and/or cardiac arrest.

ASSOCIATED INJURIES MAY MAKE ASSESSMENT AND COMMUNICATION DIFFICULT. SYMPTOMS MAY BE SLOW TO PRESENT.

AEROMEDICAL TRANSPORT MAY BE APPROPRIATE FOR PATIENTS WITH BAROTRAUMA.

FOR ADDITIONAL INFORMATION CONCERNING SCUBA INJURIES, CONTACT THE DIVING ALERT NETWORK VIA EMRC 1-800-648-3001.

3. Treatment
   a) Treat associated trauma.

   b) Establish IV access with LR.

   c) Administer fluid bolus, if appropriate.
      20 mL/kg of LR IV
      Titrate to a systolic pressure of 100 mmHg.

4. Continue General Patient Care.

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AA. NAUSEA AND VOMITING

1. Initiate General Patient Care.

2. Presentation
   Patients presenting with nausea and/or vomiting due to underlying injury, medical condition, active motion sickness, or medication side effect/complication.

   Under certain injury or medical conditions, vomiting or intense nausea can complicate the existing injury or medical condition. Preventative administration of an anti-nausea/anti-emetic should be considered (e.g., penetrating eye injury, high risk for aspiration, side effects of opioid administration).

3. Treatment
   a) Place patient either in position of comfort or in left lateral position if not prevented by spinal protection or packaging.
   b) Perform acupressure on P6 point either digitally or with commercial wrist band.

   c) Establish IV access with LR, if appropriate.
   d) Administer fluid bolus, if appropriate.
      20 mL/kg of LR IV
      Titrate to a systolic pressure of 100 mmHg.
   e) Adult: Administer ondansetron 8 mg SLOW IV over 2–5 minutes OR 4–8 mg IM OR 8 mg orally disintegrating tablet (ODT)
      May repeat once without medical consultation.

      For third repeat dose to a patient with maximum total dose of 24 mg.

   f) Establish IV access with LR, if appropriate.
   g) If age-related vital signs and patient's condition indicate hypoperfusion, administer initial fluid bolus of 20 mL/kg LR IV/IO.
   h) Pediatric:
      For patients 28 days – 12 years old: Administer ondansetron 0.1 mg/kg SLOW IV over 2–5 minutes
      For patients 13–18 years of age: Administer ondansetron 8 mg ODT OR 8 mg SLOW IV over 2–5 minutes
      OR
      If no IV: Administer ondansetron 0.1 mg/kg IM (with max single dose of 8 mg);
      May repeat once without medical consultation.

      For third repeat dose to a patient with maximum total dose of 0.3 mg/kg or 24 mg, whichever is lower.

4. Continue General Patient Care.

BB. NON-TRAUMATIC SHOCK: HYPOPERFUSION

1. Initiate General Patient Care.

2. Presentation

   The body responds in various ways to a state of inadequate blood flow to meet the oxygen demands of the cells. A patient may exhibit an altered mental status; cool, clammy skin; diaphoresis; dilated pupils; a rapid, weak pulse; shallow, labored respirations; general weakness; and/or a decreasing pulse pressure.

3. Treatment

   a) Continue General Patient Care.

   b) Establish IV access with LR.

      (1) If lungs are clear, administer fluid bolus.
      20 mL/kg of LR IV
      Titrate to a systolic pressure of 100 mmHg.

      (2) If rales are present, administer fluid bolus.
      Maximum of 250 mL of LR IV
      Titrate to a systolic pressure of 100 mmHg.
      
      More fluid requires medical consultation.

   c) 
      Consider dopamine (2–20 **mcg**/kg/min).
      Titrate to a systolic pressure of 100 mmHg.

   d) 
      Consider additional fluid administration.
      Maximum Dose 2,000 mL without medical consultation.

BB. NON-TRAUMATIC SHOCK: HYPOPERFUSION (Continued)

e) The pediatric patient may present hemodynamically unstable or with hypoperfusion evidenced by hypotension and signs such as altered mental status, delayed capillary refill greater than 2 seconds, pallor, and/or peripheral cyanosis. Hypotension is defined as a systolic blood pressure less than 60 in neonates (patients birth to 28 days of age), less than 70 in infants (patients less than 1 year of age), less than [70 + (2 x years) = systolic BP] for patients greater than 1 year of age.

f) Continue General Patient Care.

g) Establish IV/IO access with LR.
If age-related vital signs and patient's condition indicate hypoperfusion, administer initial fluid bolus of 20 mL/kg LR IV/IO. If patient's condition does not improve, administer the second bolus of fluid at 20 mL/kg LR IV/IO.
OR
For volume-sensitive children administer initial fluid bolus of 10 mL/kg LR IV/IO. If patient's condition does not improve, administer the second bolus of fluid at 10 mL/kg LR IV/IO.
Volume-sensitive children include: neonates (birth to 28 days), children with congenital heart disease, chronic lung disease, or chronic renal failure.

h) Third and subsequent fluid boluses at 20 mL/kg IV/IO.

i) Consider dopamine.
2–20 **mcg**/kg/min IVP/IO
Titrate to age-specific vital signs.

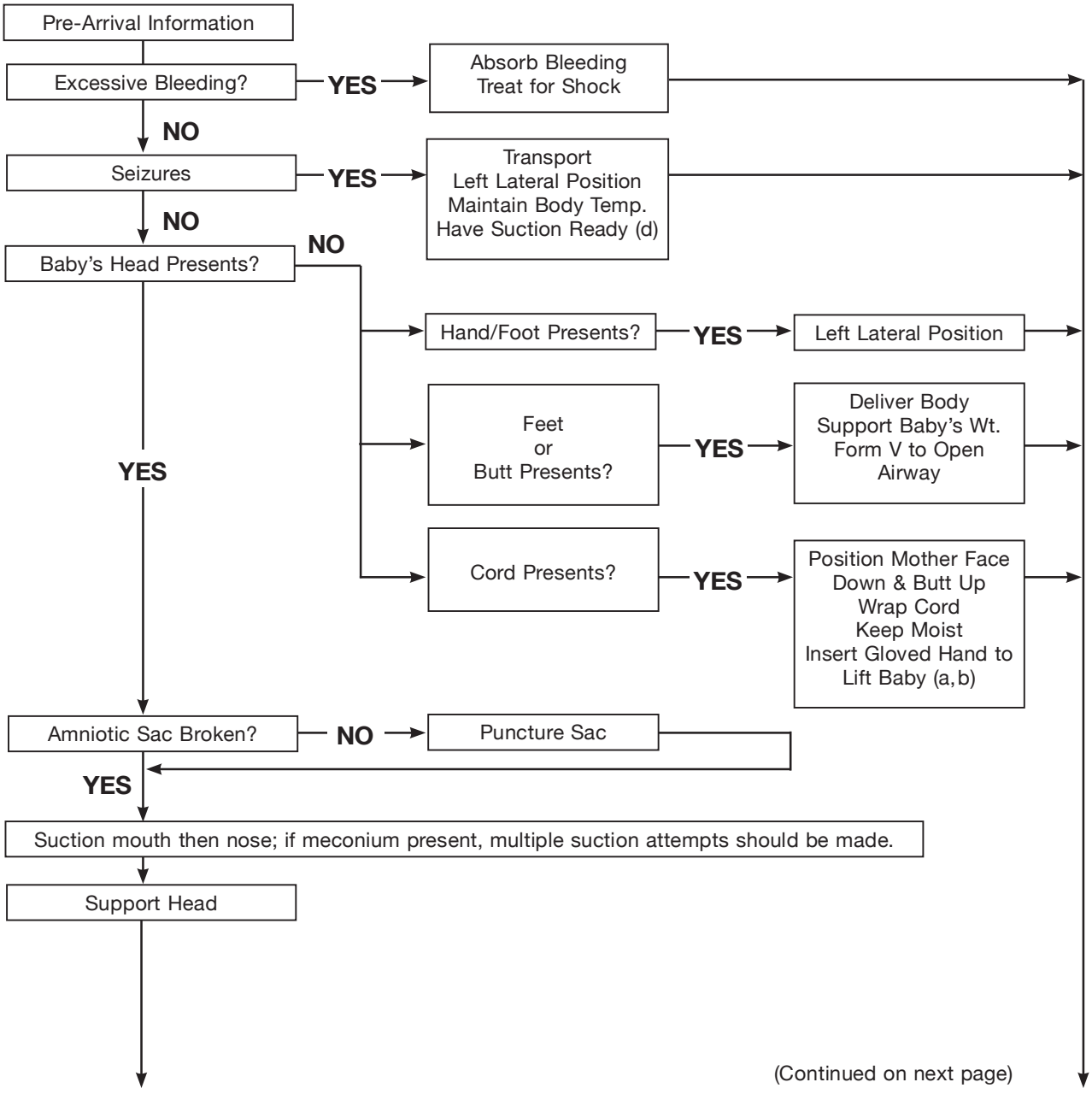
4. Continue General Patient Care.

CC. OBSTETRICAL/GYNECOLOGICAL EMERGENCIES: CHILDBIRTH ALGORITHM

1. Initiate General Patient Care.

2. Presentation
   Patient presents pregnant, with contractions and/or pain, accompanied by bleeding or discharge, crowning during contraction, the feeling of an impending bowel movement, and/or a rock-hard abdomen.

3. Treatment



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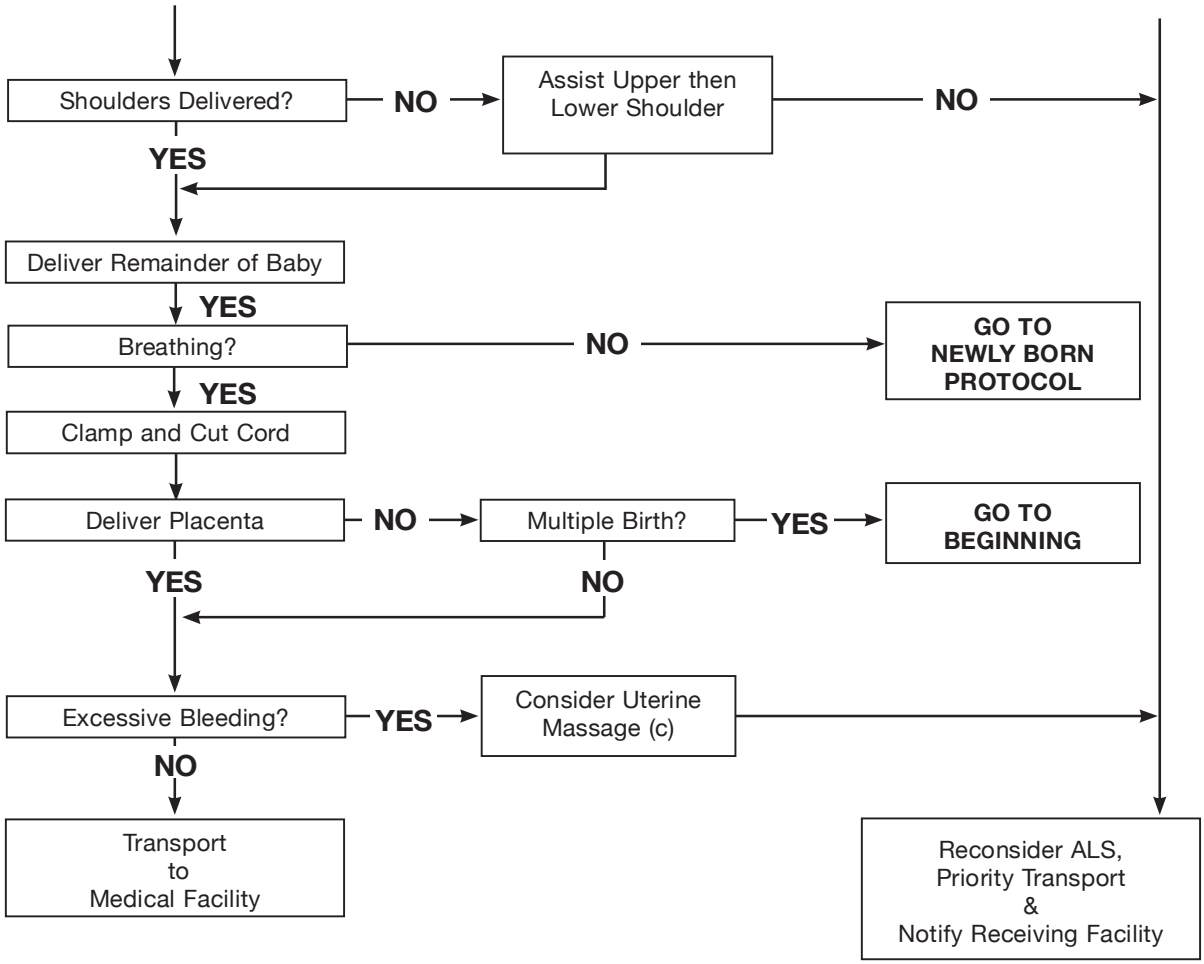
CC. OBSTETRICAL/GYNECOLOGICAL EMERGENCIES: CHILDBIRTH ALGORITHM (Continued)



(a) - Keep presenting part of baby off the cord. Monitor and attempt to maintain the pulse in the cord.

