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Amended November 13, 2013

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***Advanced Life Support
Standard Operating Procedures***

Region X Standard Operating Procedures
 Log of Changes Dated 2/6/14
 Revised 2/12/14

Date of Change	Name	Page #	Change
Prior to printing 1/6/2012	Pediatric Ventricular Fibrillation	47	Added adult maximum dose as a safety for pediatric weight-based medication
Prior to printing 1/6/2012	Pediatric Allergic Reaction	54	Added adult maximum dose as a safety for pediatric weight-based medication
4/9/2013	Signature Page	i	New signature page for change in Medical Director from Vista EMS System
9/12/12	Asthma/COPD with Wheezing	20	Added duoneb of Albuterol and Atrovent rather than just Albuterol for first dose.
9/12/12	Adult Allergic Reaction	22	Added duoneb of Albuterol and Atrovent rather than just Albuterol for first dose
9/12/12	Pediatric Asthma	51	Added duoneb of Albuterol and Atrovent rather than just Albuterol for first dose
9/12/12	Pediatric Croup	52	Added duoneb of Albuterol and Atrovent rather than just Albuterol for first dose
9/12/12	Pediatric Allergic Reaction	54	Added duoneb of Albuterol and Atrovent rather than just Albuterol for first dose
11/13/13	Adult Bradycardia and AV Blocks	12	Increased Fentanyl dose to 1 mcg/kg from 0.5 mcg/kg
11/13/13	Diabetic Emergencies	26	Added oral glucose gel to algorithm (had been part of an Interim SOP during D50% shortage)
11/13/13	Adult Pain Management	34	Increased Fentanyl dose to 1 mcg/kg from 0.5 mcg/kg
11/13/13	Adult Nausea Management	34	Added ORAL route option to existing medication Zofran
11/13/13	Pediatric Nausea Management	58	Added ORAL route option to existing medication Zofran if patient greater than 40 kg
11/13/13	Adult Weight Based Medication Chart	103	Fentanyl calculations changed to depict increased dose from 0.5 mcg/kg to 1 mcg/kg
11/13/13	Region X Approved Drug Information List	109	Fentanyl dose reflects increase from 0.5 mcg/kg to 1 mcg/kg
11/13/13	Region X Drug Route Options	113	Reflects ORAL Zofran option and ORAL Glucose option
1/14/14	Tourniquet Use	82	NEW for Region X
2/12/14	Pediatric Near Drowning	59	Ventilation rate after intubation revised to every 6-8 seconds
4/21/14	Suspected Elder Abuse	68	Updated number for the Elder Abuse Hotline

2011 REGION X STANDARD OPERATING PROCEDURES
Amended 04/9/13

These protocols have been developed and approved through a collaborative process involving the four Emergency Medical Services (EMS) Systems located in the EMS/Trauma Region X of the Illinois Department of Public Health (IDPH).

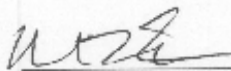
- Condell Medical Center EMS System
- Highland Park Hospital EMS System
- Saint Francis Hospital EMS System
- North Lake County EMS System

These protocols shall be used:

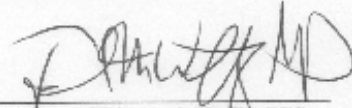
- as the written practice guidelines and pre-hospital standing medical orders as approved by the EMS Medical Directors and to be initiated by the System EMS personnel for off-line medical control,
- as the standing medical orders to be used by Emergency Communication Radio Nurses (ECRN's) when providing on-line medical control,
- in disaster situations, given that the usual and customary forms of communication are contraindicated as specified in the Region X Multiple Patient Management Plan (MPMP).

The signatures of the agents listed below officially authorize the provision of emergency medical care by Region X EMS personnel and hospital-based Emergency Communication Registered Nurses. These protocols have been approved by the Illinois Department of Public Health.

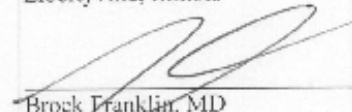
Officially approved: 4/9/13 (Date)



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INTRODUCTION TO THE USE OF STANDARD OPERATING PROCEDURES

The following Standard Operating Procedures (SOP's) are to be employed for all patients requiring pre-hospital medical treatment within the IDPH designated EMS/Trauma Region X.

Important points:

- EMS System providers are authorized to carry out these protocols to the extent necessitated by the patient's condition.
- ECRN's may give only those orders outlined in these protocols. *Any deviations from Standard Operating Procedures are to be made in collaboration with the Emergency Department (ED) Physician.*
- If a patient's situation is not covered by the standard operating procedures, providers should initiate routine medical or trauma care and **Contact Medical Control** at the appropriate hospital for further direction from an ED physician. In all circumstances, such physicians have the latitude to deviate from these protocols if it is believed that the deviation is in the best interest of the patient.
- Care is to be initiated consistent with these Standard Operating Procedures upon the arrival of EMS or at the earliest possible time after EMS determines that the scene is considered to be safe.
- Under no circumstances shall emergency pre-hospital care be delayed while attempting to establish contact with Medical Control.
- EMS personnel may withhold or withdraw resuscitative efforts in accordance with *Withdrawing Resuscitative Efforts* found on page 11 or *Withholding Resuscitative Efforts* found on page 87 of these Standard Operating Procedures.
- Unless otherwise specified, the pediatric patient is considered to be under the age of 16.
- An alternate order of listed interventions may be appropriate based upon patient assessment.
- It is understood that during multiple patient incidents altered standards of care may be necessary in order to provide the greatest good to the greatest number of patients.

SEQUENCE FOR TRANSMISSION OF PATIENT INFORMATION

1. Identify provider name and vehicle number
2. Age, gender, and approximate weight
3. Level of consciousness
4. Chief Complaint - Degree Of Distress - Assessment Findings
 - Blood Pressure
 - Pulse
 - Respirations - rate and degree of distress
 - ECG/12 lead if indicated
 - Pulse Oximetry/capnography
 - Blood Glucose level (when indicated)
 - Lung sounds (when indicated)
 - Pupils
 - Skin condition and color
 - Glasgow Coma Scale
 - Pain Assessment
5. Treatment rendered and the patient's response to the treatment rendered
6. History of present illness or injury, time of onset, mechanism of injury, and/or nature of illness
7. Past medical history
8. Allergies
9. Medications
10. ETA and destination

ABBREVIATED REPORT

An abbreviated report may be provided to Medical Control in situations where resources are limited and/or the patient's condition is critical.

1. Identify provider name, vehicle number and receiving hospital
2. Declare "This is an abbreviated radio report"
3. Nature of situation and protocol being followed
4. Age and gender of patient
5. Chief complaint, brief history of present illness/injury and time of onset
6. Airway and vascular access status
7. Current vital signs, Glasgow Coma Scale
8. Major interventions completed or being attempted
9. ETA to receiving hospital

Be prepared to provide detailed information upon arrival at the hospital.

AEROMEDICAL TRANSPORTATION

Aeromedical transportation should be considered for the patient after a thorough patient assessment has been completed. Aeromedical transportation should be considered:

1. When the time of transport by ground to an appropriate facility poses a threat to the patient's survival and recovery.
2. When extrication, rescue, weather and/or traffic conditions may delay the transportation of the patient to an appropriate hospital.

Ongoing assessment, treatment and patient packaging should be continued until relieved by the Aeromedical Transportation Team.

Circumstances that may warrant Aeromedical Transportation include, but are not limited to:

1. Trauma patients with prolonged extrication
2. Patients requiring reimplantation
3. Patients requiring a burn center in association with multiple system injuries
4. Clear evidence of cardiac/great vessel injury
5. Paralysis due to spinal cord injury
6. Multiple patients (i.e., mass-casualty incident) in need of a Trauma Center
7. Multiple system trauma

Communication Details:

1. EMS personnel at the scene may contact a helicopter service directly.
2. EMS personnel must **Contact Medical Control** that a helicopter service has been contacted. A patient status report and the helicopter's hospital destination shall also be reported.

NOTE: Consider helicopter estimated time of arrival (ETA) as well as air transport time when determining the benefit of aeromedical transportation vs. ground transport.

ADULT ROUTINE MEDICAL CARE

ALL patient care begins with assessing scene safety and the use of standard precautions.

1. INITIAL/PRIMARY ASSESSMENT

- a. Airway
- b. Breathing
- c. Circulation
- d. AVPU and Glasgow Coma Scale determination
- e. Expose and examine as indicated

2. IDENTIFY PRIORITY PATIENTS AND MAKE TRANSPORT DECISION.

3. ADDITIONAL ASSESSMENT (To include Focused History, Physical Exam and SAMPLE History)

- a. Vital Signs, pain scale
- b. Determine weight as indicated
- c. Apply pulse oximeter or capnography (if available) and record reading before and during OXYGEN administration. Administer OXYGEN, if SpO₂ is less than 94% or patient shows signs of respiratory distress.
 - Nasal Cannula 2-6 liters/minute
 - Non-Rebreather Mask – 12-15 liters/minute
 - Bag Valve Mask – 15 liters/minute
- d. Evaluate cardiac rhythm as needed and obtain 12-lead ECG
- e. Establish NORMAL SALINE per IV/IO and adjust flow rate as indicated by the patient's condition and age. If signs and symptoms of shock or hypoperfusion, administer fluid challenges in 200 mL increments. Titrate to desired patient response. (May use a saline lock cap on IV catheter hub for stable patients.)
- f. Determine blood glucose level if appropriate
- g. Reassess vital signs, pain scale, pulse oximetry or capnography (if available), and patient condition as frequently as the patient's condition indicates and after each intervention

4. CONTACT MEDICAL CONTROL

5. TRANSPORT TO THE CLOSEST APPROPRIATE FACILITY

Closest appropriate facility means the comprehensive emergency department of patient choice within the department's transport area or the nearest hospital in cases of life threatening emergencies.

UNIVERSAL ADULT EMERGENCY CARDIAC CARE

Assess responsiveness
Assess pulse

RESPONSIVE



Adult Routine Medical Care

UNRESPONSIVE



If no breathing or only gasping,
and no pulse felt within 10 seconds
begin compressions until monitor/defibrillator is ready
to view rhythm
Treat dysrhythmias per protocols
⇓
After 30 compressions, deliver 2 breaths
Continue 30:2 compressions to ventilation cycle
for 2 minutes
⇓
Assess cardiac rhythm and pulse every 2 minutes
during CPR
⇓
Vascular access IV/IO
⇓
Consider advanced airway
Confirm device placement and ventilation
With advanced airway in place, deliver 1 breath every
6-8 seconds

ADULT DRUG ASSISTED INTUBATION

INDICATIONS:

- Failure to maintain an adequate airway or aspiration risk, or
- Actual or pending respiratory failure (severe CHF, pulmonary edema, COPD, asthma or anaphylaxis, with RR < 10 or > 40, shallow/labored effort or SpO₂ ≤ 92% while on 100% oxygen), or
- GCS 8 or less, or
- Inability to ventilate/oxygenate adequately, or
- Anticipated patient deterioration due to airway in imminent risk of closure

CAUTION:

- Patients 60 years of age or older, debilitated or chronically ill may require much lower dosages to achieve desired effect

Adult Routine Medical Care/Adult Routine Trauma Care



Pre-oxygenate 100% OXYGEN for 3 minutes
Assist ventilations with 1 breath every 5-6 seconds

NOTE: For suspected increased intracranial
pressure patients

(head injury, stroke, HTN crisis) premedicate with:
LIDOCAINE 1.5 mg/kg IVP/IO



ETOMIDATE 0.3 mg/kg IVP/IO (maximum 20 mg)



Attempt to Intubate

For post-intubation sedation VERSED 2 mg IVP/IO every 2 minutes titrate to desired effect
to a maximum of 20 mg

If airway secured with endotracheal tube, apply cervical collar to maintain tube position



If unable to intubate, consider airway alternatives

AUTOMATIC IMPLANTED CARDIAC DEFIBRILLATOR (AICD)

1. Adult Routine Medical Care or Pediatric Routine Medical Care (position of comfort)
2. Prehospital personnel in contact with the patient at the time of AICD firing are in NO DANGER.
3. Treat dysrhythmias per protocols except:
 - a. ALL DEFIBRILLATION ATTEMPTS SHOULD BE AT 360 JOULES OR EQUIVALENT BIPHASIC.
 - b. If NO response, alter pad placement slightly between defibrillation attempts.
 - c. Avoid direct placement of the defib pads over the AICD unit as this could damage the unit.
4. Any patient who has been defibrillated by his/her AICD should be strongly encouraged to seek medical attention regardless of the patient's current condition.

TRANSITION OF CARE FROM AED TRAINED PERSONNEL TO ALS

PROCEDURE

1. On arrival of ALS trained personnel:
 - a. Obtain report from the AED personnel
 - b. Allow the AED to finish the cycle, continue CPR
 - c. Attach a monitor/defibrillator to the patient before disconnecting the AED
 - d. Perform a rapid assessment and rhythm interpretation
 - e. If a shockable rhythm, defibrillate at maximum joules or biphasic equivalent
 - f. Consider the shocks delivered by the AED as part of the ALS protocol
2. ALS personnel should proceed to IV/IO access, medication administration and advanced airway maintenance.
3. Subsequent defibrillation should be at maximum joules.

NOTE: For children 1 through 8 years of age, a standard AED may be used if pediatric dose-attenuator system is not available. For infants less than 1 year of age, manual selection defibrillation is preferred; however an AED with pediatric dose-attenuator is acceptable. If neither is available, a standard AED may be used.

ADULT ASYSTOLE/PULSELESS ELECTRICAL ACTIVITY

POSSIBLE CAUSES

Hypovolemia	Toxins
Hypoxia	Tamponade, Cardiac
Hydrogen ion – acidosis	Tension Pneumothorax
Hyper/Hypokalemia	Thrombosis, coronary (ACS)
Hypothermia	Thrombosis, pulmonary (embolism)

Universal Adult Emergency Cardiac Care



Consider and treat possible causes



Administer 200 mL FLUID CHALLENGE if breath sounds are clear

Repeat FLUID CHALLENGE as needed



EPINEPHRINE 1:10,000 1 mg IVP/IO

May repeat every 3-5 minutes



If return of spontaneous circulation,
refer to ROSC Hypothermia Induction



Contact Medical Control for physician approval to
terminate resuscitation per Withdrawing
Resuscitative Efforts protocol

WITHDRAWING RESUSCITATIVE EFFORTS

Contact Medical Control
while continuing patient care



Report events of the call including estimated duration of cardiac arrest
and treatments rendered.



Reaffirm all of the following:

- Patient is a normothermic adult,
- Patient experienced an unwitnessed arrest,
- Airway secured and IV/IO placement confirmed,
- Patient remains in Asystole and
- No response to at least 20 minutes of ALS care



If the Physician orders termination of efforts,
note the time of withdrawal of efforts and the physician's name on the run report.
Notify Coroner or Medical Examiner.

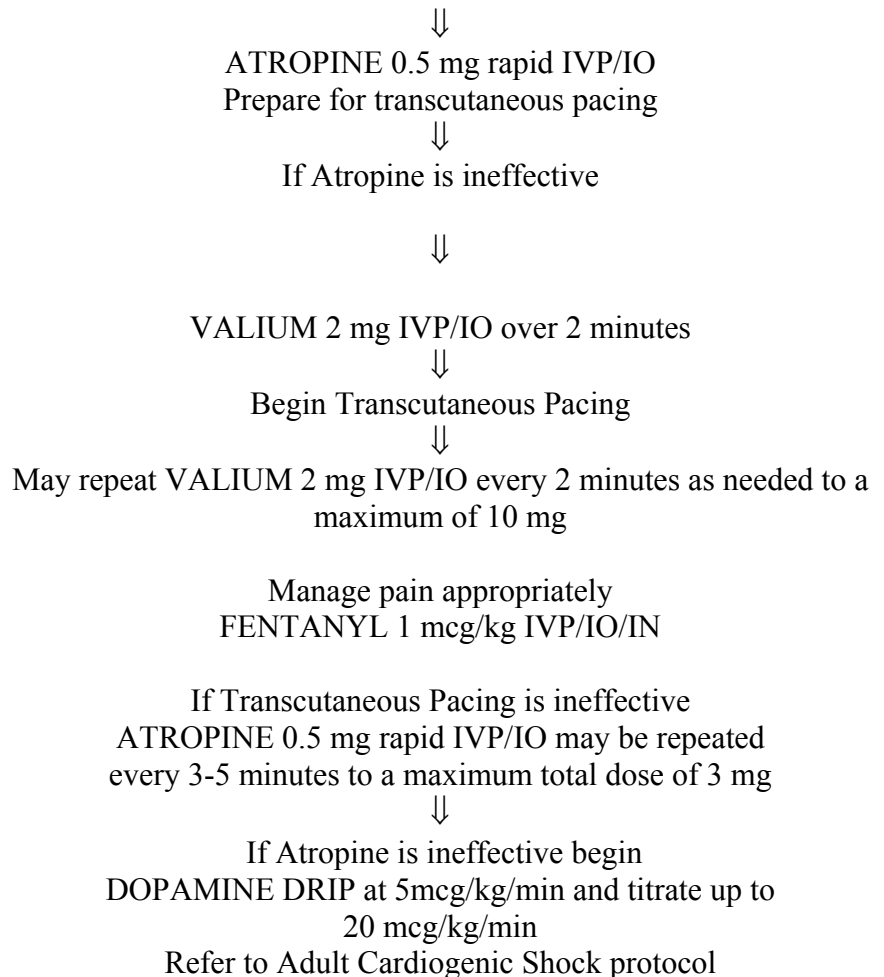
NOTE: Only a physician may make the determination to withdraw resuscitative efforts.
Local law enforcement may assist with Coroner/Medical Examiner notification.
Local department policy may affect transportation considerations.

ADULT BRADYCARDIA AND AV BLOCKS

Adult Routine Medical Care

STABLE
Patient alert
Skin warm and dry
Systolic BP ≥ 90 mmHg

UNSTABLE
Altered mental status
Systolic BP < 90 mmHg



ADULT ACUTE CORONARY SYNDROME

Adult Routine Medical Care

12 lead ECG and **Contact Medical Control for STEMI alert if ST elevation noted**

CAUTION: If ST elevation in II, III and AVF, **Contact Medical Control** as Nitroglycerine and Morphine may be contraindicated.



STABLE

Patient alert

Skin warm and dry

Systolic BP ≥ 90 mmHg



ASPIRIN 324 mg by mouth



NITROGLYCERINE 0.4 mg SL

May repeat every 5 minutes
to a maximum of 3 doses



Manage pain appropriately:



MORPHINE SULFATE 2 mg IVP

slowly over 2 minutes,
May repeat every 2 minutes as needed,
to a maximum total dose of 10 mg

UNSTABLE

Altered mental status

Systolic BP < 90 mmHg



ASPIRIN 324 mg by mouth, if patient can tolerate



IV/IO FLUID CHALLENGE in 200 mL increments
Titrate to desired patient response

ADULT CARDIOGENIC SHOCK

Adult Routine Medical Care



IV/IO FLUID CHALLENGE in 200 mL increments

Titrate to desired patient response

May repeat FLUID CHALLENGE once



DOPAMINE DRIP begin at 5mcg/kg/min and titrate up to 20 mcg/kg/min
to maintain a Systolic BP \geq 90 mmHg

DOPAMINE DRIP PREMIX (800 mg/500 mL or 400 mg/250 mL)

BODY WEIGHT		DOSE RANGE			
<i>lbs</i>	<i>kg</i>	<i>5mcg/kg/min</i>	<i>10 mcg/kg/min</i>	<i>15mcg/kg/min</i>	<i>20mcg/kg/min</i>
100	45	8 mcgtts/min	16 mcgtts/min	24 mcgtts/min	32 mcgtts/min
121	55	10 mcgtts/min	20 mcgtts/min	30 mcgtts/min	40 mcgtts/min
143	65	12 mcgtts/min	24 mcgtts/min	36 mcgtts/min	48 mcgtts/min
165	75	14 mcgtts/min	28 mcgtts/min	42 mcgtts/min	56 mcgtts/min
187	85	16 mcgtts/min	32 mcgtts/min	48 mcgtts/min	64 mcgtts/min
210	95	19 mcgtts/min	38 mcgtts/min	57 mcgtts/min	76 mcgtts/min
240	109	22 mcgtts/min	44 mcgtts/min	66 mcgtts/min	88 mcgtts/min
260	118	24 mcgtts/min	48 mcgtts/min	72 mcgtts/min	96 mcgtts/min

**ADULT SUPRAVENTRICULAR TACHYCARDIA
(NARROW COMPLEX TACHYCARDIA)**

**CONSIDER AND TREAT POSSIBLE
UNDERLYING CAUSES**

Heart failure
Hypovolemia
Side effects of other drugs

Adult Routine Medical Care



STABLE

Patient alert

Skin warm and dry

Systolic BP ≥ 90 mmHg



Instruct the patient to perform
VALSALVA MANEUVER



ADENOSINE 6 mg rapid IVP followed by rapid
flush of 20 mL NS



If no response in 2 minutes:
ADENOSINE 12 mg rapid IVP followed by rapid
flush of 20 mL NS



If no response in 2 minutes:



VERAPAMIL 5 mg IVP slowly over 2 minutes



If no response in 15 minutes and Systolic BP ≥ 90
mmHg: may repeat VERAPAMIL 5 mg IVP slowly
over 2 minutes

UNSTABLE

Altered mental status

Systolic BP < 90 mmHg



The conscious patient may receive
VERSED 2 mg IVP/IO
every 2 minutes titrate to desired effect
to a maximum of 10 mg
NOTE: Do not delay cardioversion for
sedation



SYNCHRONIZED CARDIOVERSION
at 100 joules or equivalent biphasic



SYNCHRONIZED CARDIOVERSION
at 200 joules or equivalent biphasic



SYNCHRONIZED CARDIOVERSION
at 300 joules or equivalent biphasic



SYNCHRONIZED CARDIOVERSION
at 360 joules or equivalent biphasic

NOTE: Manage pain appropriately.

**ADULT RAPID ATRIAL FLUTTER/FIBRILLATION
(NARROW COMPLEX TACHYCARDIA)**

Adult Routine Medical Care



STABLE

*Patient alert
Skin warm and dry
Systolic BP ≥ 90 mmHg*



Instruct the patient to perform
VALSALVA MANEUVER

VERAPAMIL 5 mg IVP slowly over 2
minutes



If no response in 15 minutes
and Systolic BP ≥ 90 mmHg:
may repeat VERAPAMIL 5 mg IVP slowly
over 2 minutes

UNSTABLE

*Altered mental status
Systolic BP < 90 mmHg*



The conscious patient may receive
VERSED 2 mg IVP/IO every 2 minutes titrate
to desired effect to a maximum of 10 mg
NOTE: Do not delay cardioversion for
sedation



SYNCHRONIZED CARDIOVERSION at
100 joules or equivalent biphasic



SYNCHRONIZED CARDIOVERSION at
200 joules or equivalent biphasic



SYNCHRONIZED CARDIOVERSION at
300 joules or equivalent biphasic



SYNCHRONIZED CARDIOVERSION at
360 joules or equivalent biphasic

NOTE: Manage pain appropriately.