(b) - Position of mother: 

(c) - Uterine massage is performed with the heel of the hand applying firm pressure from the pubis toward the umbilicus only. This massage is continued until bleeding diminishes. Transport rapidly.

(d) - Go to Seizure Protocol: Consider midazolam.

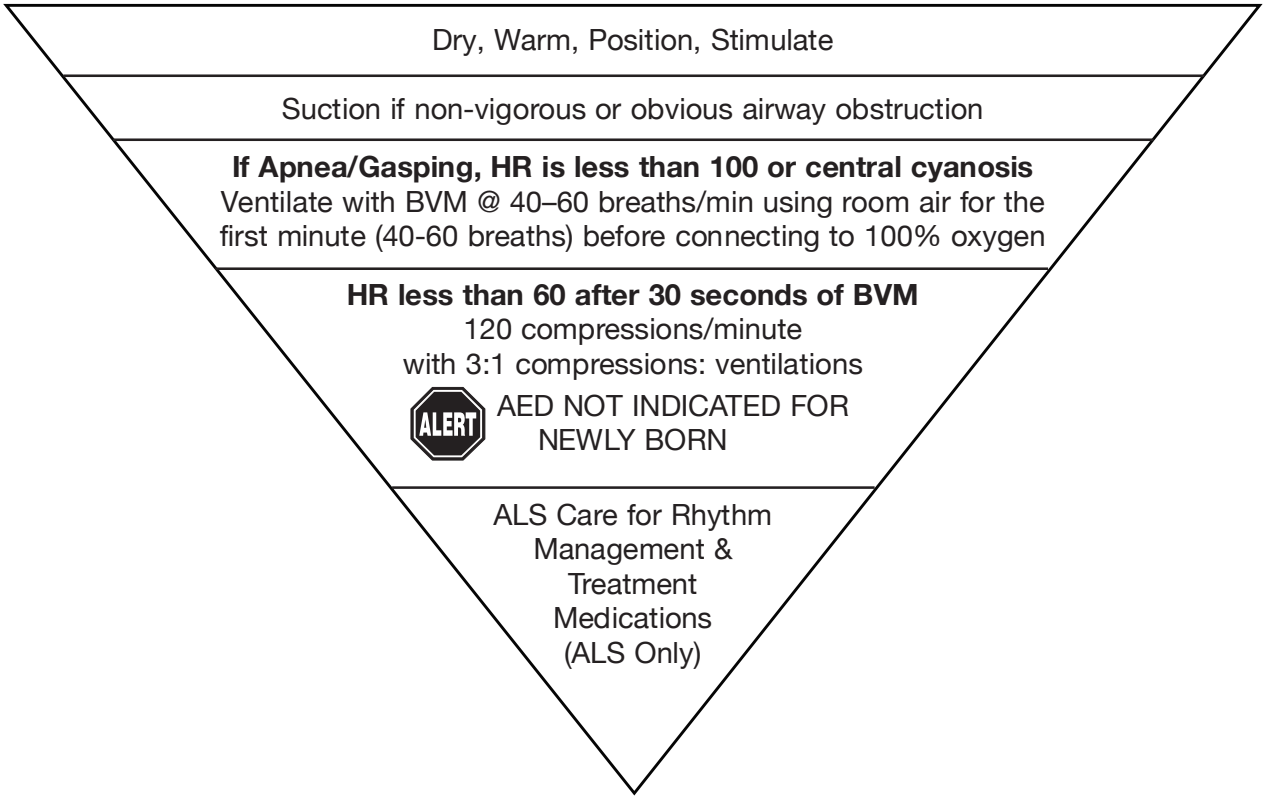
4. Continue General Patient Care.

DD. NEWLY BORN PROTOCOL (LESS THAN 1 HOUR OLD)

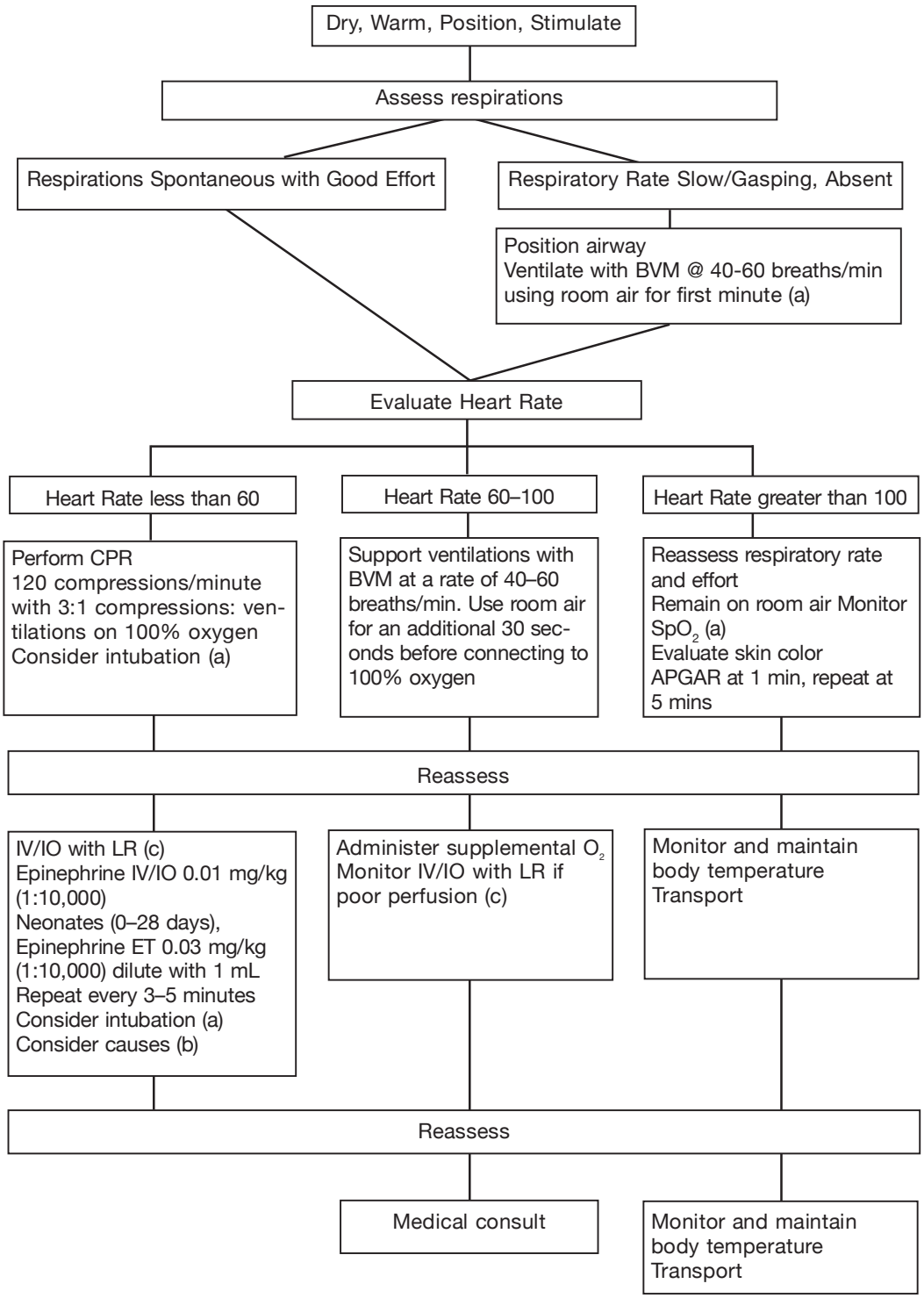
1. Initiate General Patient Care.

2. Presentation
   This protocol applies to the infant within the first hour after delivery.

UNIVERSAL ALGORITHM FOR THE NEWLY BORN FOR BLS



3. UNIVERSAL ALGORITHM FOR NEWLY BORN FOR ALS



DD. NEWLY BORN PROTOCOL (Continued)

(a) - Acceptable Target SpO_2 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%

(b) - Consider possible causes of depressed newborn.
(Parenthesis = possible therapies and treatments)
Respiratory depression (Premature infants less than 32 weeks gestation will likely require ongoing BVM ventilations due to immature lungs.)
Hypoglycemia (Threshold for treatment = 30 mg/dL) (D10W 2–4 mL/kg IV/IO (D10W is prepared by mixing one part of D50W with four parts LR.))
Hypothermia (Warming)
Hypovolemia (Volume infusion – see "c", below)

(c) - Volume infusion is 10 mL/kg.

4. APGAR Chart

APGAR Chart

SIGN	0	1	2
MUSCLE TONE (ACTIVITY)	LIMP	SOME FLEXION	ACTIVE, GOOD FLEXION
PULSE	ABSENT	LESS THAN 100/MIN	GREATER THAN 100/MIN
REFLEX IRRITABILITY* (GRIMACE)	NO RESPONSE	SOME GRIMACE OR AVOIDANCE	COUGH, CRY OR SNEEZE
COLOR (APPEARANCE)	BLUE, PALE	PINK BODY, BLUE HANDS/FEET	PINK
RESPIRATIONS	ABSENT	SLOW/IRREGULAR, INEFFECTIVE	CRYING, RHYTHMIC EFFECTIVE

**Nasal or Oral Suction Catheter Stimulus*

EE. OBSTETRICAL/GYNECOLOGICAL EMERGENCIES: VAGINAL BLEEDING

1. Initiate General Patient Care.

2. Presentation
   Unusually heavy vaginal bleeding as a result of possible pregnancy, miscarriage, postpartum bleeding, or sexual assault. Patient may exhibit the signs and symptoms of hypoperfusion.

3. Treatment
   a) Place absorbent pads underneath patient.

   b) Treat for hypoperfusion.

   c) If post-partum bleeding, consider uterine massage from pubis toward umbilicus only.

   d) Reconsider ALS.

ALERT

PRODUCTS OF CONCEPTION SHOULD BE BROUGHT TO THE HOSPITAL!

DO NOT PULL CONCEPTUAL PRODUCTS FROM VAGINAL OPENING WITHOUT MEDICAL CONSULTATION!

---

   e) Establish IV access with LR, if appropriate.

   f) Administer fluid bolus, if appropriate.
   20 mL/kg of LR IV
   Titrate to a systolic pressure of 100 mmHg.

   g) Consider additional fluid administration.
   Maximum dose 2,000 mL without medical consultation.

4. Continue General Patient Care.

FF. OVERDOSE/POISONING: CARBON MONOXIDE/SMOKE INHALATION

1. Initiate General Patient Care.

2. Presentation

   Carbon monoxide (CO) is an odorless, colorless gas that is most commonly a product of incomplete combustion. Carbon monoxide poisoning occurs when a victim is exposed to high levels of carbon monoxide, frequently seen in house fires, malfunctioning furnaces, with suicide attempts, or others.

   Presentation may vary depending on the concentration, method, and duration of exposure to the agent. Symptoms may include but are not limited to: headache, dizziness, and nausea and vomiting, most frequently. Symptoms can also include: chest pain, altered mental status, dyspnea, and/or seizures

PULSE OXIMETRY MAY NOT BE ACCURATE FOR CARBON MONOXIDE VICTIMS. PATIENTS MAY HAVE NORMAL SpO_2 LEVELS WITH CARBON MONOXIDE TOXICITY.

PATIENTS WITH BURNS AND TRAUMA SHOULD BE REFFERED TO THE NEAREST APPROPRIATE TRAUMA SPECIALTY CENTER.

3. Treatment
   a) Remove patient from toxic environment by appropriately trained personnel using proper level PPE.
   b) Decontaminate as appropriate.
   c) Administer high-flow oxygen.
   d) Treat respiratory and/or cardiac symptoms.
   e) Consider Hyperbaric Center referral.

   f) Consider obtaining blood sample using closed system, particularly if transcutaneous carboxyhemoglobin measurement is not available.
   g) Establish vascular access.
      (1) If hypoperfusion exists, administer 20 mL/kg bolus of LR. May repeat once without consult.

      (a) Consider additional fluid administration.