**ADULT VENTRICULAR FIBRILLATION
OR PULSELESS VENTRICULAR TACHYCARDIA**

POSSIBLE CAUSES	
Hypovolemia	Toxins
Hypoxia	Tamponade, Cardiac
Hydrogen ion – acidosis	Tension Pneumothorax
Hyper/Hypokalemia	Thrombosis, Coronary (ACS)
Hypothermia	Thrombosis, Pulmonary (embolism)

Universal Adult Emergency Cardiac Care



DEFIBRILLATE at 360 j or equivalent biphasic

Resume CPR for 2 minutes



RETURN OF RHYTHM



Adult Routine Medical Care



If return of spontaneous circulation,
refer to ROSC Hypothermia
Induction

PERSISTENT OR RECURRENT V-FIB/PULSELESS V-TACH



EPINEPHRINE 1:10,000 1 mg IVP/IO – Repeat every 3-5
minutes if no response



Check Rhythm, if V-fib or Pulseless V-tach remains:
DEFIBRILLATE at 360 j or equivalent biphasic



Resume CPR for 2 minutes and administer
AMIODARONE 300 mg IVP/IO



Check Rhythm and DEFIBRILLATE at 360 j
or equivalent biphasic

Resume CPR for 2 minutes



AMIODARONE 150 mg IVP/IO

NOTE: Compressions and defibrillation should not be delayed to administer medications. However, if IV access is established, medications may be administered beginning after the first defibrillation attempt.

**ADULT VENTRICULAR TACHYCARDIA
OR WIDE COMPLEX TACHYCARDIA
(PATIENT WITH A PULSE)**

Adult Routine Medical Care



STABLE

Monomorphic Wide Complex
Patient alert
Skin warm and dry
Systolic BP ≥ 90 mmHg



ADENOSINE 6 mg rapid IVP
followed by rapid flush of 20 mL
NS



If no effect in 2 minutes:
AMIODARONE 150 mg diluted
in 100 mL D5W IVPB over
10 minutes

STABLE

Polymorphic Wide Complex
Patient alert
Skin warm and dry
Systolic BP ≥ 90



AMIODARONE 150 mg diluted
in 100 mL D5W IVPB over
10 minutes

UNSTABLE

Altered mental status
Systolic BP < 90 mmHg



The conscious patient may receive
VERSED 2 mg IVP/IO every 2
minutes titrate to desired effect to a
maximum of 10 mg
NOTE: Do not delay cardioversion
for sedation



SYNCHRONIZED
CARDIOVERSION
at 100 joules



If Unsuccessful:
AMIODARONE 150 mg diluted in
100 mL D5W IVPB over 10 minutes
and

SYNCHRONIZED
CARDIOVERSION
at 200 joules



SYNCHRONIZED
CARDIOVERSION
at 300 joules



SYNCHRONIZED
CARDIOVERSION
at 360 joules



If VT recurs, SYNCHRONIZED
CARDIOVERSION
at energy level that was previously
successful

NOTE: Manage pain appropriately.

ADULT ACUTE PULMONARY EDEMA

Adult Routine Medical Care



STABLE

Patient alert

Skin warm and dry

Systolic BP ≥ 90 mmHg



NITROGLYCERINE 0.4 mg SL

May repeat every 5 minutes
to a maximum of 3 doses



Administer CPAP



LASIX 40 mg IVP

(LASIX 80 mg IVP if patient on LASIX)



If Systolic BP remains ≥ 90 mm/Hg give

MORPHINE SULFATE 2 mg IVP

slowly over 2 minutes

May repeat every 2 minutes as needed,
to a maximum of 10 mg

UNSTABLE

Altered mental status

Systolic BP < 90 mmHg



Consider Cardiogenic Shock Protocol



Treat dysrhythmias per protocols



Contact Medical Control for CPAP order

NOTE: At any time during CPAP treatment, if the patient shows signs and symptoms of deterioration, remove CPAP and consider endotracheal intubation.

ADULT ASTHMA/COPD WITH WHEEZING

Adult Routine Medical Care



ALBUTEROL 2.5 mg/3mL mixed with ATROVENT 0.5 mg/2.5 mL NEB treatment
with OXYGEN flow of 6 liters/minute



If no improvement, administer
ALBUTEROL 2.5 mg/3mL mixed with ATROVENT 0.5 mg/2.5 mL NEB treatment



If no improvement, administer ALBUTEROL 2.5 mg/3mL NEB treatment
May repeat every 5 minutes



For severe distress **Contact Medical Control** to consider
EPINEPHRINE 1:1000 0.3 mg IM

Do not delay transport while waiting for response

Amended 9/12/12

NOTE: ALBUTEROL/ATROVENT and ALBUTEROL NEB treatment may be administered in-line for those patients requiring intubation.

Contact Medical Control to consider use of CPAP in a patient with symptoms of COPD.

CARBON MONOXIDE/SMOKE INHALATION

Adult Routine Medical Care or Pediatric Routine Medical Care



OXYGEN at 100%
Vomiting precautions



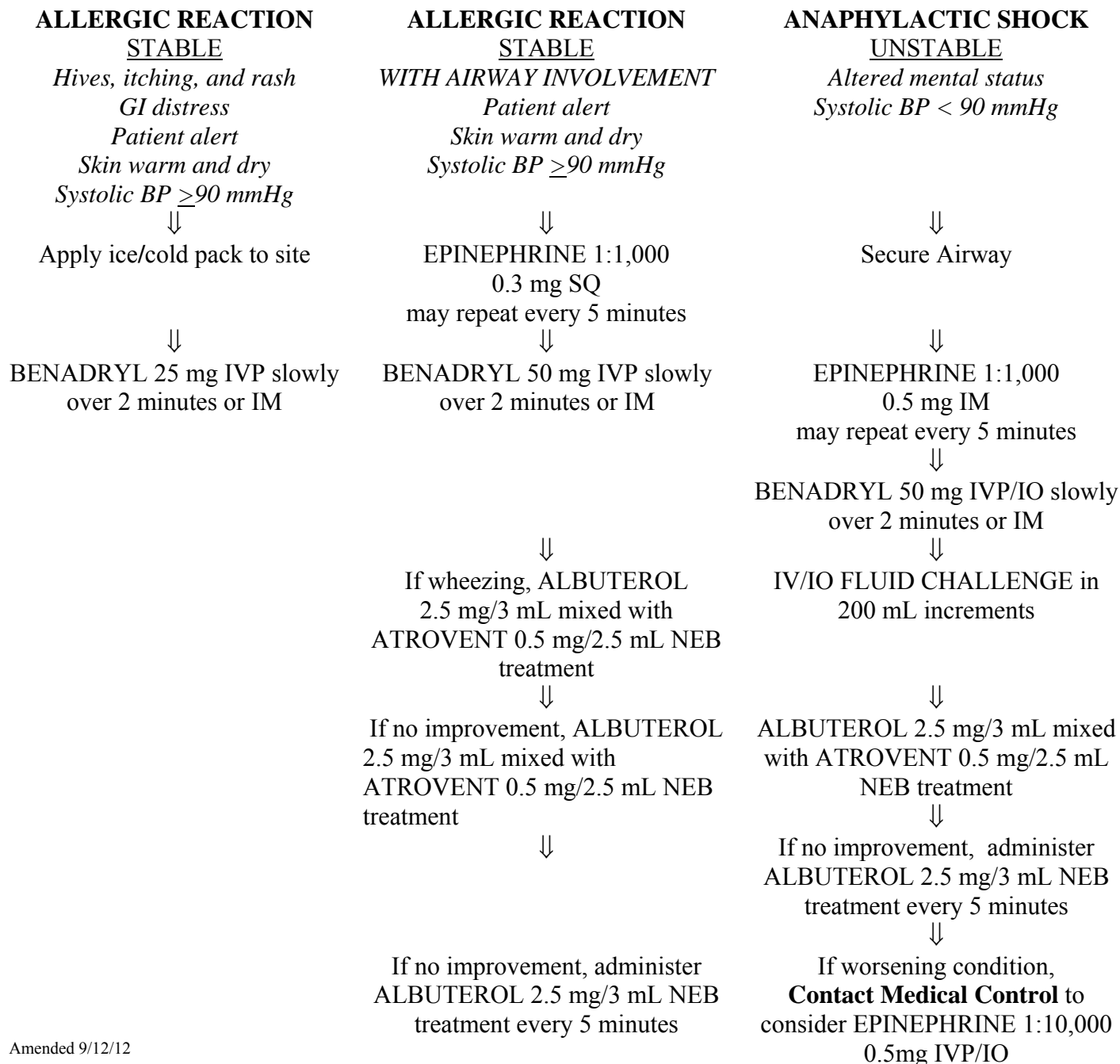
NON-INVASIVE CARBON MONOXIDE MEASUREMENTS:

Measurement	Signs and Symptoms
Less than 5%	None (Normal for non-smoker)
5 – 9%	Minor headache (May be normal for smoker)
10 – 19%	Headache, shortness of breath
20 – 29%	Headache, nausea, dizziness, fatigue
30 – 39%	Severe headache, vomiting, vertigo, altered LOC
40 – 49%	Confusion, syncope, tachycardia
50 – 59%	Seizures, shock, apnea
Greater than 59%	Coma, death, cardiac dysrhythmias

NOTE: If indicated, consider Adult or Pediatric Drug Assisted Intubation.
Do not rely on pulse oximetry to indicate degree of hypoxia.
Consider cyanide poisoning in presence of smoke/fire situations.

**ADULT ALLERGIC REACTION
ANAPHYLACTIC SHOCK**

Adult Routine Medical Care



Amended 9/12/12

NOTE: ALBUTEROL/ATROVENT and ALBUTEROL NEB treatment may be administered in-line for those patients requiring intubation.

ADULT ALTERED MENTAL STATUS

CONSIDER ETIOLOGY

Diabetes
Drug Overdose
Poisoning
Alcohol related
Stroke

Adult Routine Medical Care
Immobilize C-spine as indicated
↓

Obtain blood glucose level and record.
If blood glucose is < 60 administer DEXTROSE 50% 50 mL IVP/IO
or
GLUCAGON 1 mg IM/IN

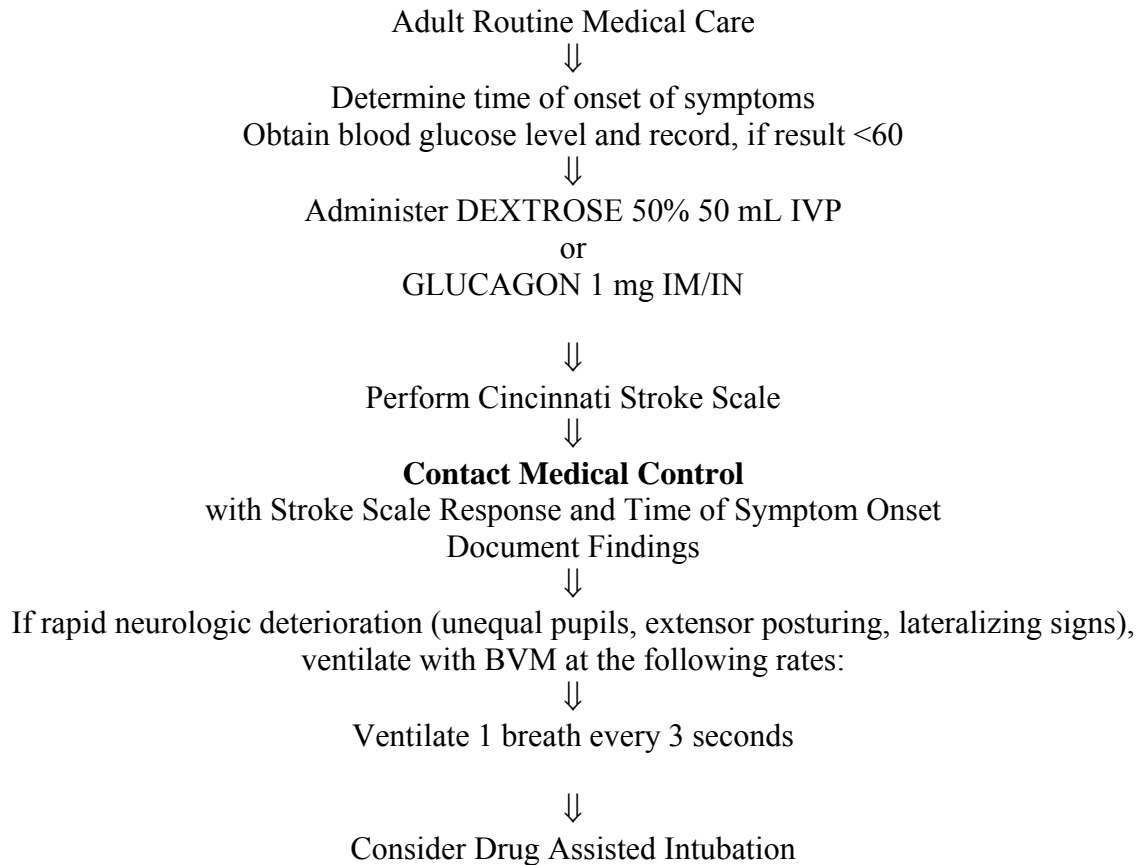
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If patient is not alert, respirations are decreased or a narcotic overdose is suspected:
NARCAN 2 mg IN/IVP/IO every 5 minutes as needed to achieve desired effect
to a maximum total of 10 mg

NOTE: Attempt to identify substance(s) involved.

Any containers found at the scene with medications and/or substances should be brought to the emergency department providing that the transport of the item(s) do not pose a safety risk.
Consider the use of restraints prior to the administration of NARCAN.

STROKE/BRAIN ATTACK



Cincinnati Stroke Scale

	TEST	NORMAL	ABNORMAL
FACIAL DROOP	Have patient show teeth or smile	Both sides of face move equally	One side does not move as well as the other
ARM DRIFT	Patient closes eyes and holds both arms out straight for 10 seconds	Both arms move the same or don't move at all	One arm doesn't move or one arm drifts down compared to the other
ABNORMAL SPEECH	Have patient say, "You can't teach an old dog new tricks"	Patient uses correct words with no slurring	Patient slurs words, uses wrong words, or unable to speak

ADULT HYPERTENSIVE EMERGENCY
No History of Head Trauma

Definition: An acute elevation of Systolic BP > 220 mm Hg or Diastolic BP > 120 mm Hg.
Symptoms: Epistaxis (nosebleed), headache, visual disturbances, and neurologic changes ranging from altered mental status to coma and seizure activity.

Adult Routine Medical Care
Take Blood Pressure in both arms



Monitor vital signs and neuro status every 5 minutes



LASIX 40 mg IVP
80 mg if on LASIX



Contact Medical Control
to consider NITROGYLCERINE

ADULT DIABETIC EMERGENCIES

Adult Routine Medical Care



Obtain history of time of patient's last medication dosage
and whether or not the patient has eaten



HYPOGLYCEMIA

Altered mental status

Blood glucose < 60

or

Unable to determine blood glucose level and
cool, clammy skin



If patient is able to tolerate oral preparation,
has gag reflex and able to protect own airway

ORAL GLUCOSE GEL 15 G



If unable to tolerate oral preparation

DEXTROSE 50% 50 mL IVP

or

GLUCAGON 1 mg IM/IN



If no response repeat
DEXTROSE 50% 50 mL IVP

HYPERGLYCEMIA/KETOACIDOSIS

Blood glucose > 200

or

Unable to determine blood glucose level and warm,
flushed skin and deep, rapid respirations



IV FLUID CHALLENGE in 200 mL increments

Titrate to desired patient response

Amended 11/13/13

**ADULT SEIZURES
STATUS EPILEPTICUS**

Adult Routine Medical Care



Protect patient from injury
Vomiting/aspiration precautions
Do NOT place anything in mouth if actively seizing



VERSED 2 mg IN/IVP/IO every 2 minutes titrate to control seizure activity up to a maximum of 10 mg

If seizure activity continues or recurs,
Contact Medical Control

to repeat VERSED 2 mg IN/IVP/IO every 2 minutes titrate to control seizure activity up to a total maximum
of an additional 10 mg



Obtain blood glucose level
If blood glucose < 60, administer:
DEXTROSE 50% 50 mL IVP/IO
or
GLUCAGON 1 mg IM/IN

Assess for any injury sustained during seizure and/or any incontinence

SEVERE FEBRILE RESPIRATORY ILLNESS

SYMPTOMS

- Fever > 100.4 F
- Cough, shortness of breath or hypoxia
- Travel in an Influenza region
- Close contact with person confirmed or suspected of Influenza in the last 10 days
- Employment in an occupation associated with risk
- Pneumonia on chest x-ray
- Atypical pneumonia without an alternative diagnosis

Take measures to decrease risk of transmission by droplet/airborne/contact



PATIENT

- Patient to don surgical mask
- Hand hygiene with waterless soap
- Instruct on tissue use



PROVIDER

- Limit number of personnel exposed
- Provider to don N95 mask, gloves and eye protection
- Avoid touching outside of N95 mask



Adult Routine Medical Care
Limit interventions to essential procedures



Notify receiving facility of precautions
Consider initial facility evaluation of patient in back of ambulance
to determine isolation needs



Leave equipment in patient room until appropriately cleaned
Refer to agency policy on decontamination of ambulance and equipment
Document exposure to possible communicable disease

ADULT ROUTINE TRAUMA CARE

1. **SCENE SIZE-UP**
 - a. Standard Precautions
 - b. Scene Hazards
 - c. Mechanism of Injury
 - d. Number of Patients
 - e. Need for Additional Resources
2. **INITIAL ASSESSMENT/PRIMARY SURVEY**
 - a. Airway/Spinal Precaution
 - b. Breathing
 - c. Circulation
 - d. AVPU and Glasgow Coma Scale
 - e. Management of immediate life threats
 - i. If traumatic arrest associated with chest trauma, perform bilateral needle decompression
 - ii. If tension pneumothorax, needle decompression to affected side
 - iii. Control bleeding
3. **IDENTIFY PRIORITY OF TRANSPORT**

TREAT AND TRANSPORT	RAPID TRANSPORT
⇓	⇓
Focused Exam	Rapid Trauma Assessment
Examine areas where trauma is expected <ul style="list-style-type: none"> • As per mechanism of injury • As per patient complaint History Vital signs, Pain scale, Neuro exam, Blood glucose	Continue management of life threats Examine head, neck, chest, abdomen, pelvis, extremities, back History Vital signs, Pain scale, Neuro exam, Blood glucose
⇓	⇓
Injury management <ul style="list-style-type: none"> • Airway • Consider need for IV Manage pain appropriately Package patient Transport	Package patient Transport <ul style="list-style-type: none"> • IV/IO FLUID CHALLENGE in 200 mL increments. Titrate to desired patient response Other serious injury management
⇓	⇓
Perform Detailed Exam/Secondary Survey as time permits enroute	Perform Detailed Exam/Secondary Survey as time permits enroute
⇓	⇓
Ongoing assessment as patient condition indicates	Ongoing assessment every 5 minutes

4. **Contact Medical Control enroute; Abbreviated Radio Report may be appropriate for Rapid Transport patients.**

REGION X FIELD TRIAGE CRITERIA FOR ASSESSING TRAUMA PATIENTS

Systolic Blood Pressure Adult ≤ 90 (2 consecutive measurements) Peds ≤ 80 (2 consecutive measurements)	⇒Yes	Transport to highest level Trauma Center within 25 minutes transport time
No↓		
Category I <u>Unstable Vital Signs</u> •Glasgow Coma Scale ≤ 13 with blunt head injury •Respiratory Rate <10 or > 29 <u>Anatomy of Injury</u> •Penetrating injuries to head, neck, torso or groin •Combination trauma with burns $\geq 20\%$ •Two or more proximal long bone fractures •Two or more body regions with potential life/limb threat •Unstable pelvis •Flail Chest •Limb paralysis and/or sensory deficits above the wrist or ankle •Open or depressed skull fractures •Amputation proximal to wrist or ankle	⇒Yes	Transport to highest level Trauma Center within 25 minutes transport time
No↓		
Category II <u>Mechanism of Injury</u> •Ejection from Automobile •Death in same passenger compartment •Motorcycle crash > 20 mph or with separation of rider from bike •Rollover (Unrestrained) •Falls ≥ 20 feet (Peds falls $\geq 3X$ body length) •Pedestrian thrown or run over •Auto vs. Pedestrian/bicyclist with > 5 mph impact •Extrication > 20 minutes •High speed MVC Speed ≥ 40 mph Intrusion ≥ 12 inches Major deformity ≥ 20 inches <u>Co-Morbid Factors</u> •Age ≤ 5 without car/booster seat •Bleeding disorders or on anticoagulants •Pregnancy ≥ 20 weeks •Renal disease requiring dialysis	⇒Yes	Transport to closest Trauma Center
No↓		
Transport to closest appropriate comprehensive emergency department		

NOTE: Traumatic Arrest – transport to closest Trauma Center

No Airway – transport to closest comprehensive Emergency Department

ADULT HEAD/SPINAL INJURIES

Adult Routine Trauma Care



STABLE

Patient alert

Skin warm and dry

Systolic BP \geq 90 mmHg



Focused Exam

UNSTABLE

Altered mental status

Systolic BP < 90 mmHg



Rapid Trauma Assessment



Obtain Blood Glucose level

If results are < 60 administer DEXTROSE 50% 50 mL IVP

or

GLUCAGON 1 mg IM/IN



IV FLUID CHALLENGE in 200 mL increments

Titrate to desired patient response



If rapid neurologic deterioration (unequal pupils, extensor posturing, lateralizing signs) ventilate with BVM at the following rates:

Adult 1 breath every 3 seconds

Children 1 breath every 2 seconds

Infants 1 breath every 1.7 seconds

Consider Adult Drug Assisted Intubation



For seizure activity

VERSED 2 mg IVP/IN/IO every 2 minutes titrate to achieve desired effect up to a maximum of 10 mg

IN-FIELD SPINE CLEARANCE

A reliable patient without signs/symptoms of neck/spine injury and negative mechanism of injury does not require full spinal immobilization.

If any of the following indications exist or when in doubt, fully immobilize the patient.