      (2) Consider following Overdose/Poisoning: Cyanide Protocol (if participating) for smoke inhalation patients.

   h) Remove patient from toxic environment by appropriately trained personnel using proper level PPE.
   i) Decontaminate as appropriate.
   j) Administer high-flow oxygen.
   k) Treat respiratory and/or cardiac symptoms.
   l) Consider Hyperbaric Center referral.

m) Consider obtaining blood sample using closed system, particularly if transcutaneous carboxyhemoglobin measurement is not available.

n) Establish vascular access.

(1) If hypoperfusion exists, administer 20 mL/kg bolus of LR. May repeat once without consult.

(a) Consider additional fluid administration.

(2) Consider following Overdose/Poisoning: Cyanide Protocol (if participating) for smoke inhalation patients.

o) Hyperbaric Medicine Specialty Center Referral: Indications for Referral

(1) Patients with exposure to products of combustion (smoke) or carbon monoxide who have a carboxyhemoglobin value of greater than 25% ***with or without symptoms***
OR

(2) Patients with PROVEN exposure to products of combustion (smoke) or carbon monoxide who have:

(a) ***any*** of the following diagnostic indicators:

(i) Patient (transcutaneous or blood) carboxyhemoglobin value of greater than 15%

(ii) Alarm of EMS or fire agency maintained passive carbon monoxide monitor

(iii) Targeted atmospheric carbon monoxide value 100 ppm or greater in the patient environment

(b) **and** one or more of the following:

(i) History of loss of consciousness during exposure (may have since resolved)

(ii) GCS persistently less than or equal to 13

(iii) Rapid decline of neurological symptoms including actively seizing patients with appropriate airway stabilization

(iv) Pregnancy

(v) Chest pain

(vi) Extremes of age

(vii) Per provider discretion

ALERT FETAL HEMOGLOBIN HAS A VERY HIGH AFFINITY FOR CARBON MONOXIDE AND PREGNANT MOTHER MAY BE ASYMPTOMATIC, YET FETAL LEVELS MAY BE DANGEROUSLY HIGH. ENCOURAGE THE PATIENT TO BE EVALUATED AT HOSPITAL.

ALERT PATIENTS WHO DO NOT MEET CRITERIA IN O)(1) OR (2) ABOVE SHOULD BE TRANSPORTED TO THE CLOSEST HOSPITAL-BASED EMERGENCY DEPARTMENT..

p) Contraindications for Referral to the Hyperbaric Medicine Specialty Center

(1) Transport time to the Hyperbaric Medicine Specialty Center greater than one hour

(2) Patients in cardiac arrest

(3) Patients who have return of spontaneous circulation post-arrest

4. Continue General Patient Care.

GG. OVERDOSE/POISONING: ABSORPTION

1. Initiate General Patient Care.

2. Presentation
   Patient may exhibit any of the following: nausea, vomiting, diarrhea, altered mental status, abdominal pain, rapid heart rate, dyspnea, seizures, arrhythmias, sweating, tearing, defecation, constricted/dilated pupils, rash, or burns to the skin.

3. Treatment
   a) Remove patient from the toxic environment by appropriately trained personnel using proper level PPE.

   b) Identify agent and mechanism of exposure.

   c) Decontaminate as appropriate.

   d) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
   Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.

   Consider additional doses of naloxone.

   e) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
   Administer naloxone 0.4–2 mg IVP/IO (titrated)/IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. Repeat as necessary to maintain respiratory activity.

   f) Consider repeating naloxone.

   g) Establish IV access with LR in a clean area, if appropriate.

   h)  If **organophosphate poisoning**, consider atropine 2–4 mg IV or IM every 5–10 minutes.

   i)  Consider antidote to specific agent if available.

   j)  Consider antibiotic specific to agent in mass casualty incident, if available.

GG. OVERDOSE/POISONING: ABSORPTION (Continued)

k) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Aged 28 days to adult: Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.

Consider additional doses of naloxone.

l) Remove patient from the toxic environment by appropriately trained personnel using proper level PPE.

m) Identify agent and mechanism of exposure.

n) Decontaminate as appropriate.

o) Establish IV access with LR in a clean area, if appropriate.

p) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Aged 28 days to adult: Administer 0.1 mg/kg IVP/IO (titrated)IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. May be repeated as necessary to maintain respiratory activity. ET dose: 0.2–0.25 mg/kg.

q)  If **organophosphate poisoning**, consider atropine 0.02 mg/kg IV/IO or IM every 5–10 minutes.

r)  Consider antidote to specific agent if available.

s)  Consider antibiotic specific to agent in mass casualty incident, if available.

4. Continue General Patient Care.

HH. OVERDOSE/POISONING: INGESTION

1. Initiate General Patient Care.

2. Presentation

   Patient may exhibit any of the following: nausea, vomiting, diarrhea, altered mental status, abdominal pain, rapid or slow heart rate, dyspnea, seizures, arrhythmias, chemical burns around or inside the mouth, or abnormal breath odors.

3. Treatment

DO NOT GIVE ANYTHING BY MOUTH WITHOUT MEDICAL CONSULTATION!

POISON INFORMATION CENTER RECOMMENDATIONS SHOULD BE SOLICITED IN CONJUNCTION WITH MEDICAL CONSULTATION, BUT MEDICATION ORDERS CAN ONLY BE ACCEPTED FROM AN APPROVED BASE STATION.

a) Identify substance and amount ingested.

b)  Consider activated charcoal **without** Sorbitol 1 gram/kg PO.

c) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.

Consider additional doses of naloxone.

d) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Administer naloxone 0.4–2 mg IVP/IO (titrated)/IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. Repeat as necessary to maintain respiratory activity.

e) Establish IV access with LR in a clean area, if appropriate.

f)  If **dystonic, extrapyramidal, or mild allergic reaction**, consider diphenhydramine.
25 mg IV or IM

HH. OVERDOSE/POISONING: INGESTION (Continued)

g) If **beta-blocker** overdose, consider glucagon.
1 mg every 5 minutes IVP

h) If **calcium channel blocker** overdose, consider calcium chloride.
0.5–1 gram SLOW IVP over 10 minutes
Max dose of 1 gram

ALERT CALCIUM CHLORIDE IS CONTRAINDICATED IN A CALCIUM CHANNEL BLOCKER OVERDOSE PATIENT TAKING DIGOXIN.

i) If **organophosphate poisoning**, consider atropine.
2–4 mg IVP or IM every over 10 minutes
Max dose of 1 gram

j) If **tricyclic** overdose, consider sodium bicarbonate.
1 mEq/kg IVP bolus initially with 0.5 mEq/kg at 10 minute intervals

k) Consider antidote to specific agent if available.

l) Consider antibiotic specific to agent in mass casualty incident, if available.

m) Identify substance and amount ingested.

n) Consider activated charcoal **without** Sorbitol 1 gram/kg PO.

o) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Aged 28 days to adult: Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.

HH. OVERDOSE/POISONING: INGESTION (Continued)

p) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Aged 28 days to adult: Administer 0.1 mg/kg IVP/IO (titrated)IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. May be repeated as necessary to maintain respiratory activity. ET dose: 0.2–0.25 mg/kg.

q) Establish IV/IO access with LR in a clean area, if appropriate.

r) If **dystonic, extrapyramidal, or mild allergic reaction**, consider diphenhydramine 1 mg/kg IVP/IO or IM.
Maximum single dose 25 mg

s) If **beta-blocker** overdose, consider glucagon.
1 mg IVP (5 years of age up to patient's 18th birthday)
0.5 mg IVP (28 days - 4 years of age)
Every 5 minutes as necessary

t) If **calcium channel blocker** overdose, consider calcium chloride.
20 mg/kg (0.2 mL/kg) SLOW IVP/IO (50 mg/min)
Maximum dose 1 gram

ALERT CALCIUM CHLORIDE IS CONTRAINDICATED IN A CALCIUM CHANNEL BLOCKER OVERDOSE PATIENT TAKING DIGOXIN.

u) If **organophosphate** poisoning, consider atropine.
0.02 mg/kg IVP/IO or IM
Maximum single dose 2 mg
May be repeated every 5–10 minutes

v) If **tricyclic** overdose, consider sodium bicarbonate.
1 mEq/kg SLOW IVP/IO (for less than 1 year, dilute 1:1 with LR)

w) Consider antidote to specific agent if available.

x) Consider antibiotic specific to agent in mass casualty incident, if available.

4. Continue General Patient Care.

II. OVERDOSE/POISONING: INHALATION

1. Initiate General Patient Care.

2. Presentation

   Presentation may vary depending on the concentration and duration of exposure. Symptoms may include, but are not limited to, the following:
   nausea, vomiting, diarrhea, altered mental status, abnormal skin color, dyspnea, seizures, burns to the respiratory tract, stridor, sooty sputum, known exposure to toxic or irritating gas, sweating, tearing, constricted/dilated pupils, and/or dizziness.

PULSE OXIMETRY MAY NOT BE ACCURATE FOR TOXIC INHALATION VICTIMS!

IF PATIENT HAS EXPOSURE TO CARBON MONOXIDE/SMOKE INHALATION, REFER TO CARBON MONOXIDE/SMOKE INHALATION PROTOCOL.

3. Treatment

   a) Remove patient from the toxic environment by appropriately trained personnel using proper level PPE.

   b) Identify agent and mechanism of exposure.

   c) Decontaminate as appropriate.

   d) Consider obtaining blood sample using closed system, if indicated.

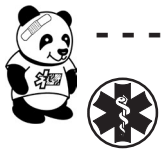
   e) Establish IV access with LR in a clean area, if appropriate.

   f)  If **organophosphate poisoning**, consider atropine 2–4 mg IVP or IM every 5–10 minutes.

   g)  Consider antidote to specific agent if available.

   h)  Consider antibiotic specific to agent in mass casualty incident, if available.

II. OVERDOSE/POISONING: INHALATION (Continued)



i) Remove patient from the toxic environment by appropriately trained personnel using proper level PPE.

j) Identify agent and mechanism of exposure.

k) Decontaminate as appropriate.

l) Establish IV/IO access with LR in a clean area, if appropriate.

m)  If **organophosphate poisoning**, consider atropine. 0.02 mg/kg IV/IO or IM every 5–10 minutes.

n)  Consider antidote to specific agent if available.

o)  Consider antibiotic specific to agent in mass casualty incident, if available.

4. Continue General Patient Care.

JJ. OVERDOSE/POISONING: INJECTION

1. Initiate General Patient Care.
2. Presentation

   Patient may exhibit any of the following: local pain, puncture wounds, reddening skin, local edema, numbness, tingling, nausea, vomiting, diarrhea, altered mental status, seizures, muscle twitching, hypoperfusion, metallic or rubbery taste.

3. Treatment

   a) Identify markings (insects, bites, needlestick, etc.).

   b) Do not apply distal and/or proximal constricting bands for a poisonous snakebite to an extremity. Do remove any jewelry on the affected extremity.

   c) Assist patient experiencing moderate to severe allergic reaction symptoms or mild symptoms with a history of life-threatening allergic reaction with the patient's prescribed or EMS service's epinephrine (1:1,000) 0.5 mg in 0.5 mL IM or patient's prescribed fast-acting bronchodilator.

IF THE SNAKE IS **DEAD**, AND IF IT IS PRACTICAL, DELIVER IT WITH ITS HEAD INTACT. DEAD SNAKES STILL BITE!

   d) Immobilize extremity.

   e) Apply cool packs for relief of pain only.

   f) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
   Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.

   Consider additional doses of naloxone.

   g) Establish IV access with LR; administer 20 mL/kg bolus in uninjured extremity. Titrate to a systolic pressure of 100 mmHg.

   h) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
   Administer naloxone 0.4–2 mg IVP/IO (titrated)/IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. Repeat as necessary to maintain respiratory activity.
   Titrate to adequate respiratory effort.

JJ. OVERDOSE/POISONING: INJECTION (Continued)

i) If **organophosphate poisoning**, consider atropine.
2–4 mg IVP or IM every 5–10 minutes.

j) Consider antidote to specific agent if available.

k) Consider antibiotic specific to agent in mass casualty incident, if available.

l) Identify markings (insects, bites, needlestick, etc.).

m) Do not apply distal and/or proximal constricting bands for a poisonous snakebite to an extremity. Do remove any jewelry on the affected extremity.

n) Assist patient experiencing moderate to severe allergic reaction symptoms or mild symptoms with a history of life-threatening allergic reaction with the patient's prescribed or EMS service's epinephrine (1:1,000) 0.15 mg in 0.15 mL IM or patient's prescribed fast-acting bronchodilator.

o) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose:**
Aged 28 days to adult: Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.