<p>Mechanism of Injury High velocity MVC \geq 40 mph Unrestrained occupant in MVC Passenger compartment intrusion > 12 inches Ejection from vehicle Rollover MVC Motorcycle collision > 20 mph Death in same vehicle Pedestrian struck by vehicle Falls \geq 2 times patient height Diving injury</p>	⇒Yes	Adult Routine Trauma Care or Pediatric Routine Trauma Care and Full Spinal Immobilization
No↓		
<p>Signs and Symptoms Pain in neck or spine Tenderness/deformity of neck or spine upon palpation Paralysis or abnormal motor exam Paresthesia in extremities Abnormal response to painful stimuli</p>	⇒Yes	Adult Routine Trauma Care or Pediatric Routine Trauma Care and Full Spinal Immobilization
No↓		
<p>Patient Reliability Signs of intoxication Abnormal mental status Communications difficulty Abnormal stress reaction Distracting injuries</p>	⇒Yes	Adult Routine Trauma Care or Pediatric Routine Trauma Care and Full Spinal Immobilization
No↓		
Adult Routine Trauma Care or Pediatric Routine Trauma Care		

ADULT BURNS

Adult Routine Trauma Care
Assess for airway compromise

May be indicated by presence of wheezing, hoarseness, stridor, carbonaceous sputum or singed nasal hair
Consider advanced airway

⇓

To control pain:
MORPHINE SULFATE 2 mg IVP/IO over 2 minutes
May repeat every 2 minutes as needed
to a maximum total of 10 mg

⇓

If no IV access, refer to Adult Pain Management protocol

FURTHER CARE DEPENDENT ON MECHANISM OF BURN:

Evaluate depth of burn and estimate extent using Rule of Nines
IV/IO FLUID CHALLENGE in 200 mL increments as indicated by patient condition
Titrate to patient response

⇓

THERMAL

•Superficial (1st degree)
Cool burned area with water
or saline
<20% body surface
involved, apply sterile
SALINE SOAKED
dressings
DO NOT OVER COOL
major burns or apply ice
directly to burned areas

•Partial or Full thickness
(2nd or 3rd degree)
Cover burn wound with
DRY sterile dressings

⇓

ELECTRICAL

Assess for dysrhythmia
Identify and document any entrance
and exit wounds
Assess neurovascular status of
affected part
Immobilize affected part
Cover wounds with DRY, sterile
dressings

⇓

CHEMICAL

Refer to Haz/Mat protocol
If powdered chemical, brush away excess
Remove clothing if necessary
Flush burn area with sterile water or saline

•IF EYE INVOLVEMENT
Assist patient with removal of contact lens
and irrigate with saline or sterile water
continuously. DO NOT CONTAMINATE
THE UNINJURED EYE WITH EYE
IRRIGATION

ADULT PAIN MANAGEMENT

Routine Adult Trauma Care or Routine Adult Medical Care



Determine pain intensity by utilizing Pain Scale



FENTANYL 1 mcg/kg IVP/IN/IO

May repeat in 5 minutes

FENTANYL 1 mcg/kg IVP/IN/IO

to a maximum total of 200 mcg



If respiratory depression occurs

NARCAN 2 mg IVP/IN/IO

Amended 11/13/13

ADULT NAUSEA MANAGEMENT

Routine Adult Medical Care or Routine Adult Trauma Care



If nausea or vomiting

ZOFRAN 4 mg IVP over 30 seconds

Or

ZOFRAN 4 mg ORAL

May repeat in 10 minutes to a maximum total of 8 mg

Amended 11/13/13

ADULT NEAR DROWNING

Adult Routine Medical Care or Adult Routine Trauma Care



Spinal Precautions



Consider CPAP if patient condition indicates



STABLE

Patient alert

Skin warm and dry

Systolic BP ≥ 90 mmHg

UNSTABLE

Altered mental status

Systolic BP < 90 mmHg



Secure Airway



Assess for hypothermia



Normothermic



Treat dysrhythmias per
protocols



Hypothermic



Refer to Hypothermia
protocol

ADULT HEAT EMERGENCIES

Adult Routine Medical Care

Move the patient to a cool environment
Remove as much clothing as necessary to facilitate cooling

HEAT CRAMPS

*Normal level of consciousness
Muscle cramps or spasms*

HEAT EXHAUSTION

*May have altered mental status
Perspiring, weakness, fatigue,
frontal headache, nausea,
vomiting, dizziness, syncope,
temperature may be elevated*



IV FLUID CHALLENGE
in 200 mL increments
Titrate to desired patient response

HEAT STROKE

*Altered mental status
Hot skin (dry or moist)*



IV FLUID CHALLENGE
in 200 mL increments
Titrate to desired patient response.



INITIATE RAPID COOLING:
Douse towels or sheets with cool
water, place on patient, and fan
body

Cold packs (as available) to lateral
chest wall, groin, axilla, carotid
arteries, temples, and behind knees



Stop cooling if shivering occurs

Consider VALIUM 5 mg IVP/IO
over 2 minutes, titrate to control
shivering

If needed, repeat VALIUM 5 mg
IVP/IO over 2 minutes, to a total
maximum of 10 mg

IF ACTIVELY SEIZING

Refer to Adult Seizure protocol

ADULT HYPOTHERMIA/COLD EMERGENCIES

Adult Routine Medical Care

FROSTBITE



Move patient to a warm environment



Rapidly re-warm frozen areas with warm water (if available)

or

Hot packs wrapped in a towel



HANDLE SKIN LIKE A BURN

Protect affected area with light, dry, sterile dressings

Elevate and immobilize

Do not let affected skin surfaces rub together

Manage pain appropriately

SYSTEMIC HYPOTHERMIA



Avoid rough handling and excess activity

Apply heat packs (as available) to axilla, groin, neck and thorax



Assess pulse

Present



Continue assessment

Absent



Universal Adult Emergency Cardiac Care
Can extremities be flexed?

Yes



Follow appropriate cardiac protocol, but extend time between medications – repeat defibrillation as core temp rises

No



Follow appropriate cardiac protocol, but limit shocks to 1 and withhold IV medications

NOTE: Withdrawal of Resuscitative Effort policy does not apply to these patients.

EMERGENCY CHILDBIRTH

LABOR:

1. Obtain history. Initiate Adult Routine Medical Care.

Gravida (# of pregnancies)

Length of previous labors

Para (# of live births)

Bag of waters (amniotic sac) Intact? Broken?

Due date

Duration and frequency of contractions

High risk concerns

2. Position patient and evaluate for:

SIGNS OF IMMINENT DELIVERY

Crowning

Bulging Perineum

Involuntary Pushing

SIGNS OF COMPLICATIONS

Prolapsed Cord

Profuse Bleeding

Meconium Staining

3. If delivery is not imminent, transport patient on her left side.

DELIVERY:

1. If contractions are 2 minutes apart, or signs of imminent delivery are present, open OB pack and don sterile gloves as well as standard precautions. Drape mother's abdomen and perineum. Prepare to assist the delivery.
2. Initiate Adult Routine Medical Care.
3. Protect perineum with gentle hand pressure while supporting the newborn's head as it emerges from the vagina. Tear amniotic membrane if it is still intact at this point.
4. Check for nuchal cord (cord wrapped around the neck).
5. Clear airway, if necessary, with a bulb syringe. Suction mouth, then nose as soon as head is delivered.
6. To facilitate delivery of the upper shoulder, gently guide the head downwards. Support and lift the head and neck slightly to deliver the lower shoulder. The rest of the newborn should deliver with minimal assistance. Get a firm grasp on newborn. Note time of delivery and record on newborn's PCR.

NEWBORN and POST PARTUM CARE:

1. Spontaneous respirations should begin within 15 seconds after stimulating newborn by drying, rubbing back or flicking the soles of the feet. Do not shake newborn. Rapid assessment should include the following characteristics: term gestation, crying or breathing and good muscle tone.
2. Suctioning with the bulb syringe should be reserved for a newborn with obvious obstruction to spontaneous breathing. If meconium is present and the newborn is not vigorous (decreased RR, decreased muscle tone, HR <100) use meconium aspirator for direct tracheal suctioning.

- a. If still no respirations, begin ventilating at 40-60 breaths/minute. After 30 seconds of ventilation and if pulse < 60 begin chest compressions at a ratio of 3 compressions to 1 ventilation. Refer to Resuscitation of the Newborn/Neonate protocol.
3. Obtain 1 minute APGAR SCORE.
4. Keep newborn level with the vagina until the cord is double-clamped. The cord should be clamped 8 inches from the newborn's navel with 2 clamps placed 2 inches apart. Cut the cord between the two clamps.
5. Continue to dry the newborn and wrap in a dry blanket to provide and maintain body warmth. Wrap the newborn in silver swaddler or blanket, ensuring the head is covered. If the newborn is cyanotic, but breathing spontaneously, place infant NRB mask next to newborn's face and run OXYGEN at 15 liters/minute.
6. Obtain 5 minute APGAR score.
7. Allow placenta to deliver spontaneously. Do not delay transport while waiting for placenta to deliver. Do not pull on cord to facilitate placental delivery. When delivered, collect placenta in plastic bag, bring to hospital and document time of placental delivery.
8. Check perineum for tears. If torn and bleeding, apply direct pressure with sanitary pads, and have patient bring legs together.
9. Observe for excessive vaginal bleeding (more than 500 mL).
 - a. IV FLUID CHALLENGE in 200 mL increments. Titrate to desired patient response.
 - b. Following delivery of the placenta, massage fundus of uterus until firm. Check every five (5) minutes for firmness and massage as necessary.
10. Utilize identification tags for mother and newborn, must include mothers name, gender of newborn, time of delivery.
11. Every reasonable attempt should be made to secure the mother and the newborn for transport.

INFANT PATIENT CARE REPORT must include:

1. Time of delivery, gender and mother's name.
2. If nuchal cord was present.
3. If meconium flecks were noted in amniotic fluid.
4. APGAR scores at 1 minute and 5 minutes.
5. Any infant resuscitation initiated and response.

DELIVERY COMPLICATIONS

Adult Routine Medical Care Contact Medical Control

BREECH BIRTH:

Delivery Procedure:

1. Prepare to transport with care enroute if only the buttocks or lower extremities are delivered.
It is acceptable to stay on the scene while in contact with Medical Control and delivery is in progress.
2. As soon as the legs are delivered, support the baby's body wrapped in a towel/chux. If the cord is accessible, palpate frequently for pulsations. Attempt to loosen the cord to create slack for delivery of the head.
3. After the torso and shoulders are delivered, gently sweep down the arms.
 - a. If face down, gently elevate the legs and trunk to facilitate the delivery of the head.
 - b. **Do not hyperextend the neck.**
 - c. Apply firm pressure over the mother's fundus to facilitate the delivery of the head.
 - d. **NEVER ATTEMPT TO PULL THE INFANT BY THE LEGS OR TRUNK.**
 - e. Allow the entire body to be delivered with contractions while continuing to support the newborn's body.
4. **The head should deliver in 30 seconds**
 - a. If not, reach 2 gloved fingers in the shape of a "V" into the vagina with the palm facing the newborn's face to locate the newborn's mouth and nose.
 - b. Push vaginal wall away from the newborn's face to maintain an airway.
 - c. Keep your fingers in place and transport, alerting the receiving hospital. Keep the delivered portion of the body warm and dry.
5. If the head delivers, anticipate neonatal distress.
6. Anticipate maternal hemorrhage after the birth of the infant.

NOTE: Do not attempt delivery or delay transport of any single limb or other abnormal presentation.

PROLAPSED CORD:

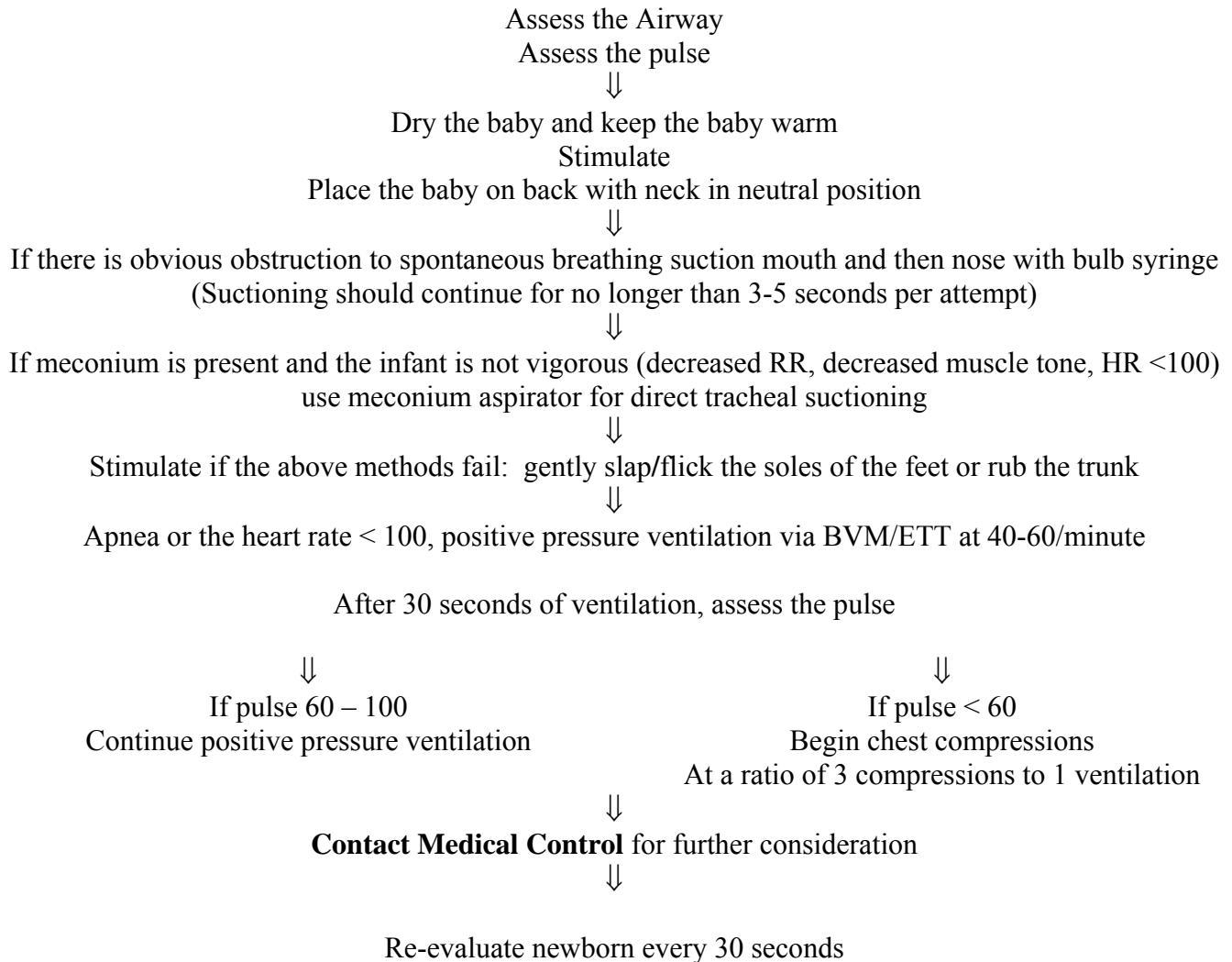
If the umbilical cord is visualized prior to delivery:

1. Elevate mother's hips. Instruct patient to pant during contractions.
2. Place gloved hand into vagina between pubic bone and presenting part with cord between two fingers to monitor cord pulsations and exert counter-pressure on presenting part to keep pressure off the cord.
3. Cover exposed cord with moist dressing and keep warm.
4. Transport with hand pressure in place.

NUCHAL CORD: (Cord wrapped around neck)

1. Increase mother's OXYGEN to 100 % with non-rebreather mask.
2. Slip two fingers around the cord and lift over newborn's head, proceed with delivery.
3. If unsuccessful, attempt to slide cord over shoulders.
4. If unsuccessful, double-clamp cord, cut cord between clamps with sterile scissors to allow for release of cord from neck.
5. Proceed with delivery.

RESUSCITATION OF THE NEWBORN/NEONATE



NOTE: APGAR score must be obtained at one (1) and five (5) minutes after birth.

OBSTETRICAL COMPLICATIONS

Adult Routine Medical Care

BLEEDING IN PREGNANCY: (Placenta Previa, Placenta Abruptio, Threatened Miscarriage)

1. Position mother on her left side if possible.
2. Administer FLUID CHALLENGE in 200 mL increments. Titrate to patient response.
3. Note type, color and amount of bleeding and/or discharge. If tissue passes, collect and transport to hospital with the patient.

HYPERTENSIVE DISORDERS OF PREGNANCY (includes Pre-Eclampsia and Eclampsia):

1. GENTLE handling. Minimal CNS stimulation.
2. Position patient on her left side if possible.
3. Seizure precautions and secure airway.
4. If seizure occurs, VERSED 2 mg IN/IVP/IO every 2 minutes titrate to desired effect up to a maximum of 10 mg.
5. If seizure activity continues or recurs;

Contact Medical Control

To repeat VERSED 2 mg IN/IVP/IO every 2 minutes titrate to desired effect up to a total maximum of an additional 10 mg.

MATERNAL RESUSCITATION MODIFICATIONS

1. Perform left uterine displacement while the patient is in the supine position.
2. Chest compressions should be performed slightly higher on the sternum than normal.
3. Defibrillation should be performed following standard guidelines.

ROUTINE PEDIATRIC MEDICAL/TRAUMA CARE

A patient under the age of 16 is considered to be a pediatric patient.

All patient care begins with assessing scene safety and the use of standard precautions.

- 1. GENERAL ASSESSMENT USING THE PEDIATRIC ASSESSMENT TRIANGLE (PAT)**
(To establish a level of severity, determine urgency for life support and identify key physiologic problems)
 - a. Appearance
 - b. Work of Breathing
 - c. Circulation to Skin
- 2. INITIAL ASSESSMENT**
(A prioritized sequence of life support interventions to reverse critical physiologic abnormalities and determine transport priority)
 - a. Airway
 - b. Breathing
 - c. Circulation
 - d. AVPU and Glasgow Coma Scale determination
 - e. Expose and examine as indicated
- 3. IDENTIFY PRIORITY PATIENTS AND MAKE TRANSPORT DECISION.**
- 4. ADDITIONAL ASSESSMENT (To include Focused History, Physical Exam and SAMPLE History)**
 - a. Vital signs, pain scale
 - b. Determine weight and age.
 - Medication dosage should be weight-based and contained within Region X Standard Operating Procedures.
 - Utilize length-based tape to measure body length and to determine approximate weight (if actual weight is not available).
 - If less than 5 kg, **Contact Medical Control** for medication guidance.
 - c. Apply pulse oximeter or capnography (if available) and record reading before and during OXYGEN administration. Administer OXYGEN if SpO₂ is less than 94% or patient shows signs of respiratory distress.
 - d. Evaluate cardiac rhythm if appropriate.
 - e. Establish NORMAL SALINE per IV/IO as indicated by patient condition and adjust flow rate based upon condition and weight.
 - f. Determine blood glucose level if appropriate.
 - g. Reassess vital signs, pain scale, pulse oximetry/capnography and patient condition as frequently as the patient's condition indicates and after each intervention.
- 5. DETAILED PHYSICAL EXAM**
(To build on the findings of the Initial Assessment and Focused Exam, use the toe-to-head sequence for infants, toddlers and preschoolers)
- 6. CONTACT MEDICAL CONTROL**
- 7. TRANSPORT TO CLOSEST APPROPRIATE FACILITY**

PEDIATRIC DRUG ASSISTED INTUBATION

INDICATIONS:

- Failure to maintain an adequate airway or aspiration risk, or
- Actual or pending respiratory failure, shallow or labored effort or $SpO_2 \leq 92\%$ while on 100% oxygen, or
- GCS 8 or less, or
- Inability to ventilate/oxygenate adequately, or
- Anticipated patient deterioration due to airway in imminent risk of closure

Routine Pediatric Medical/Trauma Care



Pre-Oxygenate 100% OXYGEN for 3 minutes
Assist ventilation with 1 breath every 3-5 seconds

NOTE: For suspected increased intracranial
pressure patients

(head injury, stroke) pre-medicate with:

LIDOCAINE 1.5 mg/kg IVP/IO



ATROPINE 0.02 mg/kg IVP/IO
(maximum 0.5 mg)



ETOMIDATE 0.3 mg/kg IVP/IO
(Adult maximum 20 mg)



Attempt to intubate

For post-intubation sedation VERSED 0.1 mg/kg IVP/IO titrate to desired effect
(Adult maximum 10 mg)

If additional sedation required, **Contact Medical Control**

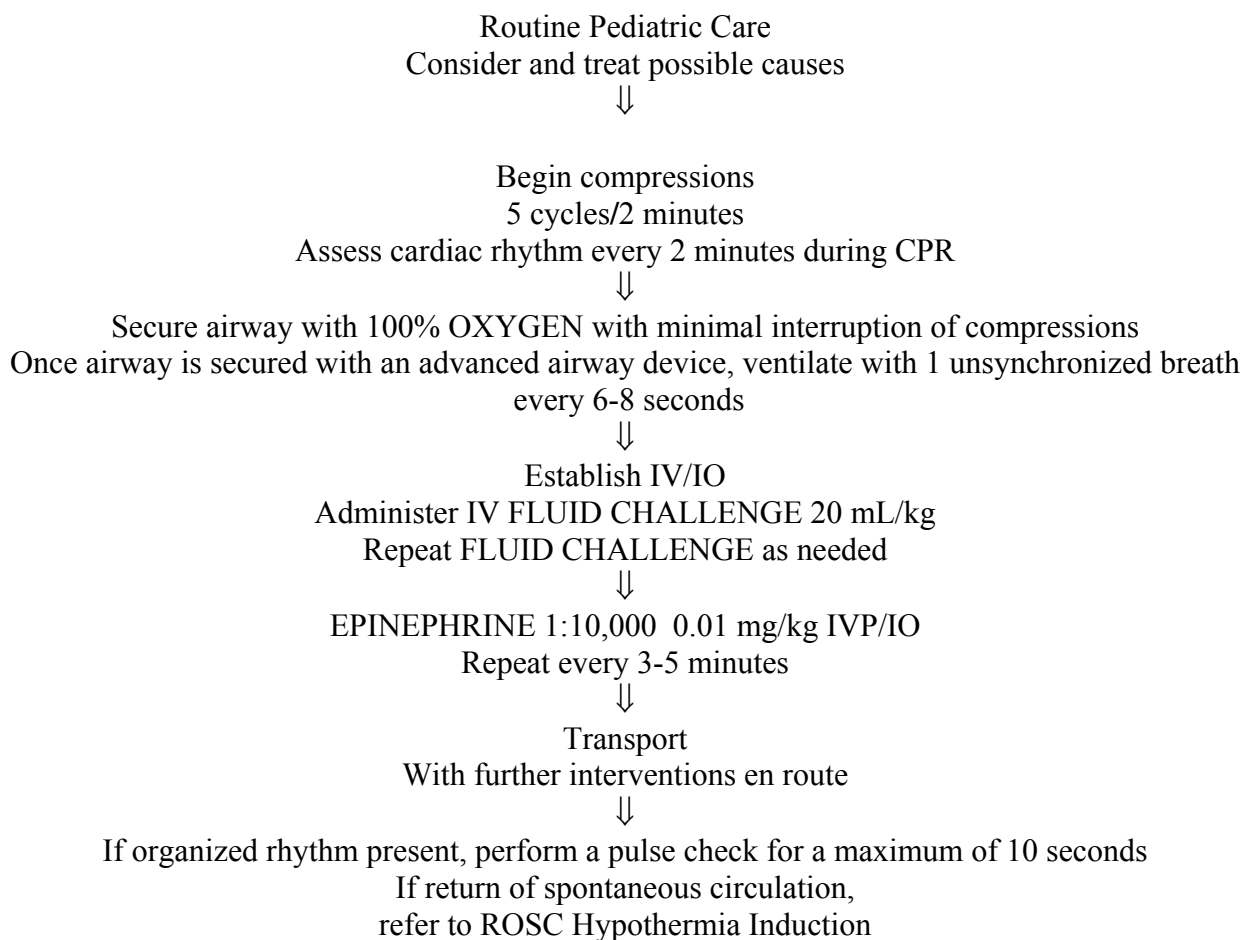
If airway secured with endotracheal tube, apply cervical collar to maintain tube position