Consider additional doses of naloxone.

p) Establish IV access with LR; administer 20 mL/kg bolus in uninjured extremity. Titrate to a systolic pressure of 100 mmHg.

q) **If patient has respiratory depression with decreased LOC, constricted pupils, and provider suspects an opioid/narcotic overdose**:
Aged 28 days to adult: Administer 0.1 mg/kg IVP/IO (titrated)IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. May be repeated as necessary to maintain respiratory activity. ET dose: 0.2–0.25 mg/kg.

r) If **organophosphate poisoning**, consider atropine.
0.02 mg/kg IV/IO or IM every 5–10 minutes

s) Consider antidote to specific agent if available.

t) Consider antibiotic specific to agent in mass casualty incident, if available.

4. Continue General Patient Care.

KK. OVERDOSE/POISONING: STIMULANT TOXICITY

1. Initiate General Patient Care.

2. Presentation
   a) Moderate toxicity:
      - Patient exhibits chest pain, hypertension, supraventricular tachycardia, moderate anxiety, respiratory distress, and/or hallucinations
   b) Moderate to severe toxicity:
      - Includes the symptomatology described above along with severe agitation, seizures, and hyperthermia

3. Treatment

   a) Ensure scene is secure and safe from paraphernalia.

   b) Initiate patient care.

   c) Identify amount, route, and time the stimulant was introduced into the body if possible.

   d) Establish IV access with LR. Consider blood draw if possible.

   e) Consider midazolam.
      0.1 mg/kg in 5 mg increments SLOW IVP over 1–2 minutes per increment with maximum single dose 5 mg
      (Reduce by 50% for patients 69 years or older)
      If IV unavailable, 5 mg IN/IM may be administered.
      IN administration max 1 mL per nare

      Larger doses may be needed to treat stimulant toxicity. Additional doses require medical consultation.

   f) Initiate Chest Pain Protocol and treat accordingly with unstable angina or suspected MI.

SUPRAVENTRICULAR TACHYCARDIA (SVT) MAY RESOLVE WITH THE ADMINISTRATION OF MIDAZOLAM. TREATING SVT DUE TO STIMULANT TOXICITY WITH ADENOSINE WILL NOT WORK SINCE THE SUBSTANCE CAUSING THE SVT WILL STILL BE IN THE SYSTEM AND CAUSE REFRACTORY SVT AFTER THE ADENOSINE HAS WORN OFF.

KK. OVERDOSE/POISONING: STIMULANT TOXICITY (Continued)

g) Ensure scene is secure and safe from paraphernalia.

h) Initiate patient care.

i) Identify amount, route, and time the stimulant was introduced into the body if possible.

j) Establish IV access with LR.

k) Consider midazolam 0.1 mg/kg in 2 mg increments SLOW IVP over 1–2 minutes with maximum single dose of 5 mg.
If IV unavailable, administer 0.2 mg/kg IN to a maximum single dose of 2 mg or 0.2 mg/kg IM to maximum single dose of 5 mg.
IN administration max 1 mL per nare
Additional doses (up to a maximum total dose of 5 mg) require medical consultation.

4. Continue General Patient Care.

LL. EXCITED DELIRIUM SYNDROME (ExDS)

1. Initiate General Patient Care
2. Presentation:
   a) Excited delirium syndrome (ExDS) is a potentially life-threatening condition in which a person is in a psychotic and extremely agitated state. Mentally, the subject is unable to process rational thoughts or to focus their attention. Physically, the body's systems are functioning at such a high rate that they begin to shut down and fail. When these two factors occur at the same time, a person can act erratically enough that they become a danger to self and to the public.
   b) History of present illness often includes:
      (1) Ingestion of a stimulant or hallucinogenic drug
      (2) Drug/alcohol withdrawal
      (3) Psychiatric patient who is off of medication
   c) Signs and symptoms: ExDS is characterized as having a minimum of bizarre and aggressive behavior and one of the above history. The more signs and symptoms the patient exhibits, the more likely the patient is to have ExDS and the higher the risk for complications.
      (1) Tachycardia
      (2) Hypertension
      (3) High body temperature
      (4) Dilated pupil
      (5) Incoherent or nonsensical speech
      (6) Rapid or inconsistent breathing patterns
      (7) Paranoia
      (8) Skin changes:
         (a) Hot/dry skin (in the anticholinergic patient)
         (b) Profuse sweating (in the cocaine/MDMA/methamphetamine patient)
      (9) Shivering
      (10) Inappropriate removal of clothing
      (11) Patients who present after receiving multiple TASER or other less lethal energy by law enforcement

MANY LIFE-THREATENING MEDICAL EMERGENCIES PRESENT WITH SIMILAR SIGNS OF EXDS. EXAMPLES INCLUDE HYPOGLYCEMIA, HYPOXIA, SEIZURES, HEAD INJURIES, AND SEPSIS. EMS PROVIDERS MUST ALWAYS ASSESS FOR THE POSSIBILITY OF OTHER EMERGENCY MEDICAL CAUSES FOR THE PATIENT'S PRESENTATION.

ANOTHER KEY SYMPTOM THAT OCCURS JUST PRIOR TO THE ONSET OF SUDDEN DEATH IN A PATIENT EXPERIENCING EXDS IS "INSTANT TRANQUILITY." THIS SYMPTOM IS NOTED WHEN A PATIENT WHO HAS BEEN VERY VIOLENT AND AGITATED SUDDENLY BECOMES QUIET AND LETHARGIC. THIS IS A SIGN OF IMMINENT CARDIOPULMONARY ARREST. PATIENTS WHO HAVE UNDERGONE PERIODS OF PROLONGED PHYSICAL STRUGGLE WITHOUT SEDATION WITH MEDICATION ARE AT HIGH RISK FOR CARDIAC ARREST. ALL EFFORTS MUST BE MADE BY ALS PROVIDERS TO EXPEDITIOUSLY ADMINISTER MEDICATION TO THE AGITATED AND STRUGGLING EXDS PATIENT.

LL. EXCITED DELIRIUM SYNDROME (ExDS) (Continued)

3. Treatment (BLS)
   a) Ensure scene is secure and safe.
   b) Initiate patient care.
      (1) Obtain a measured temperature, as these patients often have severe hyperthermia.
      (2) If possible, attempt to identify the amount, route, and time of any substance ingested.
      (3) Suspected ExDS patients with evidence of head injury or traumatic mechanism of injury should receive Spinal Protection Protocol.
   c) Patients displaying signs of ExDS do not have medical capacity to refuse care.
      (1) If a suspected ExDS patient resists the delivery of care, ALS resources, EMS supervisors (where available), and law enforcement shall be requested to facilitate the treatment and transport of the patient in a safe and effective manner.
      (2) Patients who exhibit violent behavior shall require a police officer to accompany the patient during transport. Appropriate physical restraint procedures should be utilized per Restraint Protocol.

ALERT

PATIENTS DISPLAYING SIGNS AND SYMPTOMS OF EXDS SHALL BE TREATED AND TRANSPORTED AT THE ADVANCED LIFE SUPPORT LEVEL. ALS CARE AND TREATMENT WILL BE GUIDED BY THE SIGNS AND SYMPTOMS THAT THE PATIENT IS EXHIBITING, AS WELL AS POSSIBLE OCCULT INJURIES THAT MAY HAVE OCCURRED WHILE THE INDIVIDUAL WAS BEING SUBDUED. THE APPROPRIATE LIFESAVING TREATMENT FOR EXDS IS THE ADMINISTRATION OF MEDICATION, FLUID RESUSCITATION, AND DECREASING HYPERTHERMIC CORE BODY TEMPERATURE.

ALERT

PATIENTS WHO HAVE RECEIVED MULTIPLE ROUNDS OF ENERGY FROM CONDUCTED ELECTRICAL WEAPONS (INCLUDING T.A.S.E.R.) AND ARE DISPLAYING SIGNS OF EXDS ARE AT HEIGHTENED RISK FOR SUDDEN CARDIAC DEATH. THESE PATIENTS SHOULD BE TREATED WITH MEDICATION AND CLOSELY MONITORED FOR ANY EVIDENCE OF HEMODYNAMIC COLLAPSE.

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   d) Establish IV/IO access. Consider blood draw if possible.
   e) Administer 20 mL/kg IV fluid bolus LR if tachycardiac and/or hyperthermic.
   f) Check glucometer and treat accordingly.
   g) Administer ketamine.
      (1) Administer 1 mg/kg IV/IO. Maximum single IV/IO dose 100 mg.
         (a) If severe agitation persists, administer 1 mg/kg IV/IO. Maximum single IV/IO dose 100 mg. Maximum total IV/IO dose 200 mg.
         (b) If agitation persists after second dose of ketamine, consider midazolam 2.5 mg IV/IO.
      (2) If IV/IO unavailable:
         (a) Administer 4 mg/kg IM. Maximum total IM dose 400 mg.
         (b) If severe agitation persists after IM ketamine dose, administer midazolam 5 mg IM.
         (c) Additional dose of 4 mg/kg IM ketamine for persistent agitation requires medical consultation.

LL. EXCITED DELIRIUM SYNDROME (ExDS) (Continued)

h) Consider the administration of cold packs to the groin, neck, and axilla for patients displaying evidence of hyperthermia.

ALERT

PATIENTS DISPLAYING SIGNS AND SYMPTOMS OF ExDS SHOULD NOT RECEIVE HALDOL AND/OR BENADRYL FOR CHEMICAL RESTRAINT. THESE MEDICATIONS MAY WORSEN AN ANTICHOLINERGIC CRISIS. HALDOL MAY INCREASE THE POSSIBILITY OF CARDIAC DYSRHYTHMIA BY PROLONGING THE QT INTERVAL, AND MAY ALSO INCREASE THE CHANCES OF A SEIZURE BY LOWERING THE BODY'S SEIZURE THRESHOLD.

i) Establish IV/IO access. Consider blood draw if possible.
j) Administer 20 mL/kg IV fluid bolus LR if tachycardiac and/or hyperthermic.
k) Check glucometer and treat accordingly.
l) Administer ketamine.
   (1) Patients who have not yet reached their 13th birthday require medical consultation: Administer 1 mg/kg IV/IO. Maximum single IV/IO dose 100 mg. Maximum total IV/IO dose 200 mg.
   (2) Patients aged 13 years to not yet reached their 18th birthday: Administer 1 mg/kg IV/IO. Maximum single IV/IO dose 100 mg. Maximum total dose 200 mg.
   (3) If severe agitation persists, administer repeat dose 1 mg/kg IV/IO to a maximum single dose of 100 mg.
   (4) If agitation persists after second dose of IV/IO ketamine, consider midazolam 0.1 mg/kg SLOW IVP/IO over 1–2 minutes. Maximum single dose 2.5 mg.
   (5) If IV/IO is unavailable:
      (a) Patients who have not yet reached their 13th birthday require medical consultation: Administer 4 mg/kg IM. Maximum IM dose 400 mg.
      (b) Patients aged 13 years to not yet reached their 18th birthday: Administer 4 mg/kg IM. Maximum IM dose 400 mg.
      (c) If severe agitation persists, administer midazolam 2.5 mg IM.
      (d) Additional dose of 4 mg/kg IM ketamine for persistent agitation requires medical consultation.
m) Consider the administration of cold packs to the groin, neck, and axilla for patients displaying evidence of hyperthermia.

4. Continue General Patient Care.

MM. PAIN MANAGEMENT

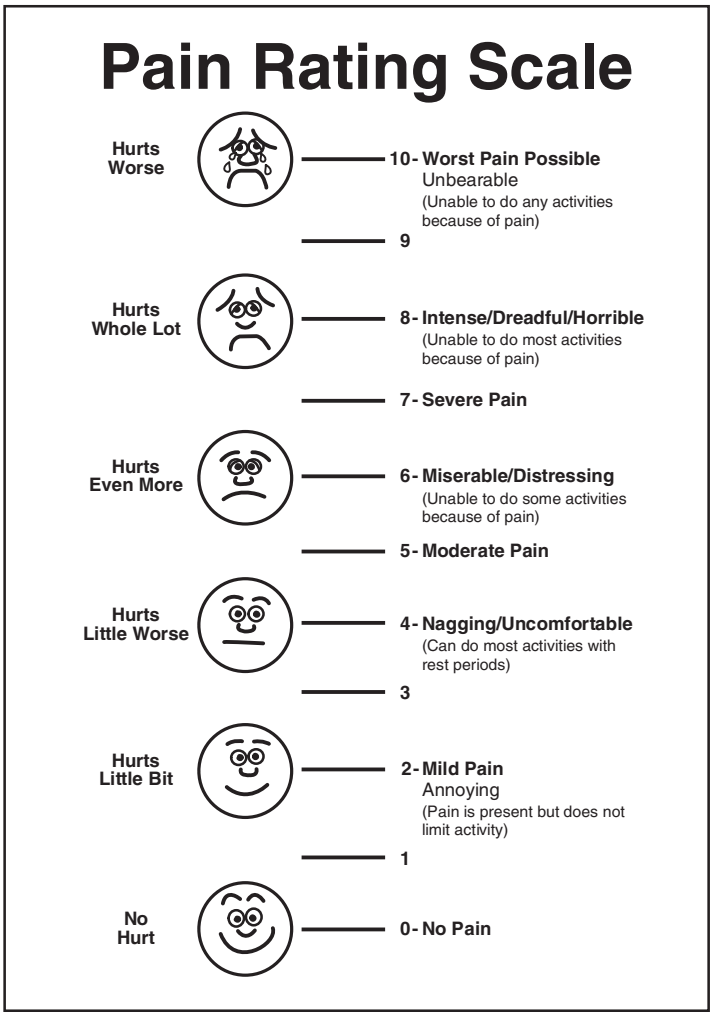
1. Initiate General Patient Care.