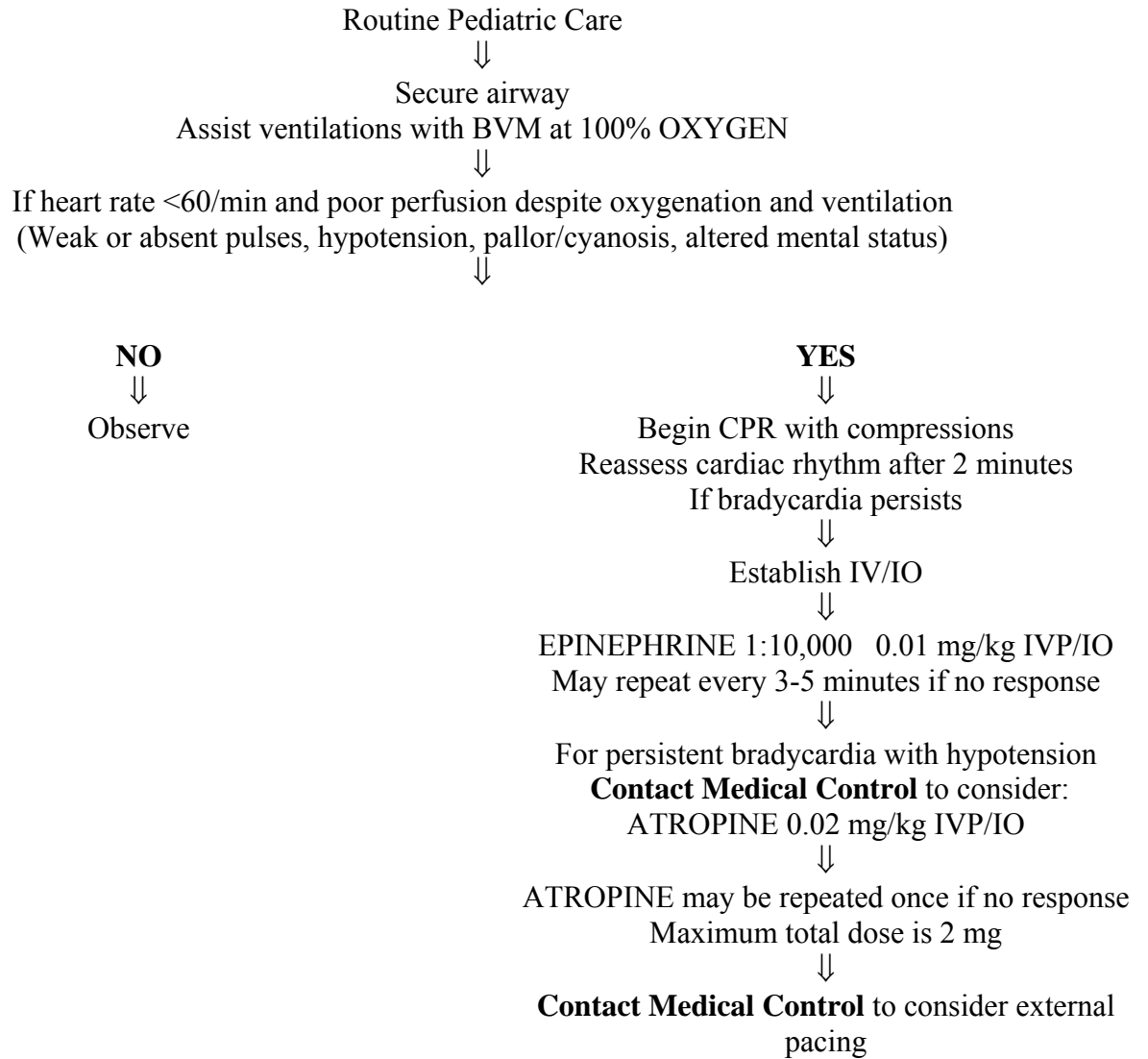
If unable to intubate, consider airway alternatives

PEDIATRIC ASYSTOLE, PEA, PULSELESS IDIOVENTRICULAR RHYTHMS

POSSIBLE CAUSES	
Hypovolemia	“Tablets” – Drug Overdose, accidents
Hypoxia	Tamponade, Cardiac
Hydrogen ion – acidosis	Tension Pneumothorax
Hyper/Hypokalemia	Thrombosis, Coronary (ACS)
Hypothermia	Thrombosis, Pulmonary (embolism)
Hypoglycemia	

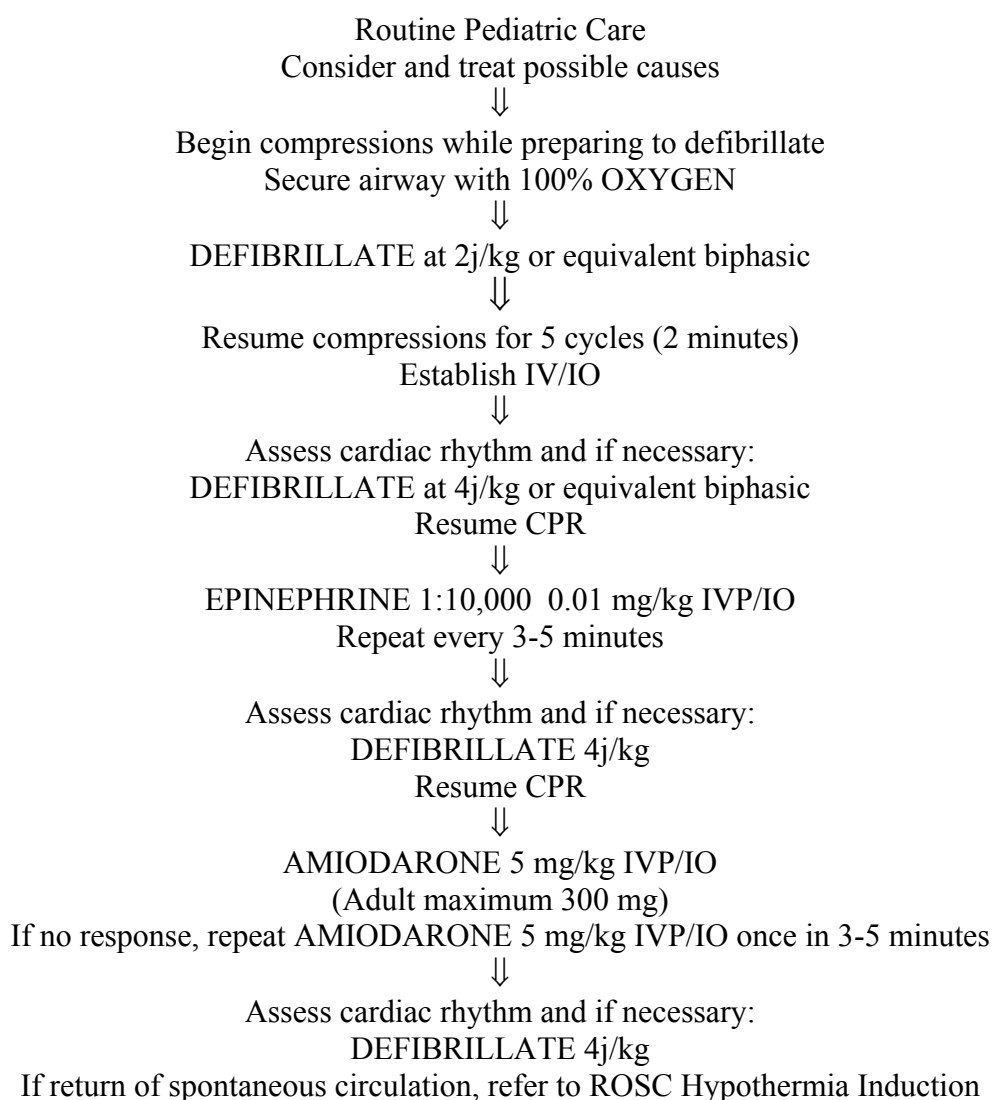


PEDIATRIC BRADYARRHYTHMIAS



**PEDIATRIC VENTRICULAR FIBRILLATION
PULSELESS VENTRICULAR TACHYCARDIA**

POSSIBLE CAUSES	
Hypovolemia	“Tablets” – Drug Overdose, accidents
Hypoxia	Tamponade, Cardiac
Hydrogen ion – acidosis	Tension Pneumothorax
Hyper/Hypokalemia	Thrombosis, coronary (ACS)
Hypothermia	Thrombosis, pulmonary (embolism)
Hypoglycemia	

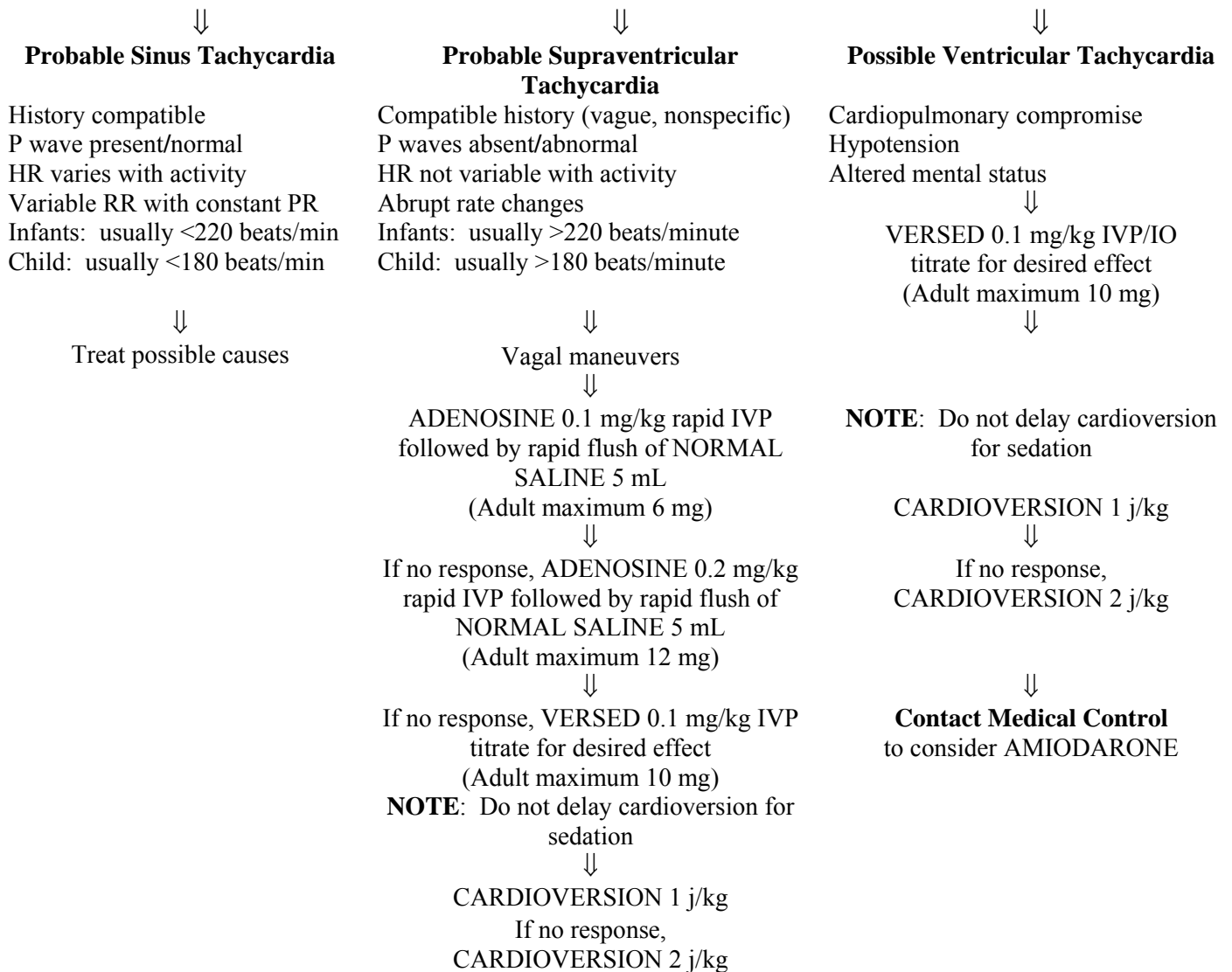


Amended 12/12/11

PEDIATRIC TACHYCARDIA WITH POOR PERFUSION

POSSIBLE CAUSES	
Hypovolemia	“Tablets” – Drug Overdose, accidents
Hypoxia	Tamponade, Cardiac
Hydrogen ion – acidosis	Tension Pneumothorax
Hyper/Hypokalemia	Thrombosis, coronary (ACS)
Hypothermia	Thrombosis, pulmonary (embolism)
Hypoglycemia	

Routine Pediatric Care
Consider and treat possible causes



PEDIATRIC TACHYCARDIA WITH ADEQUATE PERFUSION

POSSIBLE CAUSES

Hypovolemia	“Tablets” – Drug Overdose, accidents
Hypoxia	Tamponade, Cardiac
Hydrogen ion – acidosis	Tension Pneumothorax
Hyper/Hypokalemia	Thrombosis, coronary (ACS)
Hypothermia	Thrombosis, pulmonary (embolism)
Hypoglycemia	

Routine Pediatric Care
Consider and treat possible causes



Probable Sinus Tachycardia

History compatible
P wave present/normal
HR varies with activity
Variable RR with constant PR
Infants: usually <220 beats/min
Child: usually <180 beats/min



Probable Supraventricular Tachycardia

History compatible
P waves absent/abnormal ST
HR not variable with activity
Abrupt rate changes
Infants: usually >220 beats/min
Child: usually >180 beats/min



Vagal maneuvers



ADENOSINE 0.1 mg/kg rapid IVP
followed by rapid flush of NORMAL
SALINE 5 mL
(Adult maximum 6 mg)



If no response, ADENOSINE 0.2 mg/kg
rapid IVP followed by rapid flush of
NORMAL SALINE 5 mL
(Adult maximum 12 mg)



If no response, VERSED 0.1 mg/kg IVP
titrate for desired effect
(Adult maximum 10 mg)

NOTE: Do not delay cardioversion for
sedation



CARDIOVERSION 1 j/kg
If no response,
CARDIOVERSION 2 j/kg



Probable Ventricular Tachycardia

ADENOSINE 0.1 mg/kg IVP if wide
monomorphic VT
(Adult maximum 6 mg)



AMIODARONE 5 mg/kg IVPB
(Adult maximum 150 mg)
(diluted in 100 mL D5W)
over 20 minutes

If no response, VERSED 0.1 mg/kg
IVP/IO titrate for desired effect
(Adult maximum 10 mg)

NOTE: Do not delay cardioversion
for sedation



CARDIOVERSION 1 j/kg



If no response,
CARDIOVERSION 2 j/kg

PEDIATRIC SHOCK

Routine Pediatric Care



Determine Etiology of Shock



Contact Medical Control



<u>Hypovolemic</u>	<u>Cardiogenic</u>	<u>Distributive</u>
Hemorrhagic/Volume Loss/Suspected dehydration	Hx of congenital heart disease/cardiac surgery/rhythm disturbance/post-cardiac arrest	Sepsis/Anaphylactic
↓	↓	↓
Establish vascular access IV/IO NORMAL SALINE	Establish vascular access IV/IO NORMAL SALINE	Establish vascular access IV/IO NORMAL SALINE
Administer IV FLUID CHALLENGE 20 mL/kg Titrate to desired patient response	Administer IV FLUID CHALLENGE 20 mL/kg Titrate to desired patient response	Administer IV FLUID CHALLENGE 20 mL/kg Titrate to desired patient response
If no response to initial bolus, repeat at 20mL/kg to maximum of 60 mL/kg		If no response to initial FLUID CHALLENGE and Hx of fever/infection, repeat IV FLUID CHALLENGE of 20 mL/kg to maximum of 60 mL/kg
	Identify any rhythm disturbance and refer to appropriate dysrhythmia protocol	If suspected allergic reaction refer to Allergic Reaction/Anaphylaxis Protocol

PEDIATRIC ASTHMA

Routine Pediatric Care



Obtain history of patient's current asthma medications and time of last dosage and current weight



Mild to Moderate Distress
(Increased work of breathing with wheezing or coughing)



Supplemental OXYGEN



Position of comfort

ALBUTEROL 2.5 mg/3mL mixed with
ATROVENT 0.5 mg/2.5 mL NEB treatment
with OXYGEN flow of 6 liters/minute



If no improvement, administer
ALBUTEROL 2.5 mg/3mL mixed with
ATROVENT 0.5 mg/2.5 mL NEB treatment
with OXYGEN flow of 6 liters/minute



If no improvement, administer
ALBUTEROL 2.5 mg/3mL NEB treatment with
OXYGEN flow of 6 liters/minute

May repeat ALBUTEROL every 5 minutes

Severe Distress

(Inadequate oxygenation, ventilation or both,
breath sounds decreased or absent, hypoxia,
exhausted)



Open the airway, ventilate with 100% OXYGEN
via BVM 1 breath every 3-5 seconds



Consider Drug Assisted Intubation
Intubate with appropriate size ETT

ALBUTEROL 2.5 mg/3mL mixed with
ATROVENT 0.5 mg/2.5 mL
NEB treatment
with OXYGEN flow of 6 liters/minute

In-line nebulizer if needed



EPINEPHRINE 1:1000 (0.01 mg/kg) IM
(Adult maximum 0.3 mg)

Contact Medical Control to repeat



If no improvement, administer
ALBUTEROL 2.5 mg/3mL NEB treatment with
OXYGEN flow of 6 liters/minute
May repeat ALBUTEROL every 5 minutes

Amended 9/12/12

NOTE: Do not delay transport waiting for response of treatments.

PEDIATRIC CROUP/EPIGLOTTITIS

Routine Pediatric Care

Keep patient calm – **DO NOT AGITATE**

Provide emotional support and allow position of comfort

⇓
CROUP

Infant/toddler, low grade fever, barking cough

⇓
STABLE
(No cyanosis,
good air exchange)

⇓
Administer humidified
OXYGEN by placing
NORMAL SALINE
6 mL in nebulizer,
deliver by mask or aim
mist near the child's face

⇓
If wheezing, ALBUTEROL 2.5 mg/3 mL mixed with
ATROVENT 0.5 mg/2.5 mL NEB treatment

⇓
If no improvement,
ALBUTEROL 2.5 mg/3 mL mixed with
ATROVENT 0.5 mg/2.5 mL NEB treatment

⇓
If no improvement,
ALBUTEROL 2.5 mg/3 mL NEB treatment
May repeat ALBUTEROL NEB every 5 minutes

⇓
If no improvement,
EPINEPHRINE 1:1000 1 mL
Mixed with NORMAL SALINE 2 mL via NEB
May repeat once

UNSTABLE
(Cyanosis present,
respiratory distress)

⇓
Attempt ventilation via
BVM with supplemental
OXYGEN

⇓
Be prepared for
intubation
(attempt x1)

⇓
EPIGLOTTITIS

Toddler, high fever, drooling, no cough, stridor

⇓
Administer humidified OXYGEN by placing
NORMAL SALINE 6 mL in nebulizer, deliver by
mask or aim mist near the child's face

⇓
If no improvement,
EPINEPHRINE 1:1000 1mL mixed with
NORMAL SALINE 2 mL via NEB

⇓
If patient condition deteriorates, attempt ventilation
via BVM with supplemental OXYGEN 1 breath
every 3-5 seconds

⇓
Be prepared for intubation
(attempt x1)

⇓
If unsuccessful, consider cricothyrotomy

Amended 9/12/12

PEDIATRIC RESPIRATORY FAILURE

Routine Pediatric Care
Consider and treat possible causes

RESPIRATORY DISTRESS

(Increased work of breathing, increased respiratory rate, use of accessory muscles, nasal flaring, effectively compensating)



Supplemental OXYGEN



Support head in neutral position



Keep child calm, allow caregiver access to child

RESPIRATORY FAILURE

(Exhausted energy reserves, cannot maintain adequate oxygenation and ventilation, low respiratory rate, decreased effort, usually with bradycardia, agitation or lethargy and cyanosis)



Open the airway, ventilate with 100% OXYGEN via BVM 1 breath every 3-5 seconds



If unable to adequately ventilate
Consider Pediatric Drug Assisted Intubation



IV/IO vascular access



Assess cardiac rhythm



Treat dysrhythmias per protocols

PEDIATRIC ALLERGIC REACTION/ANAPHYLAXIS

Routine Pediatric Care



ALLERGIC REACTION
STABLE

Hives, itching, and rash
GI distress, Patient alert
Skin warm and dry



Apply ice/cold pack to site



BENADRYL 1 mg/kg IVP slowly over 2 minutes or IM (Adult maximum 25 mg)

ALLERGIC REACTION
STABLE

WITH AIRWAY INVOLVEMENT
Patient alert
Skin warm and dry



EPINEPHRINE 1:1000
0.01mg/kg SQ
Maximum 0.3 mg (0.3mL) per single dose
May repeat every 5 minutes



BENADRYL 1 mg/kg IVP slowly over 2 minutes or IM (Adult maximum 50 mg)



If wheezing,
ALBUTEROL 2.5 mg/3 mL mixed with
ATROVENT 0.5 mg/2.5 mL NEB treatment



If no improvement,
ALBUTEROL 2.5 mg/3 mL mixed with
ATROVENT 0.5 mg/2.5 mL NEB treatment



If no improvement may repeat
ALBUTEROL 2.5 mg/3 mL NEB every 5 minutes

ANAPHYLACTIC SHOCK
UNSTABLE

Altered mental status



Secure airway
EPINEPHRINE 1:1000
0.01 mg/kg IM
Maximum 0.3 mg (0.3mL) per single dose
May repeat every 5 minutes



BENADRYL 1 mg/kg IVP slowly over 2 minutes or IM (Adult maximum 50 mg)



IV FLUID CHALLENGE 20 mL/kg
Titrate to desired patient response
Maximum 60 mL/kg



ALBUTEROL 2.5 mg/3 mL mixed with
ATROVENT 0.5 mg/2.5 mL NEB treatment



If no improvement administer
ALBUTEROL 2.5 mg/3 mL NEB every 5 minutes
If no response and continued deterioration,
Contact Medical Control to consider

EPINEPHRINE 1:10,000
0.01 mg/kg IVP/IO

PEDIATRIC ALTERED MENTAL STATUS

CONSIDER ETIOLOGY AEIOU-TIPPS	
Alcohol	Trauma/Temperature
Epilepsy	Infection
Insulin	Psychogenic
Overdose/Opiate	Poisoning
Uremia	Shock/Seizure/Stroke/Shunt

Routine Pediatric Care
Immobilize C-Spine as indicated



Check blood glucose level



Establish IV/IO vascular access
Administer IV FLUID CHALLENGE 20 mL/kg if indicated



If blood glucose < 60, administer:
DEXTROSE 12.5% 4 mL/kg IVP/IO for ages less than 1 year
DEXTROSE 25% 2 mL/kg IVP/IO for ages 1 and up

or

GLUCAGON 0.5 mg IM/IN ≤20 kg
 GLUCAGON 1 mg IM/IN >20 kg



Reassess respiratory effort
Secure airway if ineffective



If patient is not alert, respirations are decreased or a narcotic overdose is suspected:

Administer NARCAN
 <20 kg = 0.1 mg/kg IN/IVP/IO
 ≥20kg = 2 mg IN/IVP/IO

PEDIATRIC SEIZURES

Routine Pediatric Care



Protect airway and protect from injury
Vomiting/aspiration precautions
DO NOT place anything in mouth if seizing



VERSED 0.1 mg/kg IN/IVP/IO titrate to control seizure activity
(Adult maximum 10 mg)



If seizure activity continues or recurs

Contact Medical Control

to repeat VERSED 0.1 mg/kg IN/IVP/IO titrate to control seizure activity
(Adult maximum 10 mg)



Obtain blood glucose level

If result is < 60, administer:

DEXTROSE 12.5% 4 mL/kg IVP/IO **for ages less than 1 year**

DEXTROSE 25% 2 mL/kg IVP/IO **for ages 1 and up**

or

GLUCAGON 0.5 mg IM/IN ≤20 kg

GLUCAGON 1 mg IM/IN >20 kg



Observe patient's sensorium and maintain airway
Note any injury sustained during seizure and/or any incontinence

FEBRILE SEIZURES

Routine Pediatric Care



Cool patient by removing clothing

Consider placing towels moistened in tepid (room temperature) water over patient and fan patient

DO NOT induce shivering

DO NOT rub down with alcohol or place in ice-water bath



Allow nothing by mouth

PEDIATRIC BURNS

Routine Pediatric Care



<u>No Respiratory Compromise</u> <i>(no increased work of breathing)</i>	<u>Respiratory Compromise</u> <i>(wheezing, retractions, stridor, decreased respirations, apnea, tachypnea, grunting, decreasing consciousness)</i>
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Secure airway

To control pain:

MORPHINE SULFATE 0.1 mg/kg IVP/IO slowly over 2 minutes

May repeat every 2 minutes as needed

to a maximum total of 10 mg



If no IV access, refer to Pediatric Pain Management protocol

FURTHER CARE DEPENDENT ON MECHANISM OF BURN:

Evaluate depth of burn and estimate extent using Rule of Nines

IV/IO FLUID CHALLENGE as indicated by patient condition



THERMAL BURNS

•Superficial (1st degree)
Cool burned area with water or saline
<20% body surface involved, apply sterile saline soaked dressings
DO NOT OVER COOL major burns or apply ice directly to burned areas

•Partial or Full thickness (2nd or 3rd degree)
Cover burn wound with DRY sterile dressings
Place patient on clean sheet on stretcher, cover patient with dry clean sheets and blanket
Refer to Pediatric Shock protocol as indicated

ELECTRICAL BURNS

Assess for dysrhythmia
Identify and document any entrance and exit wounds
Assess neurovascular status of affected part
Immobilize affected part
Cover wounds with DRY sterile dressings

CHEMICAL BURNS

Refer to HazMat protocol
If powdered chemical, brush away excess
Remove clothing if possible
Flush burn area with sterile water or saline

•IF EYE INVOLVEMENT
Assist with removal of contact lens and irrigate with saline or sterile water continuously. DO NOT CONTAMINATE THE UNINJURED EYE WITH EYE IRRIGATION

PEDIATRIC PAIN MANAGEMENT

Routine Pediatric Care
Determine pain by utilizing pain scale
Contact Medical Control for patients <2 years of age
↓
Continuous respiratory and pulse oximetry/capnography monitoring
Assure Systolic BP remains age appropriate
↓
FENTANYL 0.5 mcg/kg IVP/IN/IO
↓
May repeat in 5 minutes
FENTANYL 0.5 mcg/kg IVP/IN/IO
(Adult maximum total 200 mcg)
↓
If respiratory depression occurs,
Administer NARCAN
< 20 kg 0.1 mg/kg IVP/IN/IO
≥ 20 kg 2 mg IVP/IN/IO

PEDIATRIC NAUSEA MANAGEMENT

Routine Pediatric Care
↓
If nausea or vomiting
ZOFRAN 0.1 mg/kg IVP over 30 seconds if <40 kg
ZOFRAN 4 mg IVP if ≥ 40kg
Or
ZOFRAN 4 mg ORAL if ≥ 40 kg
May repeat once after 10 minutes

Amended 11/13/13

PEDIATRIC NEAR DROWNING

Routine Pediatric Care



Spinal Precautions



OXYGEN 100%



STABLE

Awake, alert, normal respirations

UNSTABLE

Abnormal respirations

Altered mental status



Evaluate for gag reflex

Negative



Intubate and assist
ventilations via BVM
1 breath every 6-8 seconds



Assess for hypothermia



Normothermic



Treat dysrhythmias per
protocols

Positive



Assist ventilations via BVM
1 breath every 3-5 seconds



Assess for hypothermia



Hypothermic



Refer to Hypothermia
protocol

Amended 2/12/14

PEDIATRIC HEAT EMERGENCIES

Routine Pediatric Care
Move to a cool environment
Remove as much clothing as necessary to facilitate cooling

HEAT CRAMPS

Normal level of consciousness, muscle cramps or spasm

HEAT EXHAUSTION

May have altered mental status, perspiring, weakness, fatigue, frontal headache, nausea, vomiting dizziness, syncope, temperature may be elevated



IV FLUID CHALLENGE 20 mL/kg
May repeat to a maximum of 60 mL/kg
Titrate to desired patient response

HEAT STROKE

Hot, dry or moist skin, weak thready pulse, altered level of consciousness



IV FLUID CHALLENGE 20 mL/kg. May repeat to a maximum of 60 mL/kg
Titrate to desired patient response



INITIATE RAPID COOLING:
Douse towels or sheets with cool water, place on patient, and fan body
Cold packs (as available) to lateral chest wall, groin, axilla, carotid arteries, temples, and behind knees



Stop cooling if shivering occurs
Consider VALIUM 0.2 mg/kg IVP/IO over 2 minutes every 15 minutes until shivering stops.
<5 years maximum total dose 5 mg
≥5 years maximum total dose 10 mg

IF ACTIVELY SEIZING

Refer to Pediatric Seizure protocol

PEDIATRIC HYPOTHERMIA/COLD EMERGENCIES

Pediatric Routine Medical Care

FROSTBITE



Move patient to a warm environment



Rapidly re-warm frozen areas with warm water (if available)

or

Hot packs wrapped in a towel



HANDLE SKIN LIKE A BURN

Protect affected area with light, dry, sterile dressings

Elevate and immobilize

Do not let affected skin surfaces rub together

Manage pain appropriately

SYSTEMIC HYPOTHERMIA



Avoid rough handling and excess activity

Apply heat packs (as available) to axilla, groin, neck and thorax



Assess pulse

Present



Continue assessment

Absent



Can extremities be flexed?

Yes



Follow appropriate cardiac protocol, but extend time between medications – repeat defibrillation as core temp rises

No



Follow appropriate cardiac protocol, but limit shocks to 1 and withhold IV medications

NOTE: Withdrawal Of Resuscitative Effort policy does not apply to these patients.

PEDIATRIC TOXIC INGESTIONS

Assess Scene Safety



Routine Pediatric Care



Contact Medical Control
for interventions as indicated for identified exposure



Bring container(s) of drug or substance to the emergency department
providing that the transport of the item(s) do not pose a safety risk

NOTE: Do not give patient anything to eat or drink by mouth. Anticipate vomiting, respiratory arrest, seizure, dysrhythmias and refer to indicated protocols.
Do not induce vomiting, especially in cases where caustic substance ingestion is suspected.

SUSPECTED CHILD ABUSE

Routine Pediatric Care



Note environment, child's interaction with parents, discrepancies in the history obtained from child and caregivers, and any signs of obvious injury



Treat obvious injuries



If parent/guardian refuses to let you transport the child, remain at the scene

Contact police and request the child be placed in protective custody



Transport



Report your suspicions to the Emergency Department Physician and/or Nurse



Carefully document history and physical exam findings as well as environmental/circumstantial data on the report



Department of Children and Family Services must be notified at (800)-25-ABUSE (24-hour phone line)

Written confirmation of the verbal report must be filed with DCFS within 48 hours

ELECTRICAL DEVICE WEAPON EXPOSURE

Adult Routine Trauma Care



Evaluate depth of skin penetration
Do not remove darts if patient is not under control
Identify location of probes on the patient's body



If darts are found to be superficially embedded in other than critical locations, they may be removed as follows:

1. Remove Taser cartridge from gun or cut wires before removing darts.
2. Place one hand on the patient where the dart is embedded to stabilize the skin surrounding the puncture site.
3. Firmly grasp the probe with your other hand.
4. Remove by gently pulling the dart straight out along the same plane it entered the body.
5. Assure that the dart is intact.
6. Repeat procedure with second dart, if embedded.
7. Return the darts to law enforcement officials, utilizing standard precautions.
8. Cleanse the wound area with saline.
9. Cover with a dry dressing.



Transport decision should be based on patient condition.



If darts are embedded in any of the following critical areas, stabilize in place and transport patient:

- lid/globe of the eye
- face or neck
- genitalia
- bony prominence
- spinal column

BEHAVIORAL EMERGENCIES

Establish SCENE AND PERSONAL SAFETY
Call law enforcement personnel to scene as appropriate



Determine and document if patient is a threat to self or others
or if patient is unable to care for self



Attempt to verbally calm the patient



Restrain as necessary and document reasons for the use of restraints,
type of restraint, time of restraint and patient's response



Consider medical etiology of behavioral disorder:

Hypoxia

Substance Abuse/Overdose

Excited Delirium/Hyperthermia

Neurologic disease (CVA, intracerebral bleed, etc.)

Metabolic problems (hypoglycemia, etc.)



Adult Routine Medical Care/Pediatric Routine Medical Care as situation warrants

If pediatric patient, **Contact Medical Control** for medication orders



For SEVERE anxiety or agitation,
VERSED 2 mg IN,

If needed, may repeat VERSED 2 mg IN every 2 minutes titrate to desired effect up to a maximum of 10 mg

If additional sedation required:

VALIUM 5 mg IVP over 2 minutes and repeat as needed to a maximum total dose of 10 mg
or VALIUM 10 mg IM

NOTE: All Emergency Departments in Region X are able to receive patients with behavioral emergencies who may need psychiatric referral.

Any containers found at the scene with medications and/or substances should be brought to the emergency department providing that the transport of the item(s) does not pose a safety risk.

Contact Medical Control in all instances where a refusal of transport is being considered.

SEXUAL ASSAULT

Approach the victim calmly and professionally



EMS should limit questioning concerning the incident to the minimum necessary to provide appropriate patient care



Respect the victim's modesty
Explain all procedures before beginning the procedures



Avoid touching the patient other than taking vital signs or examining physical injuries
(Do not examine the genitalia unless there is a life threatening hemorrhage)



Attempt to preserve physical evidence



Provide emotional support with a non-judgmental attitude

NOTE: Physical trauma, such as bruising, lacerations and fractures are often associated with sexual assault and may be life-threatening.

DOMESTIC VIOLENCE

Adult Routine Medical Care or Adult Routine Trauma Care as appropriate by patient condition

Definition: Domestic Violence is the **MOST** common form of violence and the least reported. Domestic Violence is the act of attacking, threatening, harassing or interfering with the personal liberty of any family or household member by any other family or household member, excluding any reasonable discipline of a minor child by a parent or guardian of such minor child.

It is required by the Illinois Criminal Code to notify the police in all cases of domestic violence because it is a criminal offense.

- BE NON-JUDGMENTAL AND NON-THREATENING.
- Respect and take the patient seriously.
- Maintain privacy. The patient should be interviewed and examined alone.
- Questions should be asked when household members are not within hearing distance.
- The patient must be asked directly if their injuries are a result of physical attack.
- Have a high index of suspicion; battered patients rarely admit the source of their injury.
- Aside from the typical injuries (trauma to head, neck, face, arms or back) look for:
 - Suicide attempts
 - Depression
 - Substance abuse
 - Hysterics
 - Multiple vague somatic complaints
 - Anxiety
 - Miscarriage
- Maintain a helping approach and be as non-threatening as possible.
- Respect and take the patient seriously.

NOTE: If the victim signs a refusal, inform the patient that EMS personnel are mandated by the State to report all cases of domestic violence to the local police. Document this conversation on the PCR. Leave your local community informational brochure with the patient, as mandated by law.

SUSPECTED ELDER ABUSE

Adult Routine Medical Care or Adult Routine Trauma Care as appropriate by patient condition

Definition: “Abuse” is defined as any physical injury, sexual abuse or mental injury inflicted on a person, age 60 or older, other than by accidental means.

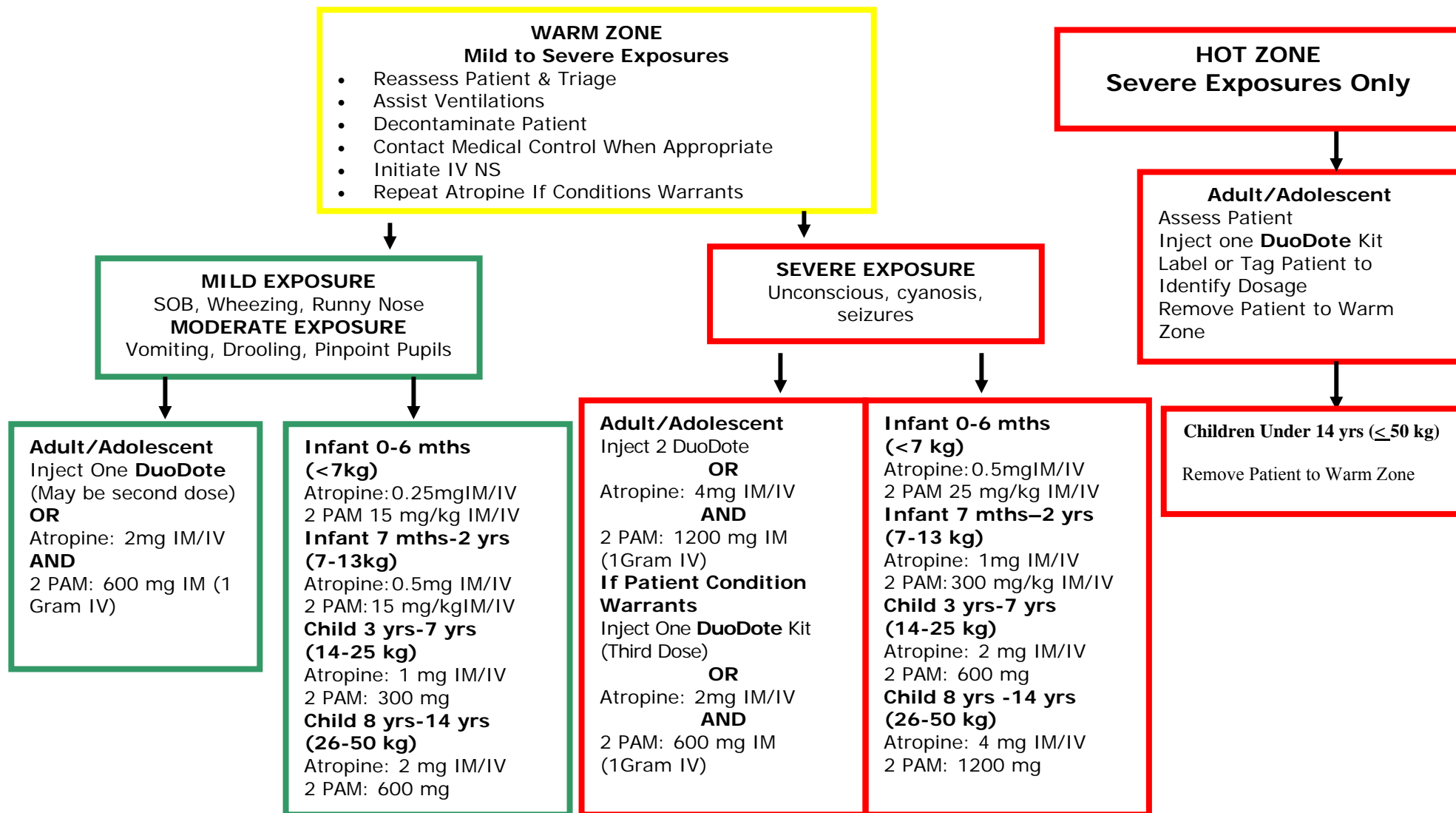
Definition: “Neglect” means a failure to provide adequate medical or personal care or maintenance, which failure results in physical or mental injury to a person or in the deterioration of a person’s physical or mental condition.

Abuse and/or neglect of elderly patients may occur in the non-institutional or nursing home setting. It is mandated by the State of Illinois to report suspected abuse cases to the Abuse Hot Line:

(866) 800-1409

The prehospital provider must accurately and completely document any physical findings on the PCR and relay such findings to the Emergency Department Staff upon transfer to the hospital.

NERVE AGENT EXPOSURE



AEROSOL NEBULIZER

1. Position patient sitting up to facilitate breathing.
2. Prepare nebulizer and medication(s).
3. Attach OXYGEN tubing to nebulizer chamber.
4. Pour medication(s) into nebulizer chamber.
5. Assemble nebulizer.
6. Attach port of T-piece to nebulizer.
7. Attach mouthpiece to one port of T-piece and corrugated tubing to the other.
8. Attach OXYGEN tubing to oxygen source and set at 6 liter/min.
9. Place mouthpiece into patient's mouth holding nebulizer upright.
10. Instruct patient to breathe in through mouth. Encourage patient to take slow, deep breaths.

In-Line Administration

1. Prepare to administer aerosol medication via BVM or ETT with BVM (In Line).
2. Put medication(s) in the nebulizer.
3. Connect the nebulizer to T-piece. Keep the reservoir as level as possible.
4. If using a nebulizer with a white T-piece, connect end of T-piece to BVM.
5. If using a nebulizer with a blue T-piece, connect an adapter piece to the BVM, and then connect the BVM to the nebulizer T-piece in place of the mouthpiece.
6. Add an adapter piece to the distal end of the reservoir tubing. Then connect the adapter piece to the ETT.
7. OXYGEN must be connected to the nebulizer at 6 liters/minute. A second oxygen source should be connected to the BVM.
8. Observe for reaction, monitors vital signs and respiratory depression/increased distress. If patient deteriorates, **Contact Medical Control**.

CPAP ADMINISTRATION

CONTRAINDICATIONS: Acute altered mental status, vomiting, Systolic BP <90.

1. Oxygenate the patient with 15 liters/minute O₂ via non-rebreather mask while setting up the CPAP delivery system.
2. Connect the fixed WhisperFlow generator to the portable oxygen regulator.
3. Open the CPAP disposable package and attach the patient corrugated tubing to the bottom of the generator and add a filter to the side of the generator.
4. Attach the other end of the patient tubing to the bottom of the mask.
5. Attach the 10 cm. isobaric peep valve to the front of the mask.
6. Connect the head strap to top and one side of the mask.
7. Turn on oxygen tank.
8. Encourage the patient to place mask over mouth and nose, then firmly attach mask using final connection on the side of the mask.
9. When patient is in the ambulance “quick connect” generator to on board oxygen. Upon arrival at ED “quick connect” back to portable oxygen cylinder.
10. Continue to monitor the patient with CPAP in place and running while moving the patient from vehicle to the hospital bed. Do not interrupt the delivery of CPAP.

NOTE: If higher concentration of oxygen is needed, add oxygen tubing to oxygen tree on regulator and attach other end to red port on the front of the mask – titrate 0-15 liter/minute.
If aerosol medication is indicated cut patient corrugated tubing at first smooth part (closest to the patient’s face). Place “t” connector between tubing and refer to appropriate protocols.

COMBITUBE, DUAL LUMEN AIRWAY DEVICE

INDICATIONS: Cardiac or respiratory arrest, unresponsive medical or trauma patient without a gag reflex in which endotracheal intubation is unable to be established.

CONTRAINDICATIONS: Age less than 16, height less than 5 feet or over 6 feet 6 inches, gag reflex, caustic substance ingestion, known esophageal disease.

1. Direct assistant to pre-oxygenate patient with bag valve mask device.
2. Check/prepare airway device, apply water-soluble lubricant to distal tip of device.
3. Position head properly, perform a tongue-jaw lift.
4. Insert device in mid-line and to depth so printed ring is at level of teeth.
5. Inflate pharyngeal cuff with 100 mL of air and remove syringe.
6. Inflate distal cuff with 15 mL of air and remove syringe.
7. Attach/direct attachment of BVM to the first (esophageal placement) lumen and ventilate.
8. Confirm placement and ventilation through correct lumen by observing chest rise, auscultation over the epigastrium, and bilaterally over each lung.
9. If unable to confirm tracheal placement then attach/direct attachment of BVM to the second (endotracheal placement) lumen and ventilate.
10. Confirm placement and ventilation through correct lumen by observing chest rise, auscultation over the epigastrium, and bilaterally over each lung.
11. Secure device or confirm that the device remains properly secured.

KING AIRWAY DEVICE

INDICATIONS: Cardiac or respiratory arrest, unresponsive medical or trauma patient without a gag reflex in which endotracheal intubation is unable to be established.

CONTRAINDICATIONS: Height less than 4 feet, gag reflex, caustic substance ingestion, known esophageal disease.

1. Pre-oxygenate patient with bag-valve-mask device attached to 100% oxygen and appropriate airway adjunct (OPA or NPA). (May need to remove adjunct prior to insertion of King airway).
2. Choose the correct size based on patient's height:
 - a. Size 3 for patients 4 to 5 feet tall
 - b. Size 4 for patients 5 to 6 feet tall
 - c. Size 5 for patients over 6 feet tall
3. Assemble and check equipment and apply water-soluble lubricant to distal tip of King airway.
4. With the non-dominant hand, hold the mouth open and apply chin lift. Hold the King at the connector with the dominant hand.
5. Introduce the tip into the patient's mouth, using a lateral approach. The blue orientation line should be touching the corner of the mouth.
6. Advance the tip behind the base of the tongue while rotating the tube to midline so that the blue orientation line faces the chin of the patient.
7. Without exerting excessive force, advance the tube until the base of the colored connector is aligned with the patient's teeth or gums.
8. Inflate the pilot balloon with the appropriate volume of air:
 - a. Size 3 – 50 mL
 - b. Size 4 – 70 mL
 - c. Size 5 – 80 mL
9. Attach the BVM to the King. While ventilating the patient, gently withdraw the tube until ventilation becomes easy and free flowing.
10. Adjust cuff inflation, if necessary, to obtain a seal of the airway at the peak ventilatory pressure.
11. Confirm bilateral breath sounds and negative gastric sounds and observe chest rise.
12. Apply cervical collar to maintain tube position.

CRICOTHYROTOMY, QUICKTRACH

INDICATIONS: Patients requiring emergency assisted ventilation when **all** other conventional methods of ventilation have failed.

CONTRAINDICATIONS: Tracheal transection, when any other less invasive maneuver allows ventilation of the patient.

ADULT PROCEDURE: For patients **greater than 77 lbs (35 kg)** use the 4.0 mm I.D.

PEDIATRIC PROCEDURE: For patients **between 22 lbs and 77 lbs (10 – 35 kg)** use the 2.0 mm I.D.