2. Presentation

   Pain may be present in many different conditions. Management of pain in the field can help to reduce suffering, make transport easier, and allow the emergency department personnel to initiate specific treatment sooner.

3. Treatment Indications

   a) Measure level of pain. Ask adults to rate their pain on a scale from 0 **(no pain)** to 10 **(worst pain imaginable)**. Young children can be asked to rate their pain using the FACES scale, which provides 5 levels of pain perception.



MM. PAIN MANAGEMENT (Continued)

b) Allow patient to remain in position of comfort unless contraindicated.
c) Monitor airway and vitals signs every 5 minutes for unstable patients.
d) Mild pain

(1) Indications for pain management
  (a) Isolated musculoskeletal injuries such as sprains and strains
  (b) Pain related to childhood illnesses such as headache, ear infection, and pharyngitis
(2) Contraindications for pain management with acetaminophen
  (a) Head injury
  (b) Hypotension
  (c) Administration of acetaminophen or medications containing acetaminophen within the previous four hours
  (d) Inability to swallow or take medications by mouth
  (e) Respiratory distress
  (f) Persistent vomiting
  (g) Known or suspected liver disease
  (h) Allergy to acetaminophen
(3) Administer acetaminophen to patients ages 2 years and above judged to be in mild to moderate discomfort.
  (2–5 on FACES scale) by child or parent.
  (a) Standard unit dosing of liquid preparation:
    (i) Less than 2 years of age: Not indicated
    (ii) 2–4 years: Unit dose 160 mg/5 mL
    (iii) 5–12 years: TWO unit doses of 160 mg/5 mL each for a total of 320 mg/10 mL
    (iv) 13 years and older: FOUR unit doses of 160 mg/5 mL each for a total of 640 mg/20 mL OR in a form of 325 mg pill or tablet X 2 for a total of 650 mg with sips of water as tolerated by the patient.

ADMINISTRATION OF ACETAMINOPHEN FOR MILD TO MODERATE PAIN DOES NOT ELIMINATE THE NEED FOR TRANSPORT OF THE PATIENT TO THE HOSPITAL TO RECEIVE A COMPREHENSIVE EVALUATION OF THE CAUSE OF THEIR PAIN AND APPROPRIATE DEFINITIVE TREATMENT.

e) Moderate to severe pain
(1) Indications for pain management
  (a) The patient reports moderate to severe pain.
  (b) In the provider's judgment, the patient will benefit from treatment with an analgesic, including patients who are MOLST and/or EMS/DNR patients or being pre-medicated for a procedure .

MM. PAIN MANAGEMENT (Continued)

(2) Contraindications for pain management
  (a) Hypersensitivity or known allergy to the medication (morphine or fentanyl)
  (b) Uncorrected respiratory distress or hypoxemia refractory to supplemental oxygen
  (c) Uncorrected hypotension, defined as a persistent systolic pressure less than 90 mmHg

(3) Administer agent **(NEW '19)**
  (a) Fentanyl IN preferred IV/IO/IM
    (i) Administer 1 mcg/kg to a maximum initial dose of 200 mcg (For IN route, dosing may be limited due to volume limitations - administration of max 1mL per nare).
    (ii) Reassess in 5–10 minutes. If pain remains moderate to severe, then administer a second dose of fentanyl 1 mcg/kg to a maximum dose of 200 mcg.
    (iii) Obtain on-line medical direction for additional doses, if required.

    OR

  (b) Morphine IV/IM
    (i) Administer 0.1 mg/kg maximum single dose of 20 mg.
    (ii) Reassess in 5–10 minutes. If pain remains moderate to severe, then administer a second dose of morphine 0.05 mg/kg to a maximum additional dose of 10 mg.
    (iii) Obtain on-line medical direction for additional doses, if required.

    OR

  (c) Ketamine IV/IO/IN/IM

ALERT INDICATED FOR MUSCULOSKELETAL EXTREMITY/BACK PAIN. NOT FOR CHEST PAIN, ABDOMINAL/FLANK PAIN, OR HEADACHE.

    (i) Administer 0.2 mg/kg IV/IO over 1–2 minutes. Maximum single dose 20 mg.
      a. Reassess in 5–10 minutes. If pain remains moderate to severe, then administer a second dose of ketamine 0.2 mg/kg IV/IO over 1–2 minutes. Maximum single dose 20 mg.
      b. If IV unavailable, administer 0.5 mg/kg IN/IM (If delivery device is available; divide administration of the dose equally between the nares to a maximum of 1 mL per nare).
      c. Reassess in 15 minutes. If pain remains moderate to severe, then administer a second dose of ketamine 0.5 mg/kg IN/IM.

  (d) Fentanyl IN. If IN route not accessible, IV/IO/IM
    (i) Administer 1 mcg/kg to a maximum initial dose of 200 mcg (For IN route, dosing may be limited due to volume limitations - administration of max 1mL per nare).
    (ii) Reassess in 5–10 minutes. If pain remains moderate to severe, then administer a second dose of fentanyl 1 mcg/kg to a maximum dose of 200 mcg.
    (iii) Obtain on-line medical direction for additional doses, if required.

    OR

MM. PAIN MANAGEMENT (Continued)

(e) Morphine IV/IM
   (i) Administer 0.1 mg/kg maximum single dose of 20 mg.
   (ii) Reassess in 5–10 minutes. If pain remains moderate to severe, then administer a second dose of morphine 0.05 mg/kg to a maximum additional dose of 10 mg.
   (iii) Obtain on-line medical direction for additional doses, if required.

OR

(f) Ketamine IV/IO/IN/IM

ALERT INDICATED FOR MUSCULOSKELETAL EXTREMITY/BACK PAIN. NOT FOR CHEST PAIN, ABDOMINAL/FLANK PAIN, OR HEADACHE.

   (i) Administer 0.2 mg/kg IV/IO over 1–2 minutes. Maximum single dose 20 mg.
      a. Reassess in 5–10 minutes. If pain remains moderate to severe, then administer a second dose of ketamine 0.2 mg/kg IV/IO over 1–2 minutes. Maximum single dose 20 mg.
      b. If IV unavailable, administer 0.5 mg/kg IN/IM (If delivery device is available; divide administration of the dose equally between the nares to a maximum of 1 mL per nare).
      c. Reassess in 15 minutes. If pain remains moderate to severe, then administer a second dose of ketamine 0.5 mg/kg IN/IM

ALERT CHEST PAIN THAT IS THOUGHT TO BE DUE TO ACUTE CORONARY SYNDROME SHOULD INITIALLY BE MANAGED WITH NITROGLYCERIN. IF PAIN REMAINS REFRACTORY TO NITROGLYCERIN, CONSIDER THE USE OF OPIOID ANALGESIA. AVOID OPIOIDS FOR PATIENTS WITH SUSPECTED EXACERBATION OF CONGESTIVE HEART FAILURE.

USE OPIOID ANALGESIA WITH CAUTION IN THE MANAGEMENT OF THE MULTIPLE TRAUMA PATIENT. OBSERVE FOR EVIDENCE OF HYPOTENSION AND CORRECT AS NEEDED WITH FLUID BOLUSES. REASSESS VITAL SIGNS AFTER ADMINISTRATION OF THE MEDICATION.

USE ANALGESIA WITH CAUTION IN THE MANAGEMENT OF PATIENTS WITH ALTERED MENTAL STATUS. OBSERVE FOR RESPIRATORY DEPRESSION AND TAKE STEPS AS NEEDED TO ENSURE A STABLE AIRWAY.

(4) Repeat. Measure level of pain and monitor the patient's level of pain during subsequent treatment and transport.

ALERT PATIENTS RECEIVING A NEW OPIOID (EITHER WITHIN 1 HOUR OR GREATER THAN 1 DOSE WITHIN ANY TIME FRAME) FROM ALS OR BY THE SENDING FACILITY MUST BE TRANSPORTED BY ALS.

4. Continue General Patient Care.

NN. ALLERGIC REACTION

1. Initiate General Patient Care.

2. Presentation
   a) An allergic reaction is an exaggerated response of the body's immune system to any substance.
   b) Allergic reactions may range from mild to severe life-threatening anaphylactic reactions.

      (1) **MILD:** Local swelling and itching at the site

      (2) **MODERATE:** Hives and/or mild wheezing

      (3) **SEVERE:** Diffuse wheezing, pharyngeal swelling, dyspnea, hypoperfusion, abnormal skin color, stridor, and/or loss of peripheral pulses

3. Treatment
   a) Assist patient experiencing moderate symptoms or mild symptoms with a history of life-threatening allergic reaction with the patient's prescribed or EMS service's epinephrine auto-injector or manual (1:1,000) 0.5 mg in 0.5 mL IM or patient's prescribed fast-acting bronchodilator.

   b) Albuterol inhaler (2 puffs) may be repeated once within 30 minutes.

   c)  Consider additional doses of epinephrine (1:1,000) 0.5 mg in 0.5 mL IM or prescribed fast-acting bronchodilator.

   d) Moderate Distress
      Administer epinephrine 1:1,000.
      0.5 mg in 0.5 mL
      May repeat every 5 minutes for total of 3 doses for severe reactions.
       Additional doses of epinephrine require medical consultation.

      (1) Establish IV access with LR; administer 20 mL/kg bolus.
      Titrate to a systolic pressure of 100 mmHg.

      (2) Administer diphenhydramine.
      50 mg SLOW IVP or IM
       Additional doses of diphenhydramine require medical consultation.

      (3) Administer a combination of albuterol/Atrovent via nebulizer.
      Albuterol 2.5 mg and Atrovent 500 **mcg**

      (4) If further treatments are indicated, an additional albuterol-only nebulizer may be given.

NN. ALLERGIC REACTION (Continued)

e) Mild Allergic Reaction

(1) Consider diphenhydramine.
25 mg SLOW IVP or IM
OR
Consider epinephrine 1:1,000.
0.5 mg in 0.5 mL

(2) Consider additional fluid administration.
Maximum dose 2,000 mL without medical consultation

f) Assist patient experiencing moderate or mild symptoms with a history of life-threatening allergic reaction with the patient's prescribed or EMS service's epinephrine (1:1,000).
Less than 5 years of age: 0.15 mg in 0.15 mL IM
5 years of age or greater: 0.5 mg in 0.5 mL IM
or patient's prescribed fast-acting bronchodilator.

g) Albuterol inhaler (2 puffs) may be repeated once within 30 minutes.

h) Consider additional doses of epinephrine (1:1,000)
Less than 5 years of age: 0.15 mg in 0.15 mL IM
5 years of age or greater: 0.5 mg in 0.5 mL IM
or fast-acting bronchodilator.

i) Moderate Distress
Less than 5 years of age: 0.15 mg in 0.15 mL IM.
5 years of age or greater: 0.5 mg in 0.5 mL IM.
May repeat every 5 minutes for total of 3 doses for severe reactions.
Additional doses of epinephrine require medical consultation.

(1) Establish IV/IO access with LR.

NN. ALLERGIC REACTION (Continued)

(2) If age-related vital signs and patient's condition indicate hypoperfusion, administer initial fluid bolus of 20 mL/kg LR IV/IO.
If patient's condition does not improve, administer the second bolus of fluid at 20 mL/kg LR IV/IO.