PEDIATRIC PROCEDURE: For patients **less than 22 lbs. (10 kg)** use needle cricothyrotomy procedure

1. Attempt to oxygenate the patient with 100% oxygen via BVM.
2. Assemble and check Quicktrach equipment for sizing.
3. Position the patient supine with the neck hyperextended (contraindicated if the cervical spine trauma is suspected).
4. Locate the cricothyroid membrane and cleanse the area.
5. Secure the larynx laterally between thumb and forefinger. Anchor and stretch the skin slightly.
6. Puncture the cricothyroid membrane at a 90 degree angle.
7. Confirm entry of the needle in the trachea by aspirating air through the syringe.
8. Change the angle of insertion to 60 degrees with the tip pointed towards the feet. Advance the device forward to the level of the stopper. The stopper will be snug against the skin.
9. Remove the stopper.
10. Hold the needle and syringe firmly and slide only the plastic cannula forward until the hub of the cannula is snug against the skin. Carefully remove the needle and syringe.
11. Attach the QUICKTRACH flexible connecting tube to the cannula end.
12. Attach a BVM to the top end of the QUICKTRACH flexible connecting tube and begin ventilating with 100% oxygen.
13. Use the pre-attached strap to secure the QUICKTRACH, ensuring the hub of the catheter is snug against the neck.
14. Confirm correct placement by auscultation and observation of adequate chest rise.
15. Continuously monitor patient's airway and lung sounds to ensure proper placement.

CRICOTHYROTOMY, NEEDLE

ADULT INDICATIONS: For patients when Quicktrach cannot be used.

PEDIATRIC INDICATIONS: For patients less than 22 lbs. (10 kg)

1. Position the patient (supine, hyperextend the neck unless C-spine trauma is suspected).
2. Locate cricothyroid membrane.
3. Stabilize the larynx with thumb and middle finger of one hand.
4. Locate membrane with index finger.
5. Prepare the area.
6. Insert a 14 gauge angiocath, or smaller (with syringe attached) into the trachea (midline 45 degree angle). Depending upon weight of child, size of angiocath may vary from 18 to 14 gauge.
7. Aspirate with syringe; air should return easily.
8. Advance catheter while withdrawing stylet.
9. Attach 3.0 mm ET tube adapter to needle hub.
10. Connect BVM to ET tube adapter.
11. Ventilate; assess breath sounds.
12. Secure angiocath.
13. Continue to ventilate.

TRANSCUTANEOUS PACING

Continue ALS treatment already in progress

Apply pacer electrode pads:

Anterior chest pad (-) placed in apical area

Posterior chest pad (+) placed in mid-upper back area, between the spine and the scapula

If symptomatic bradycardia persists, initiate transcutaneous pacing



Set pacemaker as follows:

RATE: 80/minute

SENSITIVITY: Auto (Demand)

OUTPUT: Lowest output mA; if no capture*, increase to lowest level which delivers consistent capture

Document Settings On PCR

NOTE: *CAPTURE can be determined by the ECG strip appearance. A wide QRS complex follows the pacer artifact (or “spike”) immediately, AND suppresses any underlying bradycardia rhythm that may be present.

MUCOSAL ATOMIZATION DEVICE (MAD™)

CONTRAINDICATIONS: Epistaxis, nasal trauma, facial trauma, septal abnormalities.

1. Draw up medication into the nasal syringe; remove the needle from the syringe.
2. Attach the atomizer tip and secure Luer lock mechanism.
3. Inquire about patient allergies and medication reactions.
4. If possible, have patient blow nose and tilt head backwards.
5. Place the tip of the atomizer snugly against the nostril aiming slightly up and outward (towards the top of the ear).
6. Compress the syringe plunger to administer the medication. If the dose exceeds 1 mL, administer half of the dose into one nostril and then move the device to the opposite nostril and administer the remainder of the dose.
7. Pinch nares shut and tilt patient's head forward.
8. Dispose of syringe in approved container.
9. Document dose and time of IN administration.
10. Monitor Patient.
11. Obtain vital signs.
12. Monitor patient and document adverse effects and desired effects.

ADULT INTRAOSSEOUS INFUSION EZ-IO®

Use only on patients 40 kg (88 lbs) and over

Utilize larger/blue needle (25 mm; 15 gauge) or bariatric/yellow (45 mm; 15 gauge) needle

INDICATIONS:

- Shock, arrest or impending arrest
- Unconscious/unresponsive or conscious critical patient without IV access
- 2 unsuccessful IV attempts or 90 second duration or no visible sites

CONTRAINDICATIONS:

- Insertion into extremity with a fracture
- Infection at insertion site
- Previous orthopedic procedures (knee replacement, previous IO within 48 hours)
- Pre-existing medical condition (tumor near site, peripheral vascular disease)
- Inability to locate landmarks (significant edema)

Take standard precautions.
Fill 10 mL syringe with 0.9 NS. Prime EZ-connect tubing, leaving 9 mL of fluid in syringe.
Locate and cleanse insertion site (proximal medial tibia or proximal humerus).
Prepare EZ-IO driver and needle set. Remove safety cap from needle.
Stabilize arm/leg with non-dominant hand.
Insert EZ-IO needle at 90 degrees through skin until needle stops at bone. (The line on the needle <i>closest to the hub</i> must remain visible. If the line is not visible, remove needle from skin and place band-aid over site. EZIO may not be utilized if the line is not visible.)
Activate driver by depressing trigger on handgrip while maintaining firm and steady pressure on driver.
Once decreased resistance is felt, or needle flange touches skin (which ever is first), release trigger.
While stabilizing hub, remove driver from needle set.
Remove stylet by rotating counterclockwise.
Connect primed EZ-connect tubing.
Using syringe, aspirate then flush with remaining 9 mL of NS to confirm placement.
Inject LIDOCAINE 50 mg IO over 60 seconds for a conscious critical patient. Wait another 60 seconds before beginning fluid infusion.
Remove the syringe, and attach EZ-connect to IV tubing and begin infusion. Apply pressure to IV bag to facilitate infusion.
LIDOCAINE 50 mg IO may be repeated x1 for pain control.
Secure tubing with tape.
Apply wristband – note date and time of insertion on wristband.
Frequently reassess pressure to IV bag and amount of fluid infused.
Monitor EZ-IO site and patient condition.

PEDIATRIC INTRAOSSEOUS INFUSION EZ-IO®

Use only on patients between 3 kg and 39 kg (88 lbs)
Utilize smaller/pink needle (15 mm; 15 gauge)

INDICATIONS:

- Shock, arrest or impending arrest
- Unconscious/unresponsive or conscious critical patient without IV access
- 2 unsuccessful IV attempts or 90 second duration or no visible sites

CONTRAINDICATIONS:

- Insertion into extremity with a fracture
- Infection at insertion site
- Previous orthopedic procedures (knee replacement, previous IO within 48 hours)
- Pre-existing medical condition (tumor near site, peripheral vascular disease)
- Inability to locate landmarks (significant edema)

Take standard precautions.
Fill 10 mL syringe with 5 mL 0.9 NS. Prime EZ-connect tubing, leaving 4 mL of fluid in syringe.
Locate and cleanse insertion site proximal medial tibia.
Prepare EZ-IO driver and needle set. Remove safety cap from needle.
Stabilize leg with non-dominant hand.
Insert EZ-IO needle at 90 degrees through skin until needle stops at bone. (The line on the needle <i>closest to the hub</i> must remain visible. If the line is not visible, remove needle from skin and place band-aid over site. 15 mm EZIO may not be utilized if the line is not visible. Repeat the same procedure with the larger (25 mm) needle.)
Activate driver by depressing trigger on handgrip while maintaining gentle pressure on driver.
Once decreased resistance is felt release trigger.
While stabilizing hub, remove driver from needle set.
Remove stylet by rotating counterclockwise.
Connect primed EZ-connect tubing.
Using syringe, aspirate then flush with remaining 4 mL of NS to confirm placement
Inject LIDOCAINE 1 mg/kg (Adult maximum 50 mg) IO over 60 seconds for conscious critical patient. Wait another 60 seconds before beginning fluid infusion.
Remove the syringe, and attach EZ-connect to IV tubing and begin infusion. Apply pressure to IV bag to facilitate infusion.
LIDOCAINE 1 mg/kg (Adult maximum 50 mg) may be repeated x1 for pain control.
Secure tubing to leg with tape.
Apply wristband – note date and time of insertion on wristband.
Frequently reassess pressure to IV bag and amount of fluid infused.
Monitor EZ-IO site and patient condition.

NEEDLE DECOMPRESSION, CHEST

1. Prepare equipment.
2. Palpate site at 2nd intercostal space, mid-clavicular line.
3. Clean site appropriately.
4. Insert needle at superior border of third rib until air is released.
5. Check for improvement in clinical status.
6. Secure angiocath.
7. Reassess ventilations and patient status.

AMPUTATED AND AVULSED PARTS

1. Adult Routine Trauma Care or Pediatric Routine Trauma Care
2. Remove gross contamination of stump and amputated part by gentle irrigation with NORMAL SALINE.
3. Control bleeding with direct pressure. If unable to control with direct pressure, apply a tourniquet at least 4 inches wide or a commercial device.
4. Cover stump with damp sterile dressing and an elastic wrap (provide uniform pressure over the entire stump). Cover wounds with a sterile dressing.
5. Care of amputated part:

Place in a plastic bag; place in a larger bag or container with ice and water. *Do not use ice alone.*

TOURNIQUET USE

INDICATIONS: Life threatening extremity hemorrhage; defined as extremity hemorrhage that continues after application of direct pressure and/or pressure dressing. Tourniquet use may be considered as first line treatment for extremity amputation.

Tourniquet Placement

1. Place as far distally on the extremity as possible but at least 2 inches proximal to the wound and on bare skin if possible.
2. Tighten windlass until bleeding stops and pulse is no longer palpable.
3. Monitor for further bleeding, tighten tourniquet only if necessary.
4. Record time of placement on the tourniquet.
5. Notify MEDICAL CONTROL of tourniquet placement.
6. Consider pain management.

NOTE: Do not cover the wound, an impaled foreign body or an open fracture. Do not place tourniquet over a joint. Do not cover the tourniquet with a dressing or splint. Lower leg injuries may require placement on the thigh for adequate compression to be obtained.

Amended 01/14/14

MECONIUM ASPIRATOR

1. Connect small end of meconium aspirator to suction line connecting tube.
2. Set suction at 80 mm Hg.
3. Insert endotracheal tube.
4. Connect larger end of aspirator to the ET tube adapter.
5. Place thumb over suction control port while slowly withdrawing ET tube (lasting no more than 2 seconds).
6. Discard after use.

DUODOTE AUTO-INJECTOR

1. Tear open plastic pouch at any of the notches, and remove the DuoDote Auto-Injector.
2. Place DuoDote in your dominant hand and firmly grasp it, with the green tip pointing downward.
3. With your other hand, pull off the gray safety release, taking care never to touch the green tip.
4. Keep fingers clear of both ends of the auto-injector.
5. Select the site and inject. The injection site is the mid-outer thigh area. You can inject through clothing but make sure that the pockets are empty.
6. Swing and firmly push the green tip straight down (at a 90 degree angle) against the mid-outer thigh, continuing to push firmly until you feel the auto-injector trigger.
7. After the DuoDote Auto-Injector triggers, hold it firmly in place against the injection site for 10 seconds.
8. After injecting, remove the DuoDote Auto-Injector from the thigh and inspect the green tip: if the needle is visible, then the injection was successful. If the needle is not visible, make sure the gray safety release is removed and repeat the preceding injection steps. Keep used auto-injector(s) plastic pouch with the patient so the other medical personnel will be aware of how many injections were administered. Move away from the contaminated area, decontaminate the skin and clothing, and seek definitive medical treatment.

CYANOKIT

INDICATIONS: Adult with a known exposure to cyanide with symptoms of headache, confusion, dyspnea, chest tightness, change in sensorium, seizures, dilated pupils, tachypnea, bradypnea, hypertension as an early sign, hypotension, vomiting and shock.

1. Adult Routine Medical Care. Note: pulse oximetry may be inaccurate. Cyanokit is not compatible with many other medications; therefore, two intravenous lines shall be required. Do not administer other drugs in the same intravenous line as Cyanokit.
2. Decontamination should be concurrent with initial resuscitation.
3. Cyanokit contains 2 vials of HYDROXOCOBALAMIN. Reconstitute each 250 mL vial of HYDROXOCOBALAMIN 2.5 grams with NORMAL SALINE 100 mL.
4. Rock vials for 30 seconds to mix contents, do not shake.
5. Administer both vials IV over 15 minutes, approximately 15 mL per minute.
6. Do not delay transport.
7. Notify ED as early as possible.

NOTE: At this time, the Cyanokit is available and authorized for use at the Abbott facility only.

2010 AHA CPR GUIDELINES

Component	Neonate	Infant	Child	Adult
	0-28 days	1 mo – 1 year	1 year to puberty	At and beyond puberty
Recognition	Heart rate <60 despite adequate ventilation & oxygenation x 30 seconds	Heart rate <60 with signs of poor perfusion (pallor, mottling, cyanosis) despite ventilation & oxygenation. Unresponsive, no breathing or only gasping, no pulse (infant – brachial) for 10 seconds		Unresponsive, no breathing or only gasping, no carotid pulse
Compression rate/speed	Deliver 90 compressions/minute	At least 100 compressions/minute		
Compression depth	$\frac{1}{3}$ AP (1 $\frac{1}{2}$ " or 4 cm) diameter on lower half of sternum		At least $\frac{1}{3}$ AP diameter (about 2" or 5cm)	At least 2" (5cm)
Compression to ventilation ratio	3:1 90:30/minute	30:2 lone rescuer 15:2 2 man CPR		30:2 1 and 2 man CPR
Inadequate breathing with pulse	40-60/minute (1/second) to achieve heart rate >100/minute	Rescue breaths 12-20/minute (1 breath every 3-5 seconds)		Rescue breaths 10-12/minute (1 breath every 5-6 seconds)
Ventilations with advanced airway in place	40-60/minute (1/second) to achieve heart rate >100/minute	Rescue breaths 8-10/minute (1 breath every 6-8 seconds) asynchronous with chest compressions delivered over 1 second with visible chest rise		
AED with pediatric attenuator	Manual defibrillator preferred. If not available, use with pediatric attenuator. If neither available, an AED without pediatric attenuator may be used		Preferred	Not to be used
Standard AED without pediatric attenuator	Not recommended	Only if pediatric attenuator not available		Recommended

2010 AHA AIRWAY OBSTRUCTION GUIDELINES

Component	Infant	Child	Adult
Conscious patient unable to speak or cough	Cycles of 5 back blows (slaps) followed by 5 chest compressions	Abdominal thrusts in rapid sequence until the obstruction is relieved. Obese patients – chest thrusts Later stages of pregnancy – chest thrusts	
	If patient becomes unresponsive, begin CPR starting with chest compressions (no pulse check)		
Unresponsive victim with obstructed airway	Each time the airway is opened, look in mouth for object; attempt removal only if visualized. After visual inspection, attempt 2 ventilations		
	If obstruction unrelieved with Magill forceps or manual maneuvers, consider cricothyrotomy or needle cricothyrotomy		

WITHHOLDING RESUSCITATIVE EFFORTS

EMS personnel may withhold or cease resuscitative efforts in the following circumstances:

- There is a risk to the health and safety of EMS personnel.
- Resources are inadequate to treat all patients (i.e. multiple patient incidents).
- The patient shows indications of irreversible death process:
 - Decapitation
 - Rigor mortis
 - Dependent lividity
 - Body decomposition
 - Transection
 - Incineration
 - Obvious mortal trauma
- Death has been declared by a physician, medical examiner or coroner.
- A valid State of Illinois or state approved Do Not Resuscitate (DNR) order has been secured:
 - Name and signature of attending physician,
 - Effective date,
 - The words “Do Not Resuscitate”,
 - Evidence of consent:
 - signature of patient; or
 - signature of legal guardian; or
 - signature of durable power of attorney for health care agent; or
 - signature of surrogate decision-maker
 - signature of witness required if IDPH DNR Advanced Directive form used
- A living will by itself cannot be recognized by pre-hospital care providers.

RETURN OF SPONTANEOUS CIRCULATION (ROSC) HYPOTHERMIA INDUCTION

INDICATIONS

- Adult or pediatric patient after out of hospital cardiac arrest
- Remains unconscious and unresponsive
- Return of Spontaneous Circulation (ROSC) greater than 5 minutes
- Able to maintain systolic BP>90 with or without vasopressors
- Airway secured
- Presumed cardiac etiology

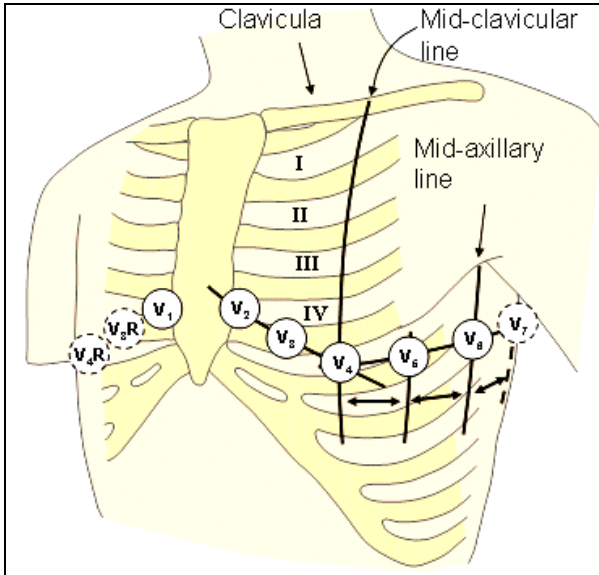
RELATIVE EXCLUSIONS

- Major head trauma or traumatic cardiac arrest
- Recent major surgery within 14 days
- Systemic infection
- Coma from other causes such as drug induced or overdose
- Active bleeding
- Hypothermia is not recommended for isolated respiratory arrest
- Suspected hypothermia already present 34C/93.2F

Induction of Hypothermia

- If the patient meets the inclusion criteria with no relative exclusions, induce pre-hospital therapeutic hypothermia.
- Place ice packs in axilla and around the neck and groin.
- Place an ice pack over the IV/IO site.
- If shivering, **Contact Medical Control** for possible medication order.

12 LEAD PLACEMENT GUIDELINES



- V1 – 4th Intercostal space, right of sternum
- V2 – 4th Intercostal space, left of sternum
- V3 – Midway between V2 and V4
- V4 – 5th Intercostal space, midclavicular line
- V5 – Anterior-axillary line, level with V4
- V6 – Midaxillary line, level with V4

I Lateral	aVR	V1 Septal	V4 Anterior
II Inferior	aVL Lateral	V2 Septal	V5 Lateral
III Inferior	aVF Inferior	V3 Anterior	V6 Lateral

DEFIBRILLATOR GUIDELINES

Device Specific Defibrillator Energy Recommendations for Adults

Manufacturer	Waveform	Adult Sync Joules	Adult Defib Joules
Medtronic ADAPTIV	NA	100-150-200-300-360	200-300-360
MRL		100-150-200-300-360	200-300-360
Philips SMART	BTE	100-150-200	150-150-150
Welch-Allyn	BTE	100-150-200-300-360	200-300-360
Zoll M Series	RB	100-120-150-200	120-150-200
BTE=Biphasic Truncated Exponential, RB = Rectilinear Biphasic			
Monophasic (example LP 10)		100-150-200-300-360	360

GLASGOW COMA SCALE/REVISED TRAUMA SCORE

	VALUE	SCORE	POINTS
RESPIRATORY RATE	10-29	4	
	>29	3	
	6-9	2	
	1-5	1	
	0	0	
SYSTOLIC BLOOD PRESSURE	>89	4	
	76-89	3	
	50-75	2	
	1-49	1	
	0	0	

GLASGOW COMA SCORE

	SCORE	POINTS
EYE OPENING (PEDS)		
Spontaneous	4	
To Voice	3	
To Pain	2	
None	1	
VERBAL RESPONSE (PEDS)		
Oriented (coos, babbles)	5	
Confused (irritable cry)	4	
Inappropriate Words (cries to pain)	3	
Incomprehensible Sounds (responds to pain)	2	
None	1	
MOTOR RESPONSE (PEDS)		
Obeys commands	6	
Purposeful Movement to Pain (withdraws to touch)	5	
Withdraw to Pain (withdraws to pain)	4	
Abnormal flexion	3	
Abnormal extension	2	
None	1	

TOTAL GLASGOW COMA SCALE POINTS =

TOTAL GCS POINTS = TRAUMA POINTS

- 13 – 15 = 4
- 9 – 12 = 3
- 6 – 8 = 2
- 4 – 5 = 1
- 3 = 0

BODY SURFACE BURN PERCENTAGE CALCULATION

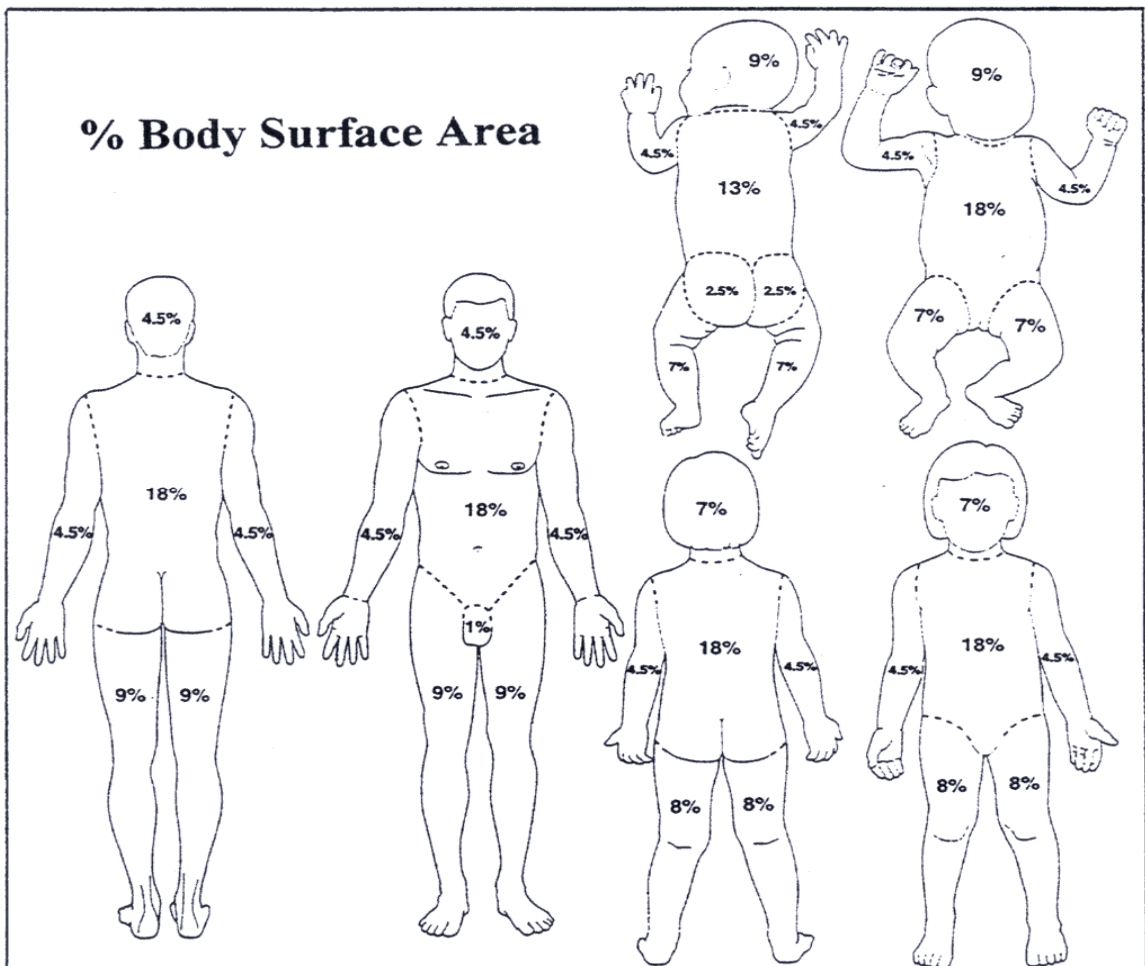
Adult

- full head & neck 9%
- upper back 9%
- lower back 9%
- anterior chest 9%
- anterior abdomen 9%
- full upper extremity 9%
- full lower extremity 18%
- genitalia 1%

Infant

- full head and neck 18%
- upper back 9%
- lower back 9%
- anterior chest 9%
- anterior abdomen 9%
- full upper extremity 9%
- full lower extremity 13.5%
- genitalia 1%

Palm of hand (including fingers) of infant or child = 1% of the total body surface



APGAR SCORING

APGAR SCORING:

APGAR SCORING	0	1	2
A=Appearance (color)	Blue or pale	Blue hands or feet	Entirely pink
P=Pulse	Absent	< 100	> 100
G=Grimace (reflex irritability)	Absent	Grimace	Cough or Sneeze
A=Activity (muscle tone)	Limp	Some extremity flexion	Active motion
R=Respirations	Absent	Weak cry, hypoventilating	Strong cry

Scores:

7 to 10 – Majority of infants generally requiring only routine care

4 to 6 – Moderately depressed infants requiring oxygenation and stimulation to breathe

0 to 3 – Severely depressed requiring immediate ventilatory and circulatory assistance

PEDIATRIC NORMAL VITAL SIGNS

AGE	SYSTOLIC BP	HEART RATE	RESPIRATORY RATE
Newborn	>60/	100 – 160	30 – 60
6 months	>60/	90 – 160	24 – 30
1 year	>60/	90 – 140	20 – 30
2 years	>72/	90 – 130	20 – 30
3 years	>76/	80 – 120	20 – 30
4 years	>78/	80 – 120	20 – 30
5 years	>80/	70 – 120	20 – 30
6 years	>82/	70 – 130	18 – 25
7 years	>84/	70 – 110	15 – 20
8 years	>86/	60 – 110	15 – 20
10 years	>90/	60 – 110	15 – 20
≥12 years	>90/	70 – 120	15 – 20

PEDIATRIC ENDOTRACHEAL TUBES & SUCTION CATHETERS

AGE	ENDOTRACHEAL TUBE	SUCTION CATHETER
Preemie	2.5 uncuffed OR cuffed	5 – 6
Term Infant	3.0 uncuffed OR cuffed	6 – 8
6 months	3.5 uncuffed OR cuffed	8
1 year	4.0 uncuffed OR cuffed	8
2 years	4.5 uncuffed OR cuffed	8
4 years	5.0 uncuffed OR cuffed	10
6 years	5.5 uncuffed OR cuffed	10
8 years	6.0 uncuffed OR cuffed	10
10 years	6.5 cuffed	12
≥12 years	7.0 cuffed	12

References: PALS, EMSC, Broselow

PAIN SCALES

Wong-Baker FACES™ Pain Rating Scale



©1983 Wong-Baker FACES™ Foundation. Used with permission.

FLACC PAIN SCALE

Face 0 – No particular expression or smile 1 – Occasional grimace or frown, withdrawn, disinterested 2 – Frequent to constant quivering chin, clenched jaw	
Legs 0 – Normal position or relaxed 1 – Uneasy, restless, tense 2 – Kicking or legs drawn up	
Activity 0 – Lying quietly, normal position, moves easily 1 – Squirming, shifting back and forth, tense 2 – Arched, rigid or jerking	
Cry 0 – No cry (awake or asleep) 1 – Moans or whimpers; occasional complaint 2 – Crying steadily, screams or sobs, frequent complaints	
Consolability 0 – Content, relaxed 1 – Reassured by occasional touching, hugging or being talked to, distractible 2 – Difficult to console or comfort	
TOTAL SCORE	

PATIENT CONTAMINATED WITH A HAZARDOUS MATERIAL

Use proper PPE and containment procedures during entire contact with the patient(s), equipment and environment. Avoid self-injury.

Contact Medical Control early to allow receiving hospital(s) time to prepare for the contaminated patient(s). The hospital staff treatment of the patient(s) may be performed separate from the main Emergency Department area, possibly in the ambulance.

All attempts are to be made to decontaminate the patient prior to moving into ambulance.

1. If warranted, contact the Department/Regional HazMat Response Team/Illinois Poison Center for assistance.
2. Remove as much of the outermost layer of clothing as possible.
3. The usual decontamination solution is soap and water.
 - a. Refer to reference material for any variation to this solution i.e.: alkali.
4. If powdered/dry agent, brush excess before irrigating.
5. If possible, bring copy of the MSDS with the patient to the hospital.

CHEMICAL WEAPONS (vapor or liquid):

<u>NERVE AGENTS</u> Symptoms: Salivation, Lacrimation, Urination, Defecation, Gastrointestinal Distress, Emesis, Breathing Difficulty With Bronchospasm And Copious Secretions, Arrhythmias And Myosis (constricted pupils) (SLUDGE BAM)	<u>BLISTER AGENTS</u> Symptoms: Reddened skin, blistering, tearing, itching, CNS effect and respiratory failure
↓	
Duodote Auto-Injector (Refer to Nerve Agent Exposure protocol)	
Follow hazmat response protocols as above. Treat these materials as extremely toxic substances.	

BIOLOGICAL AGENTS Symptoms may include: Fever, chills, diarrhea, sore throat, swollen lymph nodes, malaise, cough, respiratory insufficiency or distress, and jaundice.

1. For all possible exposures wear appropriate PPE.
2. If the patient is coughing, all rescuers to wear N95 mask and surgical mask on patient.
3. Cover any lesions with dressings to avoid spread of contaminant.

CYANIDE POISONING Symptoms may include hypotension, apnea and seizures.

1. **Contact Medical Control** as soon as possible.
2. Administer Cyanide antidote if available.

Illinois Poison Center (800) 222-1222

RADIATION EMERGENCIES

Always practice scene safety.

If radiation hazard suspected:

1. If warranted, contact the Department/Regional HazMat Response Team/Illinois Poison Center.
2. Use proper PPE.
3. Use available survey meters and dosimeters to measure radiation levels.
4. If injured victims in radiation zone, assess and treat life-threatening injuries.
5. Utilize the Time, Distance and Shielding rule.
6. Move patient to the proper control area for further treatment and monitoring.
7. Treat all patients contaminated until proven otherwise.
8. Life threatening injury/illness takes precedence over decontamination procedure. Refer to appropriate protocols.

If contamination suspected, Contact Medical Control with the following:

1. Location of the incident and number of victims
2. Medical status of the victims
3. Source of radiation, fixed facility, transportation, WMD device
4. Amount and types of radiation
5. Type of contamination, external vs. internal
6. Need for decontamination at the hospital

If thorough surveying and decontamination cannot be completed at the scene:

1. Transfer patient onto a clean sheet to receive and cover.
2. Prevent contamination of equipment and the ambulance.
3. The rescuers, equipment and ambulance will need to be surveyed and decontaminated at the hospital.

If assistance is needed, 24-hour hot line numbers are available:

Radiation Emergency Assistance Center/Training Site (REACT/TS) in Oak Ridge, TN (615) 576-3131
Illinois Emergency Management Agency, Division of Nuclear Safety (217) 785-0600
Illinois Poison Center (800) 222-1222

FUNCTIONAL NEEDS CARE OF PATIENTS WITH FUNCTIONAL NEEDS

Patients may present with special health care needs (functional needs) and may require reasonable modification to policies, practices, and procedures. Patients may be dependent upon durable medical equipment, consumable medical supplies, personal assistance services or other goods and services. Children and adults requiring functional needs support may have physical, sensory, mental health, cognitive and/or intellectual disabilities affecting their ability to function independently without assistance; others that may benefit include women in late stages of pregnancy, elders, and people needing bariatric equipment. Communicate with caregiver/parent for medical information and to assist with care if necessary. Confirm the baseline assessment of the patient with the caregiver.

Care of the patient with a Left Ventricular Assist Device (LVAD):

Due to the nature of this life-sustaining pump, the patient does not have a palpable pulse or blood pressure. Assess patient based on perfusion status and capillary refill. If indicated, chest compressions and defibrillation are allowed. Do not place paddles or pads directly over the device. Note that these patients are on anticoagulant therapy. Communicate with trained caregiver regarding specific device requirements. Transport specialized equipment, extra battery pack, charger and cords with the patient.

Care of the patient with a tracheostomy:

Evaluate for displacement, obstruction, pulmonary problems and/or equipment issue. There are several types of tracheostomy tubes to include cuffed/uncuffed, fenestrated, single or double lumen; communicate with caregiver regarding specific device. May ventilate/oxygenate via a BVM with a tracheostomy adaptor or with a mask over the stoma. If unable to ventilate, cover opening with gauze and ventilate with BVM over nose and mouth. Suction as needed.

Care of the patient with a stoma:

Consider the use of an infant or child mask to make a seal over the stoma site for ventilation; seal mouth and nose if air is escaping.

Other technology-assisted special needs:

If possible, transport specialized equipment, emergency information forms and medications to the emergency department with the patient.

CARE OF PATIENTS WITH GRAFTS OR FISTULAS

To treat a person by hemodialysis, an access must be made to the circulatory system, enabling blood to flow out through the machine and return to the patient

- A. Arteriovenous Fistula. The most common type of access, a fistula, is created internally by sewing an artery to a vein, forming a small opening between the two. Pressure from the arterial blood flow causes enlargement of the veins.
- B. Arteriovenous Graft. This access is similar to the fistula. A synthetic tube is used to connect the artery to the vein.
- C. Venous Catheter. Usually inserted in the internal jugular vein and tunneled to exit below the clavicle.

Care of patients with a graft or fistula

1. Do not take a blood pressure on the arm where an active graft or fistula is present.
2. Do not start an IV line on the arm where an active graft or fistula is present.
3. If a graft or fistula is bleeding, apply direct pressure and transport the patient.
4. In case of cardiac arrest, graft or fistula may be used for intravenous access. **Contact Medical Control** for further direction.

Continuous ambulatory peritoneal dialysis

Continuous ambulatory peritoneal dialysis (CAPD) is a self-care treatment where the patient instills dialysate fluid into the peritoneal (abdominal) cavity through a catheter that is surgically implanted. The dialysate is allowed to stay in the cavity for a prescribed period of time and is then drained out, carrying out body wastes.

Care of the patient on CAPD

1. Do not disconnect the CAPD bags from the catheter.
2. Do not infuse any fluids or medications directly into the catheter.
3. Transport the patient to the hospital with the CAPD intact, maintaining drainage bag lower than waist height.

PEDIATRIC WEIGHT-BASED MEDICATION – CARDIAC

Drug		Adenosine Adenocard	Amiodarone	Atropine	Epinephrine 1:10,000	Versed Midazolam	CardioVersion VT w/ Pulse	Defib
How Supplied		3 mg/mL 6 mg/2mL	50 mg/1mL 150 mg/3mL	1 mg/10mL (0.1 mg/mL)	1 mg/10mL (0.1 mg/mL)	5 mg/1mL (10 mg/2mL)		
Protocol Dosage		0.1 mg/kg 2 nd Dose Doubled (0.2mg/kg)	5 mg/kg Dilute in 100 mL D5W for SVT or VT w/ pulse	0.02 mg/kg	0.01 mg/kg	0.1 mg/kg	Initial 1 j/kg Repeat 2 j/kg	Initial 2 j/kg Repeat 4 j/kg
Routes		IVP/IO	IVP/IO/IVPB	IVP/IO/ET	IVP/IO	IVP/IO/IN		
Weight Lbs. Kgs.			Max 150 mg	Min 0.1 mg Max 0.5 mg		Titrate		
2	1	0.03 mL (0.1 mg)	0.1 mL (5 mg)	1 mL (0.1 mg)	0.1 mL (0.01 mg)	0.02 mL (0.1 mg)	1j / 2j	2j / 4j
4	2	0.07 mL (0.2 mg)	0.2 mL (10 mg)	1 mL (0.1 mg)	0.2 mL (0.02mg)	0.04 mL (0.2mg)	2j / 4j	4j / 8j
7	3	0.1 mL (0.3 mg)	0.3 mL (15 mg)	1 mL (0.1 mg)	0.3 mL (0.03mg)	0.06 mL (0.3mg)	3j / 6j	6j / 12j
9	4	0.13 mL (0.4 mg)	0.4 mL (20 mg)	1 mL (0.1 mg)	0.4 mL (0.04mg)	0.08 mL (0.4mg)	4j / 8j	8j / 16j
13	6	0.2 mL (0.6 mg)	0.6 mL (30 mg)	1.2 mL (0.12mg)	0.6 mL (0.06mg)	0.12 mL (0.6mg)	6j / 12j	12j / 24j
18	8	0.27 mL (0.8 mg)	0.8 mL (40 mg)	1.6 mL (0.16mg)	0.8 mL (0.08mg)	0.16 mL (0.8mg)	8j / 16j	16j / 32j
22	10	0.33 mL (1 mg)	1 mL (50 mg)	2 mL (0.2 mg)	1 mL (0.1mg)	0.2 mL (1mg)	10j / 20j	20j / 40j
26	12	0.4 mL (1.2 mg)	1.2 mL (60 mg)	2.4 mL (0.24mg)	1.2 mL (0.12mg)	0.24 mL (1.2mg)	12j / 24j	24j / 48j
31	14	0.47 mL (1.4 mg)	1.4 mL (70 mg)	2.8 mL (0.28mg)	1.4 mL (0.14mg)	0.28 mL (1.4mg)	14j / 28j	28j / 56j
35	16	0.53 mL (1.6 mg)	1.6 mL (80 mg)	3.2 mL (0.32mg)	1.6 mL (0.16mg)	0.32 mL (1.6mg)	16j / 32j	32j / 64j
40	18	0.6 mL (1.8 mg)	1.8 mL (90 mg)	3.6 mL (0.36mg)	1.8 mL (0.18mg)	0.36 mL (1.8mg)	18j / 36j	36j / 72j
44	20	0.67 mL (2 mg)	2 mL (100 mg)	4 mL (0.4 mg)	2 mL (0.2mg)	0.4 mL (2mg)	20j / 40j	40j / 80j
48	22	0.73 mL (2.2 mg)	2.2 mL (110 mg)	4.4 mL (0.44mg)	2.2 mL (0.22mg)	0.44 mL (2.2mg)	22j / 44j	44j / 88j
53	24	0.8 mL (2.4 mg)	2.4 mL (120 mg)	4.8 mL (0.48mg)	2.4 mL (0.24mg)	0.48 mL (2.4mg)	24j / 48j	48j / 96j
57	26	0.87 mL (2.6 mg)	2.6 mL (130 mg)	5 mL (0.5 mg)	2.6 mL (0.26mg)	0.52 mL (2.6mg)	26j / 52j	52j / 104j
62	28	0.93 mL (2.8 mg)	2.8 mL (140 mg)	5 mL (0.5 mg)	2.8 mL (0.28mg)	0.56 mL (2.8mg)	28j / 56j	56j / 112j
66	30	1 mL (3 mg)	3 mL (150 mg)	5 mL (0.5 mg)	3 mL (0.3mg)	0.6 mL (3mg)	30j / 60j	60j / 120j
70	32	1.07 mL (3.2 mg)	3 mL (150 mg)	5 mL (0.5 mg)	3.2 mL (0.32mg)	0.64 mL (3.2mg)	32j / 64j	64j / 128j
75	34	1.13 mL (3.4 mg)	3 mL (150 mg)	5 mL (0.5 mg)	3.4 mL (0.34mg)	0.68 mL (3.4mg)	34j / 68j	68j / 136j
79	36	1.2 mL (3.6 mg)	3 mL (150 mg)	5 mL (0.5 mg)	3.6 mL (0.36mg)	0.72 mL (3.6mg)	36j / 72j	72j / 144j
84	38	1.27 mL (3.8 mg)	3 mL (150 mg)	5 mL (0.5 mg)	3.8 mL (0.38mg)	0.76 mL (3.8mg)	38j / 76j	76j / 152j
88	40	1.33 mL (4 mg)	3 mL (150 mg)	5 mL (0.5 mg)	4 mL (0.4mg)	0.8 mL (4mg)	40j / 80j	80j / 160j
92	42	1.4 mL (4.2 mg)	3 mL (150 mg)	5 mL (0.5 mg)	4.2 mL (0.42mg)	0.84 mL (4.2mg)	42j / 84j	84j / 168j
98	44	1.47 mL (4.4 mg)	3 mL (150 mg)	5 mL (0.5 mg)	4.4 mL (0.44mg)	0.88 mL (4.4mg)	44j / 88j	88j / 176j

PEDIATRIC WEIGHT-BASED MEDICATION – MEDICAL

Drug		Dextrose 25%	Dextrose 12.5% <1 year old	Glucagon	Narcan Naloxone	NS IV Fluid Challenge	Valium Diazepam	Epi 1:1,000 Non-Arrest/Stable
How Supplied		2.5gm/10mL 250mg/1mL	2.5gm/10mL Dextrose 25%	1mg/1 unit (1mL)	2mg/2mL (1mg/1mL)		(5mg/mL)	1mg/1mL
Protocol Dosage		2mL/kg 0.5gm/kg	4mL/kg 0.5gm/kg	0.5mg ≤20 kg 1 mg >20 kg	0.1mg/kg	20mL/kg	0.2mg/kg	0.01mg/kg
Routes		IVP/IO	IVP/IO	IM/IN	IVP/IO/IN	IV/IO	IVP/IO/IM/PR	SQ/IM
Weight Lbs. Kgs.			<i>Use D 25% Dilute 1:1 with Saline</i>			Assess after each 200 mL	Titrate	
2	1	Refer to 12.5%	4mL (0.5gm)	0.5mL (0.5mg)	0.1mL (0.1mg)	10mL	0.04mL (0.2mg)	0.01mL (0.01mg)
4	2	Refer to 12.5%	8mL (1gm)	0.5mL (0.5mg)	0.2mL (0.2mg)	20mL	0.08mL (0.4mg)	0.02mL (0.02mg)
7	3	Refer to 12.5%	12mL (1.5gm)	0.5mL (0.5mg)	0.3mL (0.3mg)	30mL	0.12mL (0.6mg)	0.03mL (0.03mg)
9	4	Refer to 12.5%	16mL (2gm)	0.5mL (0.5mg)	0.4mL (0.4mg)	40mL	0.16mL (0.8mg)	0.04mL (0.04mg)
13	6	Refer to 12.5%	24mL (3gm)	0.5mL (0.5mg)	0.6mL (0.6mg)	60mL	0.24mL (1.2mg)	0.06mL (0.06mg)
18	8	Refer to 12.5%	32mL (4gm)	0.5mL (0.5mg)	0.8mL (0.8mg)	80mL	0.32mL (1.6mg)	0.08mL (0.08mg)
22	10	20 mL (5gm)	40mL (5gm)	0.5mL (0.5mg)	1mL (1mg)	100mL	0.4mL (2mg)	0.1mL (0.1mg)
26	12	24 mL (6gm)	Refer to 25%	0.5mL (0.5mg)	1.2mL (1.2mg)	240mL	0.48mL (2.4mg)	0.12mL (0.12 mg)
31	14	28 mL (7gm)	Refer to 25%	0.5mL (0.5mg)	1.4mL (1.4mg)	280mL	0.56mL (2.8mg)	0.14mL (0.14mg)
35	16	32 mL (8gm)	Refer to 25%	0.5mL (0.5mg)	1.6mL (1.6mg)	320mL	0.64mL (3.2mg)	0.16mL (0.16mg)
40	18	36 mL (9gm)	Refer to 25%	0.5mL (0.5mg)	1.8mL (1.8mg)	360mL	0.72mL (3.6mg)	0.18mL (0.18mg)
44	20	40 mL (10gm)	Refer to 25%	0.5mL (0.5mg)	2mL (2mg)	400mL	0.8mL (4mg)	0.2mL (0.2mg)
48	22	44 mL (11gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	440mL	0.88mL (4.4mg)	0.22mL (0.22mg)
53	24	48 mL (12gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	480mL	0.96mL (4.8mg)	0.24mL (0.24mg)
57	26	52 mL (13gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	520mL	1.04mL (5.2mg)	0.26mL (0.26mg)
62	28	56 mL (14gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	560mL	1.12mL (5.6mg)	0.28mL (0.28mg)
66	30	60 mL (15gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	600mL	1.2mL (6mg)	0.3mL (0.3mg)
70	32	64 mL (16gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	640mL	1.28mL (6.4mg)	0.3mL (0.3mg)
75	34	68 mL (17gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	680mL	1.36mL (6.8mg)	0.3mL (0.3mg)
79	36	72 mL (18gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	720mL	1.44mL (7.2mg)	0.3mL (0.3mg)
84	38	76 mL (19gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	760mL	1.52mL (7.6mg)	0.3mL (0.3mg)
88	40	80 mL (20gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	800mL	1.6mL (8mg)	0.3mL (0.3mg)
92	42	84 mL (21gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	840mL	1.68mL (8.4mg)	0.3mL (0.3mg)
98	44	88 mL (22gm)	Refer to 25%	1mL (1mg)	2mL (2mg)	880mL	1.76mL (8.8mg)	0.3mL (0.3mg)