Administer diphenhydramine.
1 mg/kg SLOW IVP/IO or IM
Maximum single dose 50 mg

Additional doses of diphenhydramine require medical consultation

(3) A combination of albuterol/Atrovent via nebulizer:
- **For an infant less than 1 year of age**, administer albuterol 1.25 mg via nebulizer; Atrovent is contraindicated.
- **For a child 1 year of age or greater, but less than 2 years of age**, administer albuterol 1.25 mg and Atrovent 250 **mcg**.
  For a patient 2 years of age or greater, administer albuterol 2.5 mg and Atrovent 500 **mcg**.

(4) If further treatments are indicated, an additional albuterol-only nebulizer may be given.

j) 
Mild Allergic Reaction

Consider diphenhydramine.
1 mg/kg SLOW IVP or IM
Maximum single dose 25 mg
OR
Consider epinephrine 1:1,000.
0.15 mg in 0.15 mL

4. Continue General Patient Care.

OO. ANAPHYLAXIS

1. Initiate general patient care.

2. Presentation
   a) Anaphylaxis is a condition defined by respiratory and/or cardiovascular collapse resulting from an exaggerated response of the body's immune system to any substance.
   b) Anaphylaxis is likely to present with one or more of the following:
      (1) Acute onset of illness after exposure to a known allergen with two or more of the following:
         (a) urticaria of skin and/or mucosa or acute swelling/edema (eg, tongue, airway, stridor, lips)
         (b) respiratory compromise
         (c) hypotension
         (d) persistent GI symptoms of vomiting, abdominal pain, or diarrhea
      (2) Acute onset of illness after exposure to a **known** allergen with hypotension

3. Treatment
   a) Assist patient experiencing moderate to severe symptoms or mild symptoms with a history of life-threatening allergic reaction with the patient's prescribed or EMS service's epinephrine auto-injector or manual (1:1,000) 0.5 mg in 0.5 mL IM or patient's prescribed fast-acting bronchodilator.
   b)  Consider additional doses of epinephrine (1:1,000) 0.5 mg in 0.5 mL IM.
   c) Additional treatments to consider AFTER administration of the initial dose of epinephrine
      (1) Albuterol inhaler (2 puffs) may be repeated once within 30 minutes.

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   d) Administer epinephrine
      (1) Epinephrine (1:1,000) 0.5 mg in 0.5 mL IM
      (2) May repeat every 5 minutes for a total of 3 doses for severe reactions.
      (3) For patients who are in extremis with severe hypotension or impending respiratory failure, consider initiating an epinephrine drip after having administered 3 doses of IM epinephrine.
         (a) Mix 1 mg of epinephrine (either 1:1,000 or 1:10,000) in a 1 liter bag of LR IV/IO. Initiate an infusion with a wide open macro drip titrating to a systolic pressure of greater than 90 mmHg. When drip administered, this will be reported as an exceptional call.

OO. ANAPHYLAXIS (Continued)

e) Additional treatments to consider AFTER administration of the initial dose of epinephrine
   (1) Albuterol/Atrovent via nebulizer: Albuterol 2.5 mg and Atrovent 500 mcg; may repeat albuterol neb 2.5 mg one time
   (2) Diphenhydramine 50 mg SLOW IVP or IM
   (3) Establish IV access with LR
   (4) Administer 20 mL/kg bolus for hypotension
   (5) Dexamethasone 10 mg IV/IO

f) Assist patient experiencing severe symptoms with the patient's prescribed or EMS service's epinephrine:
   (1) Less than 5 years of age: 0.15 mg IM in the lateral thigh via epinephrine auto-injector or manual administration 0.15 mg in 0.15 mL IM
   (2) 5 and greater: administer 0.3 mg IM in the lateral thigh via epinephrine auto-injector or manual administration 0.5 mg in 0.5 mL IM
   (3) Consider additional doses of epinephrine (1:1,000) 0.5 mg in 0.5 mL IM.
   (4) Additional treatments to consider AFTER administration of the initial dose of epinephrine
      (a) Albuterol MDI inhaler (2 puffs) may be repeated once within 30 minutes.

   (5) Less than 5 years of age: administer 0.15 mg in 0.15 mL IM
   (6) 5 and greater: administer 0.5 mg in 0.5 mL IM
   (7) May repeat every 5 minutes for a total of 3 doses for severe reactions.

g) Additional treatments to consider AFTER administration of the initial dose of epinephrine
   (1) Albuterol/Atrovent via nebulizer
      (a) For an infant less than 1 year of age, administer albuterol 1.25 mg via nebulizer; Atrovent is contraindicated.
      (b) For a child 1 year of age or greater, but less than 2 years of age, administer albuterol 1.25 mg and Atrovent 250 mcg.
      (c) For a child 2 years of age or greater, administer albuterol 2.5 mg and Atrovent 500 mcg.
      (d) If further respiratory treatments are needed, an additional albuterol-only nebulizer may be given.
   (2) Diphenhydramine 1 mg/kg SLOW IVP or IM
   (3) Establish IV access with LR
   (4) Administer 20 mL/kg bolus for hypotension
   (5) Dexamethasone 0.5 mg/kg to a maximum of 10 mg IV/IO

4. Continue General Patient Care.

PP. RESPIRATORY DISTRESS: ASTHMA/COPD

1. Initiate General Patient Care.
2. Presentation

   Patient may exhibit any of the following: wheezing and/or crackles, abnormal respiratory rate, rapid heart rate, stridor, grunting, cyanosis, mottled skin, altered mental status, nasal flaring, retractions, accessory muscle use, dyspnea, diminished or absent breath sounds, and/or tripod positioning.

3. Treatment

CONSIDER MEDICAL CONSULTATION FOR PATIENTS GREATER THAN 45 YEARS OF AGE OR PATIENTS WITH A CARDIAC HISTORY.

a) Assist patient experiencing moderate to severe symptoms or mild symptoms with a history of life-threatening allergic reaction with the patient's prescribed fast-acting bronchodilator or prescribed epinephrine auto-injector.

b)  Use of the EMS service's manual epinephrine (1:1,000) 0.5 mg in 0.5 mL or 0.3 mg via epinephrine auto-injector IM requires medical consultation.

c) Albuterol inhaler (2 puffs) may be repeated once within 30 minutes.

d)  Consider additional doses of patient's prescribed fast-acting bronchodilator or manual epinephrine (1:1,000) 0.5 mg in 0.5 mL or 0.3 mg via epinephrine auto-injector IM.

e) Establish IV access with LR on all Priority 1 or 2 patients and all patients with a history of cardiac disease.

f) Patients with moderate to severe respiratory distress may require high flow oxygen via non-rebreather mask, continuous positive airway pressure (CPAP), or BVM while receiving medication via nebulizer.

g) Administer a combination of albuterol/Atrovent via nebulizer.
Albuterol 2.5 mg and Atrovent 500 **mcg**

h) If further treatments are indicated, an additional albuterol-only nebulizer may be given.

i) Consider CPAP if patient continues to deteriorate in spite of above nebulized treatments. Continue inline nebulizations.

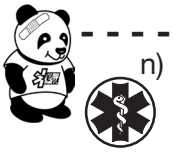
j) Consider the administration of epinephrine 1:1,000.
0.3 mg IM in the lateral thigh via epinephrine auto-injector or
0.5 mg in 0.5 mL IM
May repeat every 5 minutes for a total of 3 doses for severe reactions.

k) For moderate to severe exacerbations, consider the administration of dexamethasone 10 mg IV/PO.

l)  For moderate to severe exacerbations, consider the administration of magnesium sulfate 1–2 grams, mixed in 50–100 mL of approved diluent, IV/IO over 10–20 minutes.

PP. RESPIRATORY DISTRESS: ASTHMA/COPD (Continued)

m) Consider additional doses of epinephrine or albuterol.



n) Assist patient(s) experiencing moderate to severe symptoms or mild symptoms with a history of life-threatening allergic reaction with the patient's prescribed or EMS service's epinephrine (1:1,000) 0.15 mg in 0.15 mL IM or patient's prescribed fast-acting bronchodilator.

ALERT MEDICAL CONSULTATION IS REQUIRED IF THE PATIENT HAS CONGENITAL HEART OR CHRONIC LUNG DISEASE.

o) Fast-acting bronchodilator (2 puffs) may be repeated once within 30 minutes.

p) Consider additional doses of patient's prescribed fast-acting bronchodilator or epinephrine (1:1,000) 0.15 mg in 0.15 mL IM.

q) Patients with moderate to severe respiratory distress may require high flow oxygen via non-rebreather mask, CPAP, or BVM while receiving medication via nebulizer.

r) Administer a combination of albuterol/Atrovent via nebulizer:
   (1) **For an infant less than 1 year of age**, administer albuterol 1.25 mg via nebulizer; Atrovent is contraindicated.
   (2) **For a child 1 year of age or greater, but less than 2 years of age**, administer albuterol 1.25 mg and Atrovent 250 **mcg**.
   (3) **For a patient 2 years of age or greater**, administer albuterol 2.5 mg and Atrovent 500 **mcg**.

s) If further treatments are indicated, an additional albuterol-only nebulizer may be given.
AND/OR

ALERT MEDICAL CONSULTATION IS REQUIRED IF THE PATIENT HAS CONGENITAL HEART OR CHRONIC LUNG DISEASE.

t) Administer epinephrine 1:1,000.
Less than 5 years of age: 0.15 mg IM in the lateral thigh via epinephrine auto-injector or manual administration 0.15 mg in 0.15 mL IM
5 years and greater: administer 0.3 mg IM in the lateral thigh via epinephrine auto-injector or manual administration 0.5 mg in 0.5 mL IM
May repeat every 5 minutes for a total of 3 doses for severe reactions.

u) For moderate to severe exacerbations, consider the administration of dexamethasone 0.5 mg/kg PO/IV up to a maximum dose of 10 mg.

v) Consider magnesium sulfate 50 mg/kg IV/IO to a max of 2 grams given over 10–20 minutes (mixed in 50 - 100 mL of approved diluent).

ALERT MAGNESIUM ADMINISTRATION OFTEN CAUSES HYPOTENSION IN CHILDREN. CONSIDER ADMINISTERING BOLUS 20 ML/KG OF LACTATED RINGER'S WITH THE ADMINISTRATION OF MAGNESIUM.

w) Consider additional doses of albuterol or epinephrine.

4. Continue General Patient Care.

QQ. RESPIRATORY DISTRESS: CROUP

1. Initiate General Patient Care.

2. Presentation
   Forms of Croup:
   Mild - Barky cough exhibited without stridor at rest (Priority 2)
   Moderate - Barky cough with stridor at rest without agitation, may exhibit mild respiratory distress (Priority 2)
   Severe - Stridor at rest, signs of severe respiratory distress that is associated with agitation or decreased level of consciousness (Priority 1)

IF EPIGLOTTITIS IS SUSPECTED, I.E., DROOLING WITH ABOVE SIGNS AND SYMPTOMS, DO NOT INITIATE THIS PROTOCOL WITHOUT APPROPRIATE MEDICAL DIRECTION.

3. Treatment
   a) Ensure that the patient has a patent airway and adequate respiratory effort. Assess respiratory status looking specifically for signs and/or symptoms of respiratory distress (nasal flaring, retractions, increased/decreased respirations, skin color, change in level of consciousness).

   b) Place patient on cardiac monitor and record vital signs. (This may be done concurrently with medication administration if patient is unstable.)

   c) MILD: For children exhibiting symptoms of a mild croup presentation, administer dexamethasone 0.5 mg/kg PO up to a maximum dose of 10 mg.

   d) MODERATE: For children who exhibit symptoms of a moderate croup presentation, administer dexamethasone 0.5 mg/kg PO up to a maximum dose of 10 mg. If no change in patient's condition, then administer 2.5 mL of epinephrine 1:1,000 via nebulizer.

   e) SEVERE: If respiratory distress is so severe that respiratory arrest is imminent:
      (1) First, administer 0.01 mg/kg of epinephrine 1:1,000 IM (max single dose of 0.5 mg).
      (2) Then administer dexamethasone 0.5 mg/kg IV up to a maximum dose of 10 mg AND 2.5 mL of epinephrine 1:1,000 via nebulizer. If IV not established, give IM dexamethasone.

   f)  Establish communications with the appropriate facility and obtain medical direction if patient is less than 1 year of age, if additional nebulized epinephrine is needed due to level of distress, or if other interventions or directions are needed.

ALL PATIENTS WHO RECEIVE NEBULIZED EPINEPHRINE **MUST** BE TRANSPORTED BY AN ADVANCED LIFE SUPPORT UNIT TO THE APPROPRIATE MEDICAL FACILITY.

4. Continue General Patient Care.

RR. RESPIRATORY DISTRESS: PULMONARY EDEMA/CONGESTIVE HEART FAILURE

1. Initiate General Patient Care.

2. Presentation
   Accurate diagnosis of congestive heart failure (CHF)/acute pulmonary edema (APE) as the cause of respiratory distress can be challenging. The most accurate identification of CHF/APE is made using the medical history, risk factors, medications, and physical exam with interpretation of blood pressure.
   CHF/APE is difficult to distinguish, at times, from other respiratory causes. Factors most associated with a short-of-breath patient having CHF include: **a history of CHF**, exam features **of jugular venous distension and EKG evidence of Atrial Fibrillation**. CHF patients are commonly on anti-hypertensive and cardiac medicines. **Orthopnea** (use of additional pillows to prop the head up during sleep), **Dyspnea on Exertion** and **Paroxysmal Nocturnal Dyspnea** (PND) are symptoms associated with CHF/APE. Blood pressure is frequently elevated, usually greater than 160/100 but not uncommonly greater than 180/120.

   EMS providers should strongly consider CHF/APE in patients possessing the factors above, presenting with acute respiratory distress, tachypnea, hypoxia, rales, or wheezing and marked hypertension, even in the absence of peripheral edema.

GERIATRIC PATIENTS DEMONSTRATING MARKED HYPERTENSION IN ASSOCIATION WITH SHORTNESS OF BREATH/RESPIRATORY DISTRESS AND WHEEZING (IN THE ABSENCE OF ASTHMA OR INFECTION) STRONGLY SUGGESTS CHF/APE.

   Acute Respiratory Distress from CHF may range from mild to severe, life-threatening cases of Acute Pulmonary Edema. This classification is for patients with Systolic BP greater than 110 mmHg.

   a) **Asymptomatic – dyspnea on exertion but no symptoms at rest.**
   b) **Mild – mild dyspnea at rest, despite O_2 treatment. Able to speak in full sentences.**
   c) **Moderate – moderate dyspnea. O_2 saturation less than 93% on oxygen. Systolic BP usually greater than 150. Unable to speak in full sentences. Normal mental status.**
   d) **Severe – severe dyspnea, respiratory failure, hypoxia (O_2 saturation less than 90% on oxygen), diaphoresis, Systolic BP commonly greater than 180. One word sentences, altered consciousness.**

      The goals of treatment are to reduce the pressure of blood returning to the heart (preload) and the resistance that the left ventricle must pump against (afterload). The most effective and safe medication for these goals is nitroglycerin (NTG).

RR. RESPIRATORY DISTRESS: PULMONARY EDEMA/CONGESTIVE HEART FAILURE (Continued)

3. Treatment

a) Position patient in high Fowler's position.

b) Rate the patient's difficulty breathing on a scale where 0 is "no trouble breathing" and 10 is "the worst trouble breathing."

c) Continuous positive airway pressure (CPAP) should be considered for moderate dyspnea and must be implemented in severe dyspnea. (Use early; attempt to administer 3 doses of NTG while setting up, acclimatizing the patient, and applying CPAP.)

ALERT: PERFORM 12-LEAD EKG (IF AVAILABLE), AND IF INFERIOR WALL WITH POSTERIOR WALL EXTENSION MI IS PRESENT, WITHOLD NTG. CONSULT FOR FURTHER ADMINISTRATION.

d) Establish IV access with LR.

e) Identify rhythm and treat according to appropriate algorithm.

f) For patients with hypertension and moderate to severe symptoms, administer NTG (does not require IV before administration). If SBP drops below 90 mmHg, treat with medical fluid bolus: initial bolus 250–500 mL, may repeat once.
   (1) Asymptomatic - apply oxygen per GPC to maintain O_2 saturation greater than 93%.
   (2) Mild - administer low dose NTG 0.4 mg SL at 3–5 minute intervals to a maximum dose of 1.2 mg.
   (3) Moderate and severe - CPAP is preferred therapy. Until CPAP is applied, administer high dose NTG. Assess BP before each administration.

ALERT: CPAP IS THE PREFERRED THERAPY. DO NOT REMOVE CPAP TO CONTINUE ADMINISTERING NTG.

High Dose NTG until CPAP is applied or if CPAP is not tolerated. (Dose at 3–5 minute intervals.)
   (4) Administer 1 dose of NTG 0.4 mg SL and apply 1 inch of NTG paste.
   (5) Administer 1 dose of NTG 0.8 mg SL.
   (6) Continue 0.8 mg SL NTG dosing to achieve a 20% reduction in SBP.

ALERT: IF BLOOD PRESSURE IS LOW, CONSIDER MEDICAL FLUID BOLUS(ES) FOLLOWED BY DOPAMINE.

g) Consider dopamine 2–20 **mcg**/kg/min. Titrate to SBP 100 mmHg or medical-consultation-directed BP. IV infusion pump preferred.

RR. RESPIRATORY DISTRESS: PULMONARY EDEMA/CONGESTIVE HEART FAILURE (Continued)

MEDICAL CONSULTATION IS REQUIRED IF THE PATIENT HAS CONGENITAL HEART OR CHRONIC LUNG DISEASE.

h) Position patient in semi-Fowler's position.

i) Establish IV access with LR.

j) Identify rhythm and treat according to appropriate algorithm.

k) Patients with moderate to severe respiratory distress may require high flow oxygen via non-rebreather mask, CPAP, or BVM while receiving medication via nebulizer.

l) Consider albuterol.
For children less than 2 years, albuterol 1.25 mg
For children greater than or equal to 2 years, albuterol 2.5 mg

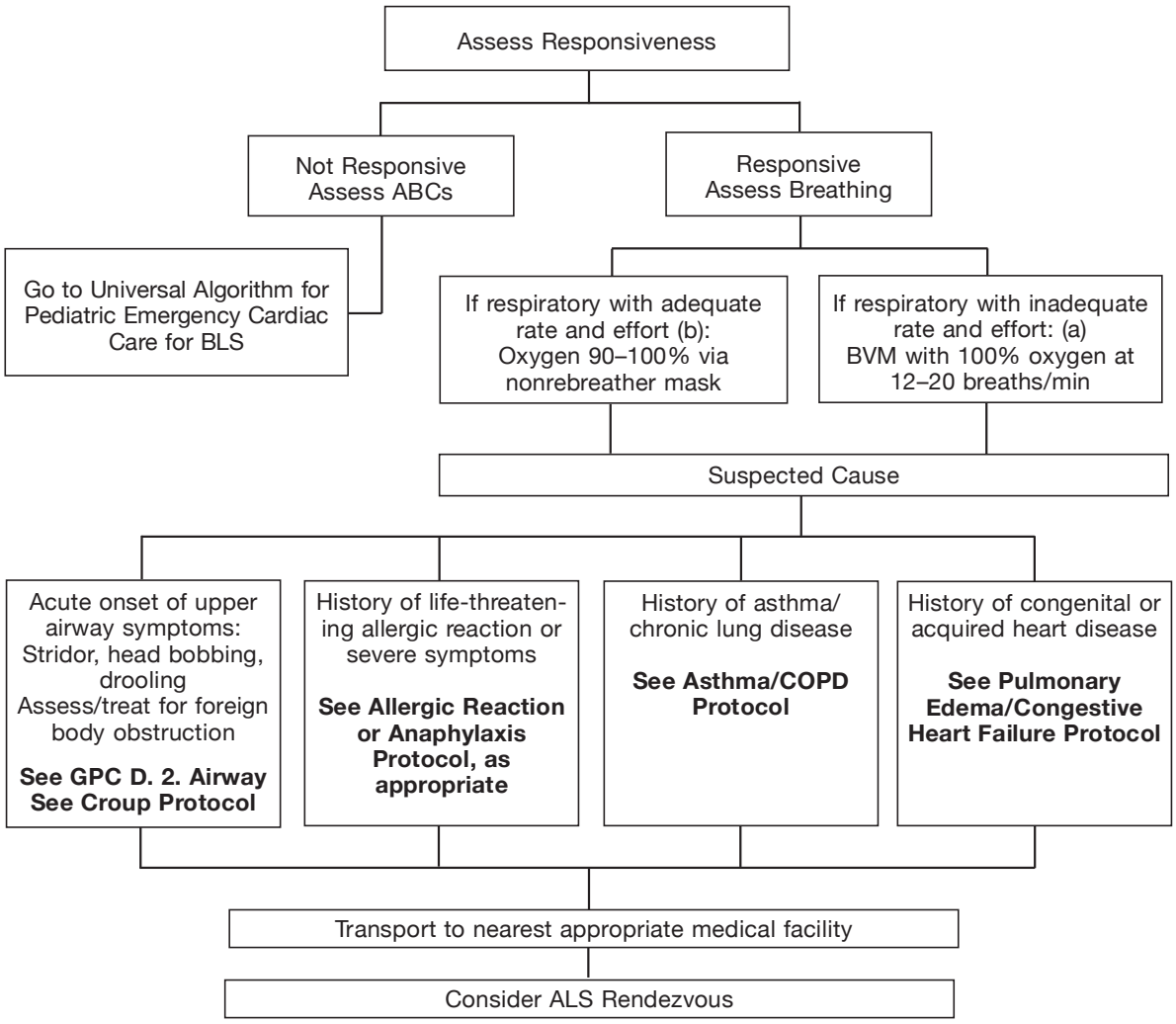
m) Consider morphine.
0.1 mg/kg SLOW IVP/IO/IM (1–2 mg/min)
Maximum dose 5 mg

n) Consider dopamine.
2–20 **mcg**/kg/min
Titrate to pediatric medical consultation directed BP.
IV infusion pump preferred.

4. Continue General Patient Care.
5. Consider transport to the pediatric specialty center that follows patient.

6.

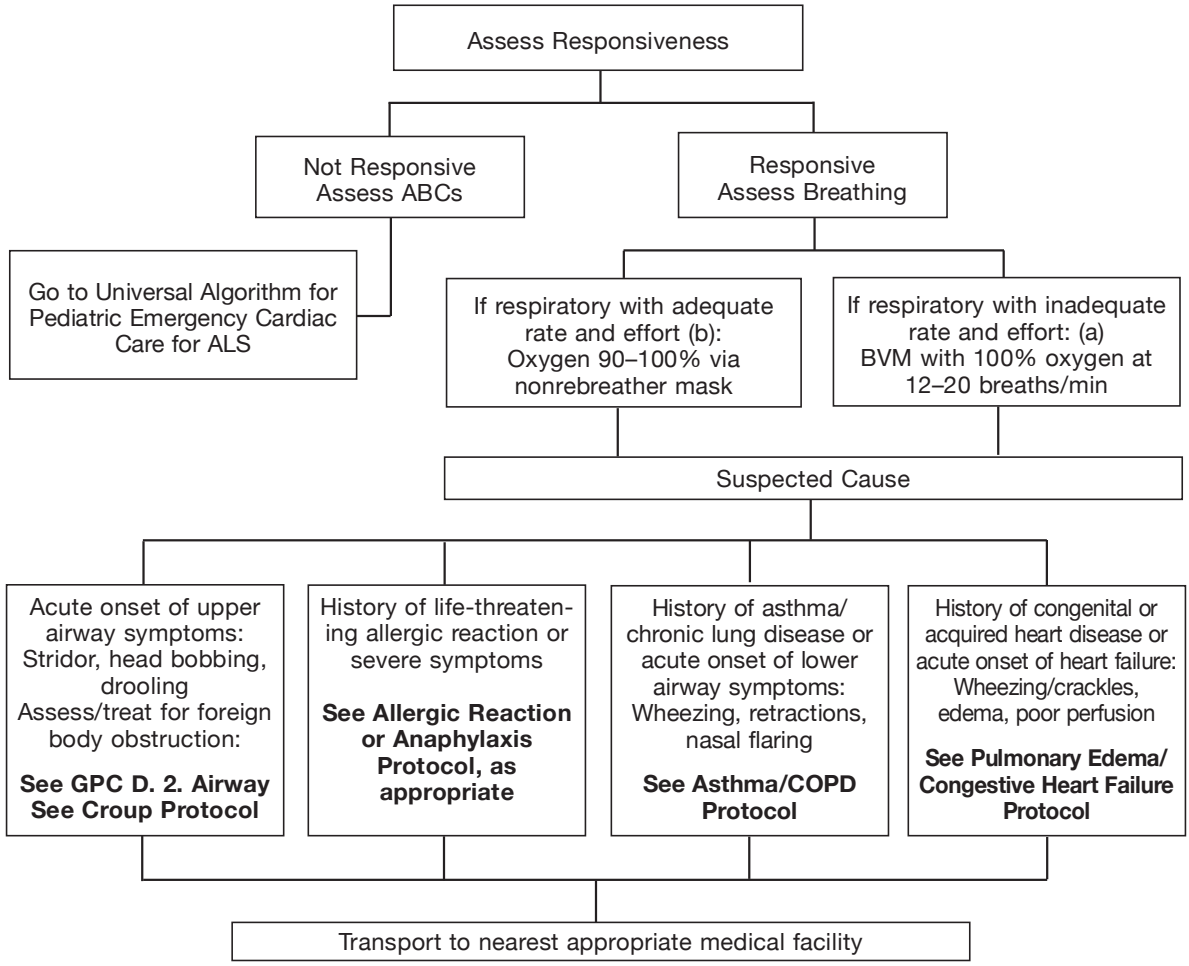
UNIVERSAL ALGORITHM FOR PEDIATRIC RESPIRATORY DISTRESS FOR BLS



(a) Inadequate RR: Infant less than 20 breaths per minute, Child less than 16 breaths per minute, Adolescent less than 12 breaths per minute. Inadequate effort: Poor chest rise, shallow respirations/ poor air movement, cyanosis, severe retractions, paradoxical breathing.

(b) For children with chronic lung disease or congenital heart disease: Maintain or increase home oxygen to maintain patient's target saturations.

7. UNIVERSAL ALGORITHM FOR PEDIATRIC RESPIRATORY DISTRESS FOR ALS



(a) Inadequate RR: Infant less than 20 breaths per minute, Child less than 16 breaths per minute, Adolescent less than 12 breaths per minute. Inadequate effort: Poor chest rise, shallow respirations/ poor air movement, cyanosis, severe retractions, paradoxical breathing.

(b) For children with chronic lung disease or congenital heart disease: Maintain or increase home oxygen to maintain patient's target saturations.

SS. SEPSIS: ADULT

1. Initiate General Patient Care

2. Presentation **(NEW '19)**
   a) Infection can cause a systemic response resulting in fever, altered mental status, shock including or excluding hypotension, and death. Early recognition and treatment with aggressive fluids, when not contraindicated, and early hospital notification may improve survival rates and patient outcomes.
   b) The following patient populations are considered especially high risk for sepsis and should have their temperature measured:
      (1) Altered mental status
      (2) Patients in long term care facilities (nursing home)
      (3) Indwelling catheters
      (4) Oncology patients
      (5) Solid organ transplant
      (6) Bed ridden
      (7) Post-operative
      (8) Currently on antibiotics
      (9) Asplenic
      (10) Left ventricular assist device
   c) For an adult patient, 18 years of age and older, to qualify for this protocol, they must have a suspected source of infection AND also present with at least two of the following criteria:
      (1) Temp greater than 100.4ºF (38ºC) or less than 95.9ºF (35.5ºC)
      (2) HR greater than 100 bpm
      (3) RR greater than 25 (or $EtCO_2$ less than or equal to 32 mmHg)
      (4) Hypotension (systolic BP less than 90 mmHg)
      (5) Point of care lactate reading greater than or equal to 4 mmol/L (if available)
   d) Patients with hypotension or altered mental status should be considered to have septic shock and treated and transported rapidly. Patients may be treated under this protocol if they do not meet the above criteria with medical consultation.

IF PATIENT MEETS ABOVE SEPSIS CRITERIA, THIS PATIENT IS A PRIORITY 1 OR 2 PATIENT AND REQUIRES NOTIFICATION OF THE NEAREST APPROPRIATE FACILITY AS SOON AS POSSIBLE TO ALLOW FOR HOSPITAL PREPARATION. DURING THE CONSULTATION WITH THE RECEIVING FACILITY, THE PROVIDER SHALL USE THE VERBIAGE, "SEPSIS ALERT" AS THE UNIVERSAL METHOD OF NOTIFYING THE FACILITY THAT THE PATIENT MEETS THE SEPSIS INCLUSION CRITERIA

3. Treatment
   a) Place patient in position of comfort, or supine if hypotension is present.
   b) Carefully monitor airway and respiratory status, manage as required using the appropriate respiratory distress protocol (especially for patients with suspected pneumonia).

SS. SEPSIS: ADULT (Continued)

c) Initiate large bore IV. If large bore IV not available, consider a second peripheral IV with the intention of not causing delay in transport and reserve the use of IO for priority 1 patient. If transport time is greater than 20 minutes and IV access is unsuccessful, consider placement of an IO (especially for septic shock). Consider performing a blood draw if time permits. Accurately document start time of IV fluid initiation. **(NEW '19)**

d) If lungs are clear, and patient does not have a history of CHF or end stage renal failure, provide 2 L of LR wide open. Reassess every 500 mL for shortness of breath, blood pressure, and SpO_2 saturation changes.
OR

e) If patient is fluid sensitive (i.e., has a history CHF, pulmonary edema, or end stage renal disease) infuse 250 mL and carefully monitor and reassess. Repeat 250 mL once if no worsening of respiratory status is noted to a max of 500 mL (consultation may be obtained to provide more fluid).

f) If available, perform point of care lactate testing (Jurisdictional Pilot Program only).

ALERT FLUID LIMITS OR DOSES MAY BE MODIFIED WITH CONSULTATION.

g) Place patient on cardiac monitor and perform 12-lead (do not delay IV therapy or fluid bolus).

h) If hypotension persists after 2 L of LR are provided, consider an additional 2 L of LR (up to a maximum of 30 mL/kg total, including the first 2 L bolus) and/or dopamine 2–20 **mcg**/kg/min (paramedic only). Titrate to a Mean Arterial Pressure of 65 mmHg or systolic BP of 90 mmHg.

4. Continue General Patient Care.

TT. SEPSIS: PEDIATRIC

1. Initiate General Patient Care

2. Presentation
   a) Infection can cause a systemic response resulting in fever, altered mental status, shock including or excluding hypotension, and death. Early recognition and treatment with aggressive fluids, when not contraindicated, and early hospital notification may improve survival rates and patient outcomes.
   b) The pediatric septic patient may be difficult to identify due to a poor history or providers may have difficulty identifying an obvious source of infection, as many pediatric sepsis patients are very young children or infants.
   c) The following pediatric patients are at greater risk for sepsis and should have their temperature measured:
      (1) Altered mental status
      (2) Asplenia (spleen removed from treatment of trauma or illness)
      (3) Bone marrow or solid organ transplant
      (4) Cancer patients
      (5) Cerebral Palsy
      (6) Sickle Cell Disease
      (7) Central or indwelling catheters
      (8) Immunodeficiency or immunosuppression
      (9) Bed ridden
      (10) Severe mental delay
   d) For a pediatric patient, who has not reached their 18th birthday, to qualify for this protocol, they must have a known or suspected infection AND also present with at least three of the Pediatric Sepsis Rule-In Criteria by Age.
   e) A patient not meeting three or more Pediatric Sepsis Rule-In Criteria by Age may be treated under this protocol with Pediatric Base Station approval if sepsis is suspected by the prehospital provider.

ALERT ALTERED MENTAL STATUS REQUIRES GLUCOSE CHECK.

   f) Patients who meet the sepsis rule-in criteria and have at least one of the High risk Sepsis Rule-In Criteria by Age (shaded) should receive aggressive standing order fluid therapy. Other patients meeting the pediatric sepsis rule-in criteria but not having one of the high risk signs may be treated only after contacting a Pediatric Base Station for medical consultation.

TT. SEPSIS: PEDIATRIC (Continued)

Pediatric Sepsis Rule-In Criteria by Age						
Suspected or known infection plus three criteria						
	Less than 28 days	**1-12 months**	**1 year but less than 2 years**	**2-4 years**	**5-12 years**	**13-17 years**
Heart Rate (sustained)	greater than 205 bpm	greater than 205 bpm	greater than 190 bpm	greater than 140 bpm	greater than 140 bpm	greater than 100 bpm
Respiratory Rate	greater than 60 rpm	greater than 60 rpm	greater than 40 rpm	greater than 40 rpm	greater than 34 rpm	greater than 25 rpm
Temp	greater than 38.0 C° or greater than 100.4 F°					
Cap Refill/Skin	Delayed (greater than 3 seconds), mottled					
Systolic BP (mmHg)	less than 60	less than 70	(less than 70+ (age x2))	(less than 70+ (age x2))	(less than 70+ (age x2))	less than 90
Mental Status	Unresponsive, confused, inappropriate, lethargic					
High Risk Condition	Cancer, Asplenia, Sickle Cell Disease, bone marrow or solid organ transplant, central or indwelling line/catheter, immunodeficiency or immunosuppression					
Meeting any of these criteria indicates standing order initiation of a fluid bolus.						

IF A PEDIATRIC PATIENT MEETS THE ABOVE **PEDIATRIC SEPSIS RULE-IN CRITERIA BY AGE**, THIS PATIENT IS A PRIORITY 1 OR 2 PATIENT AND REQUIRES NOTIFICATION AS "SEPSIS ALERT" TO THE NEAREST APPROPRIATE FACILITY PRIOR TO ARRIVAL.

IF A PEDIATRIC PATIENT MEETS ANY OF THE **SEPSIS RULE-IN PLUS ONE OR MORE OF THE SHADED AREAS IN THE CHART,** CONSULTATION WITH A DESIGNATED PEDIATRIC BASE STATION IS REQUIRED AND SHOULD BE COMBINED WITH LOCAL BASE STATION CONSULTATION.

3. Treatment

a) Carefully monitor airway and respiratory status. Manage as required using the appropriate respiratory distress protocol (especially for patients with suspected pneumonia).

b) Place patient on cardiac monitor.

c) If patient meets the pediatric sepsis rule-in criteria and meets one of the high risk criteria (shaded), initiate IV/IO access and provide a 20 mL/kg bolus of LR IV/IO over 5–20 min.
Maximum single dose of 2L.
Accurately document start time of IV fluid initiation. **(NEW '19)**

d) Monitor closely for signs of respiratory distress, rales or delayed capillary refill (greater than 2 seconds). If respiratory status deteriorates rapidly, stop bolus and obtain medical consultation.

e) For volume-sensitive children administer initial fluid bolus of 10 mL/kg LR IV/IO (max of 250 mL). (Volume-sensitive children are children who need smaller fluid bolus volumes due to special needs including neonates (birth to 28 days), congenital heart diseases, chronic lung disease, or chronic renal failure.)

TT. SEPSIS: PEDIATRIC (Continued)

f) **If patient's vital signs do not improve after 20 mL/kg fluid,** consider additional 20 mL/kg LR boluses (up to a max of 60 mL/kg total, including first bolus, in one hour).

ALERT FLUID LIMITS OR DOSES MAY BE MODIFIED WITH CONSULTATION.

g) Dopamine 2–20 **mcg**/kg/min IV/IO. Titrate to age-specific vital signs.

h) Consider initiation of a second IV. Initiation of second IV shall not delay transport.

i) Patients with fever or known or suspected infection and hypotension or altered mental status should be considered to have septic shock and treated and transported rapidly.

4. Continue General Patient Care.

UU. STROKE: NEUROLOGICAL EMERGENCIES (NEW '19)

1. Initiate General Patient Care.
2. Presentation
   Patient may present with numbness or weakness (often on one side only), difficulty speaking, sudden onset of dizziness or loss of balance, blurred vision (including intermittent loss of vision in one or both eyes, which may have resolved upon arrival of EMS), or a severe, unexplained headache. May be accompanied by seizures or altered mental status.

The Cincinnati Prehospital Stroke Scale

(Kothari R, et al. Acad Emerg Med 1997; 4:9866-990.)

Facial Droop (have patient show teeth or smile):
- Normal – both sides of face move equally
- Abnormal – one side of face does not move as well as the other side

Arm Drift (patient closes eyes and holds both arms straight out for 10 seconds):
- Normal – both arms move the same or both arms do not move at all (other findings, such as strength of grip, may be helpful)
- Abnormal – one arm does not move or one arm drifts down compared with the other

Abnormal Speech (have the patient say "you can't teach an old dog new tricks"):
- Normal – patient uses correct words with no slurring
- Abnormal – patient slurs words, uses the wrong words, or is unable to speak

Posterior Cerebellar Assessment
Balance and eyes: patient complains of sudden onset of loss of balance or dizziness, or has sudden vision loss (including intermittent loss of or blurred vision) indicates a stroke affecting the posterior cerebellar circulation.

If Posterior Cerebellar Assessment OR Cincinnati Prehospital Stroke Scale is positive, perform the Los Angeles Motor Scale (LAMS). Relay LAMS score to the receiving hospital during Stroke Alert notification.

The Los Angeles Motor Scale (LAMS)

Facial droop	
Absent	0
Present	1
Arm drift	
Absent	0
Drifts down	1
Falls rapidly	2
Grip strength	
Normal	0
Weak grip	1
No grip	2