PEDIATRIC WEIGHT-BASED MEDICATION – MEDICAL

Drug		Etomidate Amidate	Fentanyl Citrate	Lidocaine Xylocaine	Ondansetron Zofran	Morphine Sulfate	Benadryl Diphenhydramine
How Supplied		40mg/20mL	100mcg/2mL	100mg/5mL	4mg/2mL	10 mg/1mL	50 mg/1mL
Protocol Dosage		0.3 mg/kg	0.5 mcg/kg	1.5 mg/kg	0.1 mg/kg <40 kg	0.1 mg/kg	1 mg/kg
Routes		IVP/IO	IVP/IN/IO	IVP/IO	IVP/IO	IVP/IO/IM	IVP/IO/IM
Weight Lbs. Kgs.			<i>Titrate</i>			<i>Titrate</i>	
2	1	0.15mL (0.3mg)	0.01mL (0.5mcg)	0.075 mL (1.5mg)	0.01mL (0.1mg)	0.01mL (0.1mg)	0.02mL (1mg)
4	2	0.3mL (0.6mg)	0.02mL (1mcg)	0.15 mL (3mg)	0.02 mL (0.2mg)	0.02 mL (0.2mg)	0.04mL (2mg)
7	3	0.45mL (0.9mg)	0.03mL (1.5mcg)	0.23 mL (4.5mg)	0.03 mL (0.3mg)	0.03 mL (0.3mg)	0.06mL (3mg)
9	4	0.6mL (1.2mg)	0.04mL (2mcg)	0.3 mL (6mg)	0.04 mL (0.4mg)	0.04 mL (0.4mg)	0.08mL (4 mg)
13	6	0.9mL (1.8mg)	0.06mL (3mcg)	0.45 mL (9mg)	0.3mL (0.6 mg)	0.06 mL (0.6mg)	0.12mL (6mg)
18	8	1.2mL (2.4mg)	0.08mL (4mcg)	0.6 mL (12mg)	0.4mL (0.8 mg)	0.08 mL (0.8mg)	0.16mL (8mg)
22	10	1.5mL (3mg)	0.1mL (5mcg)	0.75 mL (15mg)	0.5mL (1 mg)	0.1 mL (1mg)	0.2mL (10mg)
26	12	1.8mL (3.6mg)	0.12mL (6mcg)	0.9 mL (18mg)	0.6mL (1.2 mg)	0.12 mL (1.2mg)	0.24mL (12mg)
31	14	2.1mL (4.2mg)	0.14mL (7mcg)	1.05 mL (21mg)	0.7mL (1.4mg)	0.14 mL (1.4mg)	0.28mL (14mg)
35	16	2.4mL (4.8mg)	0.16mL (8mcg)	1.2 mL (24mg)	0.8mL (1.6mg)	0.16 mL (1.6mg)	0.32mL (16mg)
40	18	2.7mL (5.4mg)	0.18mL (9mcg)	1.35 mL (27mg)	0.9mL (1.8mg)	0.18 mL (1.8mg)	0.36mL (18mg)
44	20	3mL (6mg)	0.20mL (10mcg)	1.5 mL (30mg)	1mL (2 mg)	0.2 mL (2mg)	0.4mL (20mg)
48	22	3.3mL (6.6mg)	0.22mL (11mcg)	1.65 mL (33mg)	1.1mL (2.2 mg)	0.22 mL (2.2mg)	0.44mL (22mg)
53	24	3.6mL (7.2mg)	0.24mL (12mcg)	1.8 mL (36mg)	1.2mL (2.4 mg)	0.24 mL (2.4mg)	0.48mL (24mg)
57	26	3.9mL (7.8mg)	0.26mL (13mcg)	1.95 mL (39mg)	1.3mL (2.6 mg)	0.26 mL (2.6mg)	0.52mL (26mg)
62	28	4.2mL (8.4mg)	0.28mL (14mcg)	2.1mL (42mg)	1.4mL (2.8 mg)	0.28 mL (2.8mg)	0.56mL (28mg)
66	30	4.5mL (9mg)	0.30mL (15mcg)	2.25mL (45mg)	1.5mL (3.0mg)	0.3 mL (3mg)	0.6mL (30mg)
70	32	4.8mL (9.6mg)	0.32mL (16mcg)	2.4mL (48mg)	1.6mL (3.2 mg)	0.32 mL (3.2mg)	0.64mL (32mg)
75	34	5.1mL (10.2mg)	0.34mL (17mcg)	2.55mL (51mg)	1.7mL (3.4 mg)	0.34 mL (3.4mg)	0.68mL (34mg)
79	36	5.4mL (10.8mg)	0.36mL (18mcg)	2.7 mL (54mg)	1.8mL (3.6 mg)	0.36 mL (3.6mg)	0.72mL (36mg)
84	38	5.7mL (11.4mg)	0.38mL (19mcg)	2.85 mL (57mg)	1.9mL (3.8 mg)	0.38 mL (3.8mg)	0.76mL (38mg)
88	40	6mL (12mg)	0.40mL (20mcg)	3 mL (60mg)	2 mL (4 mg)	0.4 mL (4mg)	0.8mL (40mg)
92	42	6.3mL (12.6mg)	0.42mL (21mcg)	3.15mL (63mg)	2 mL (4 mg)	0.42 mL (4.2mg)	0.84mL (42mg)
98	44	6.6mL (13.2mg)	0.44mL (22mcg)	3.3mL (66mg)	2 mL (4 mg)	0.44 mL (4.4mg)	0.88mL (44mg)

ADULT WEIGHT-BASED MEDICATION CHART Amended 11/13/13

Drug		Etomidate Amidate	Fentanyl Citrate	Lidocaine Xylocaine
How Supplied		40 mg/20 mL	100 mcg/2 mL	100 mg/5 mL
Protocol Dosage		0.3 mg/kg 20 mg max	1 mcg/kg	1.5 mg/kg
Routes		IVP/IO	IVP/IN/IO	IVP/IO
Weight			<i>Titrate</i>	
Lbs.	Kgs.			
88	40	6mL (12mg)	0.8mL (40mcg)	3mL (60mg)
97	44	6.6mL (13.2mg)	0.88mL (44mcg)	3.3mL (66mg)
106	48	7.2mL (14.4mg)	0.96mL (48mcg)	3.6mL (72mg)
114	52	7.8mL (15.6mg)	1.04mL (52mcg)	3.9mL (78mg)
123	56	8.4mL (16.8mg)	1.12mL (56mcg)	4.2mL (84mg)
132	60	9mL (18mg)	1.2mL (60mcg)	4.5mL (90mg)
141	64	9.6mL (19.2mg)	1.28mL (64mcg)	4.8mL (96mg)
150	68	10mL (20mg)	1.36mL (68mcg)	5.1mL (102mg)
158	72	10mL (20mg)	1.44mL (72mcg)	5.5mL (108mg)
167	76	10mL (20mg)	1.52mL (76mcg)	5.7mL (114mg)
176	80	10mL (20mg)	1.6mL (80mcg)	6mL (120mg)
185	84	10mL (20mg)	1.68mL (84mcg)	6.3mL (126mg)
194	88	10mL (20mg)	1.76mL (88mcg)	6.6mL (132mg)
202	92	10mL (20mg)	1.84mL (92mcg)	6.9mL (138mg)
211	96	10mL (20mg)	1.92mL (96mcg)	7.2mL (144mg)
220	100	10mL (20mg)	2mL (100mcg)	7.5mL (150mg)
229	104	10mL (20mg)	2.08mL (104mcg)	7.8mL (156mg)
238	108	10mL (20mg)	2.16mL (108mcg)	8.1mL (162mg)
246	112	10mL (20mg)	2.24mL (112mcg)	8.4mL (168mg)
255	116	10mL (20mg)	2.32mL (116mcg)	8.7mL (174mg)
264	120	10mL (20mg)	2.4mL (120mcg)	9mL (180mg)
273	124	10mL (20mg)	2.48mL (124mcg)	9.3mL (186mg)
282	128	10mL (20mg)	2.56mL (128mcg)	9.6mL (192mg)
290	132	10mL (20mg)	2.64mL (132mcg)	9.9mL (198mg)
300	136	10mL (20mg)	2.72mL (136mcg)	10.2mL (204mg)

REGION X APPROVED DRUG INFORMATION LIST
NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
ADENOSINE (Adenocard) 6mg/2 mL vial	6 mg RAPID IV/IO and 20mL NS flush IV/IO. May repeat dose at 12 mg RAPID IVP and 20 mL NS flush.	Slows conduction time through AV node. Can interrupt re-entry pathways thru AV node.	Symptomatic SVT Stable monomorphic wide complex tachycardia	Sensitivity to ADENOSINE. Heart block, sick sinus syndrome.	Brief transient dysrhythmias including asystole, flushing, vertigo, nausea/vomiting, chest pressure
ALBUTEROL (Proventil) 2.5 mg/3 mL vial	Hand held nebulizer 2.5 mg/3mL or inline or in-line ET	Produces bronchodilation regardless of route. Relaxes smooth muscle of bronchial tree.	Bronchospam associated with chronic or acute asthma, bronchitis or other reversible obstructive airway diseases	Cautious w/HTN, MAO inhibitors, cardiovascular disease, hyperthyroid, diabetes mellitus, tricyclics	Anxiety, tremors, dizziness, paradoxical bronchospasm, nervousness, palpitations, high or low BP, reflex tachycardia, flushing, headache, nausea, vomiting
Amidate See ETOMIDATE					
AMIODARONE (Cordarone) 150 mg/3 mL	VF/VT – 300 mg IVP/IO VF 2 nd dose 150 mg IVP/IO Adult Stable VT – 150 mg SLOW IVPB diluted in 100 mL D5W	Antiarrhythmic	Refractory VF/PVT Stable VT	Caution with renal failure. Use of drugs which prolong QT interval. Long terminal elimination (>40 days).	Vasodilation, hypotension, negative inotropic, prolongs QT interval

REGION X APPROVED DRUG INFORMATION LIST
NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
ASPIRIN 81 or 324 mg Tablets	324mg, Oral	Platelet inhibitor. Blocks platelet aggregation.	New chest pain suggestive of Acute MI	Patients with known hypersensitivity to drug	Heartburn, nausea, vomiting
ATROPINE SULFATE 1 mg/10 mL preload (0.1 mg/mL) –OR- 0.5mg/5 mL preload.	0.5 to 1.0 mg IVP/IO RAPIDLY up to total dose of 3 mg or via ET	Parasympathetic blocker, indirect cardioaccelerator	Decreased cardiac output, bradydysrhythmias with BP and sensorium changes, narrow complex AV block Organophosphate poisoning	HTN, tachycardia, glaucoma	Dilated pupils, dry mouth, headache, sensorium change, tachycardia, flushed skin, blurred vision
Atrovent See IPRATROPIUM BROMIDE					
Benadryl See DIPHENHYDRAMINE					
CYANOKIT 5 g Hydroxocobalamin packaged as (2) 2.5 g vials	5 g IVP/IO over 15 minutes. May repeat one time.	Binds cyanide ion and forms cyanocobalamin which is excreted in the urine	Treatment of known or suspected cyanide poisoning.	Sensitivity to hydroxocobalamin	HTN, nausea, vomiting, headache, rash

REGION X APPROVED DRUG INFORMATION LIST
NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
DEXTROSE 50% 25 gm/50 mL preload (500 mg/mL)	25 gm IVP or IO	Monosaccharide, which provides glucose calories for metabolic needs, 50% solution acts an osmotic diuretic	Hypoglycemia, unconscious patients of unknown origin	Delirium tremens with dehydration, intracranial or intraspinal hemorrhage	Acidosis, alkalosis, hyperglycemia, hyperosmolarity syndrome. Burning from infusion, pain and thrombosis of peripheral veins. Skin and soft tissue necrosis with infiltration.
DIAZEPAM (Valium) 10 mg/2 mL preload syringe	2 – 5 mg increments IVP/IO SLOWLY up to 10 mg total. Titrate to desired effect. May be given IM.	Depresses the CNS autonomic and peripheral nervous systems. Suppresses spread of seizure activity	Seizures, cardioversion, status epilepticus, anxiety	Shock, coma, acute alcohol intoxication, glaucoma	Respiratory depression, drowsiness, lethargy, ataxia, transient hypotension, visual disturbances, evidence shows risk to fetus, but benefit may outweigh risk
DIPHENHYDRAMINE (Benadryl) 50 mg/1 mL preload	25-50 mg IM or IVP/IO SLOWLY over 2 minutes	Decreases allergic response by blocking histamine	Allergic reaction and anaphylaxis	Acute Asthma attack, COPD, hypersensitivity.	Drowsiness, sedation, headache, blurred vision, tremors, tachycardia, convulsions, hypotension. May cause excitable state in children.

REGION X APPROVED DRUG INFORMATION LIST
NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
DOPAMINE 400mg/250 mL	Starting dose 5µg/kg/min IVPB up to 20µg/kg/min	Stimulates alpha and beta-1 adrenergic and dopaminergic receptors	Hypotension with signs and symptoms of shock	Hypersensitivity, hypertension, tachydysrhythmias	Hypertension, tachycardia, headache, nausea, vomiting, angina, dyspnea, skin and soft tissue necrosis with infiltration
DUODOTE Atropine 2 mg/0.7 mL Pralidoxine Chloride (2 PAM) 600 mg/2 mL	May utilize up to 3 kits based upon exposure and presentation	Atropine counters the over-stimulating effects on nerve receptors. 2 PAM removes nerve agent at nerve endings.	Symptomatic nerve agent or organophosphate exposure. Dermal decontamination is critical	Not to be used for prophylactic measure. Use with caution but not withheld in patients with cardiac disease or hypertension	Atropine may cause chest pain. 2 PAM may cause blurred vision, headache, nausea, hypertension, rapid heart rate.
EPINEPHRINE 1:1,000 1 mg/mL ampules or preload	0.3 mL SQ or 0.5 mL IM Neb 1mL/2mL Normal Saline or SL or ET	Beta effects: increases automaticity, conductivity, contractility, dilation of bronchial tree. Alpha effects vasoconstriction.	Anaphylaxis, allergic reaction, bronchial asthma, bronchitis, bronchospasm, COPD, wheezing of any etiology in adults.	Use with caution in elderly patient and those with underlying cardiovascular disease. Known sensitivity to epinephrine or sulfites. Pregnant women in active labor.	Tachyarrhythmia, tremors, restlessness, anxiety, nausea, headache

REGION X APPROVED DRUG INFORMATION LIST
NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
<p>EPINEPHRINE 1:10,000 1 mg/10 mL preload</p>	<p>1 mg given IVP/IO RAPIDLY during resuscitation. May repeat at 3-5 min. intervals or ET</p>	<p>Beta effects: increases automaticity, conductivity, contractility, dilation of bronchial tree. Alpha effects: vasoconstriction</p>	<p>Asystole, V-fib, pulseless idioventricular rhythm</p>	<p>Pregnancy, hypertension, known sensitivity to epinephrine or sulfites</p>	<p>Tachyarrhythmias, tremors, restlessness, anxiety, nausea, headache</p>
<p>ETOMIDATE (Amidate) 40mg/20mL (2mg/1mL) 0.3 mg/kg</p>	<p>0.3 mg/kg IVP/IO over 30 to 60 seconds</p>	<p>Ultrashort- acting nonbarbiturate hypnotic which produces a rapid induction of anesthesia with minimal cardiovascular effects Decreases intracranial pressure with no effect on cerebral perfusion or heart rate</p>	<p>Drug assisted intubation (DAI)</p>	<p>Used cautiously in patients with renal failure and hepatic cirrhosis as the duration of effect may be prolonged. Use cautiously in patients with seizure disorder. Use in pregnancy only if potential benefit justifies the risk.</p>	<p>Pain at injection site, temporary involuntary muscle movements, nausea, vomiting, hiccups bradycardia, tachycardia, arrhythmias, hypertension, hypotension, apnea, laryngospasm, hypoventilation</p>

REGION X APPROVED DRUG INFORMATION LIST
NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
FENTANYL CITRATE 100 mcg/2 mL vial Amended 11/13/13	1 mcg/kg IVP/IO/IN for all doses, repeat dose 1 mcg/kg IVP/IO/IN to a maximum of 200 mcg Titrate to desired effect.	Binds with and activates opioid receptors in the brain and spinal cord to produce analgesia and euphoria. Reduces anxiety, apprehension and perception to pain	Pain relief	Hypersensitivity or intolerance to Fentanyl or other opioid agonists Fentanyl crosses the placenta but has been used safely in labor	Skeletal muscle and chest wall rigidity, Impaired ventilation, Respiratory distress, apnea, bronchoconstriction, laryngospasm
FUROSEMIDE (Lasix) 40 mg/2 mL preload	Usual dose 40-80 mg IVP/IO or IM	Diuretic acts on kidneys to excrete water, sodium, potassium, vasodilation	CHF and pulmonary edema, head injury with high ICP, HTN	Symptomatic hypotension	Postural hypotension, electrolyte disorders, muscle cramps, blurred vision
GLUCAGON 1 mg	1mg = 1 unit IM/IN (dissolved in accompanying diluent)	Increases blood glucose by converting liver glycogen to glucose	Hypoglycemia when unable to establish IV	Chronic hypoglycemia, adrenal insufficiency, starvation, allergy to protein.	Nausea, vomiting, hypotension, allergic reaction due to protein substance.
GLUCOSE (Glucose 15) 15 G Amended 11/13/13	15 grams ORAL	Increases blood glucose	Hypoglycemia when known diabetic, able to tolerate oral preparation, intact gag reflex	Unable to tolerate oral preparation, lacking gag reflex, unable to protect own airway	Nausea

REGION X APPROVED DRUG INFORMATION LIST
NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
IPRATROPIUM BROMIDE (Atrovent) 0.5 mg/2.5 mL vial	Unit dose, hand-held nebulizer 0.5 mg/2.5 mL or inline ET	Anticholinergic Bronchodilator	Bronchospasm which is associated with mod/severe allergic reaction, COPD/Asthma	Hypersensitivity to Atropine or ipratropium products, Glaucoma, prostate hypertrophy	Dry mouth, nausea, bitter taste in mouth, blurred vision, dilated pupils
Lasix See FUROSEMIDE					
LIDOCAINE (Xylocaine) 100 mg/5 mL preload	DAI 1.5 mg/kg IVP/IO IO insertion 50 mg IO or ET	Antiarrhythmic, local anesthetic Depresses cough reflex during DAI	DAI for head trauma, local anesthetic for IO infusion	Known hypersensitivity to amides, AV or intraventricular blocks, idioventricular or escape rhythms, brady dysrhythmias	Low systolic BP, nausea, coma, bradycardia that may lead to arrest, twitching, seizures, widened QRS complex, CNS depressions
MIDAZOLAM (Versed) 5 mg/1 mL vial or 10 mg/2 mL vial	2 mg IVP/IO/IN every 2 minutes titrated for effect up to maximum of 10 mg (20 mg for post-intubation sedation)	Benzodiazepine CNS depressant Amnesic Sedative/hypnotic Fast onset/offset	Sedation prior to conscious intubation and/or Cardioversion Suppress seizure activity Severe anxiety	Glaucoma Shock Pregnancy unless seizing Head trauma Known hypersensitivity Dose generally ↓ with; age > 60; debilitated patients with chronic diseases; those on narcotics or CNS depressants	Drowsiness sedation confusion amnesia ataxia respiratory depression respiratory arrest hypotension, crosses placental barrier

REGION X APPROVED DRUG INFORMATION LIST

NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
MORPHINE SULFATE 10 mg/1 mL	2 mg IVP/IO over 2 minutes may repeat to a maximum of 10 mg or IM	Narcotic: Decreases anxiety. Vasodilator decreases venous return. Potent analgesic.	Severe pain in normotensive patients. Pulmonary edema, ischemic chest pain.	Use with caution with head injury, undiagnosed abdominal pain, hypotension, brady arrhythmias.	Respiratory depression/arrest, decreased LOC, transient low BP. Reversal agent Narcan.
NALOXONE HCL (Narcan) 2 mg/mL preload or vial	2 mg IVP/IO/IN or ET or IM	Narcotic antagonist	Known or suspected narcotic-induced respiratory depression.	Use cautiously in patients with cardiac irritability and narcotic addiction.	Nausea, vomiting, withdrawal symptoms, seizures
Narcan See NALOXONE					
NITROGLYCERINE (Nitrostat) 1/150 gr. Tablets	1 tablet SL (0.4mg - 1/150 gr.) May be given every 5 minutes if BP > 90.	Vasodilator: decreases blood return to right heart, decreases preload and afterload and oxygen consumption.	Angina pectoris, chest pain. Pulmonary edema, Hypertensive crisis	Hypersensitivity to nitrates, head trauma, cerebral hemorrhage, and hypotension. Avoid use if Viagra drug taken within 24 hours or 48 hours with Cialis	Headache, dizziness, hypotension, nausea, vomiting, palpitations, sublingual burning.
ONDANSETRON (Zofran) 4mg/2 mL Also 4mg tablet	4mg IVP/IO over 30 seconds may repeat in 10 minutes to a maximum of 8 mg Or 4mg ORAL	Blocks the action of serotonin, a natural substance that may cause nausea and vomiting	Nausea and vomiting	Hypersensitivity	Blurred vision after infusion, diarrhea in children
Proventil					

REGION X APPROVED DRUG INFORMATION LIST
NOTE: See Pediatric Resuscitation Medication Chart for Pediatric Dose

DRUG	DOSE AND ROUTE	ACTION	INDICATION	CONTRAINDICATIONS	SIDE EFFECTS
See ALBUTEROL					
Valium See DIAZEPAM					
VERAPAMIL 2.5 mg/1 mL preload	5 mg IVP/IO SLOWLY over 2 minutes, if no response in 15 minutes may repeat	Relaxes coronary smooth muscle, decreases SA and AV node conduction, dilates peripheral arteries	SVT and Atrial Fib/Flutter	2nd or 3rd degree heart block, hypotension, severe CHF, cardiogenic shock, Sick Sinus Syndrome, Wolff-Parkinson-White Syndrome	Headache, dizziness, bradycardia, palpitations, hypotension, AV block, nausea
Versed See MIDAZOLAM					
Xylocaine See LIDOCAINE					
Zofran See ONDANSETRON					

REGION X DRUG ROUTE OPTIONS

Choice of drug administration route is based upon patient presentation at time of need.

Drug Name	IVP	IO	ET	IM	IVPB	SQ	SL	IN	NEB	RECT	ORAL
ADENOSINE	✓	✓									
ALBUTEROL			✓						✓		
AMIODARONE	✓	✓			✓						
ASPIRIN											✓
ATROPINE SULFATE	✓	✓	✓	✓							
ATROVENT			✓						✓		
BENADRYL	✓	✓		✓							
DEXTROSE	✓	✓									
DOPAMINE					✓						
EPINEPHRINE 1:1000			✓	✓		✓	✓		✓		
EPINEPHRINE 1:10,000	✓	✓	✓								
ETOMIDATE	✓	✓									
FENTANYL	✓	✓						✓			
GLUCAGON				✓				✓			
GLUCOSE											✓
LASIX	✓	✓		✓							
LIDOCAINE	✓	✓	✓								
MORPHINE SULFATE	✓	✓		✓							
NARCAN	✓	✓	✓	✓				✓			
NITROGLYCERINE							✓				
VALIUM	✓	✓		✓						✓	
VERAPAMIL	✓	✓									
VERSED	✓	✓						✓			
ZOFRAN	✓	✓									✓

Amended 11/13/13

ABBREVIATIONS, ACRONYMS and SYMBOLS

AAA.....	abdominal aortic aneurysm	C-spine.....	cervical spine
Abd.....	Abdomen	CV.....	cardiovascular
ACS.....	acute coronary syndrome	CVA.....	cerebral vascular accident
AED.....	automated external defibrillator	D&C.....	dilatation and curettage
AHA.....	American Heart Association	D/C.....	discontinue
AIDS.....	acquired immune deficiency syndrome	D5W.....	.5% dextrose in water
ALS.....	Advanced Life Support	DCAP.....	deformity, contusion, abrasion, penetration
AMA.....	against medical advice	DCFS.....	Department of Children and Family Services
Amb.....	ambulance	Dept.....	department
AMI.....	acute myocardial infarction	Dig.....	Digoxin
Amp.....	ampule	DKA.....	diabetic ketoacidosis
AMS.....	altered mental status	DM.....	diabetes mellitus
A&O.....	alert & oriented	DNA.....	does not apply
APGAR.....	appearance, pulse, grimace, activity, respirations	DNR.....	do not resuscitate
ASA.....	aspirin	DOA.....	dead on arrival
ASAP.....	as soon as possible	DOE.....	dyspnea on exertion
ASHD.....	arteriosclerotic heart disease	Drsg.....	dressing
AV.....	atrioventricular	DTs.....	delirium tremens
AVPU.....	mental status: alert, verbal, pain, unresponsive	DVT.....	deep vein thrombosis
BB.....	backboard	Dx.....	diagnosis
BCP.....	birth control pills	ECG or EKG.....	electrocardiogram
BLS.....	Basic Life Support	ECRN.....	Emergency Communications RN
bm.....	bowel movement	ED.....	emergency department
BOW.....	Bag of water	EDC.....	estimated date of confinement
BP.....	blood pressure	EDD.....	esophageal detector device
BPM or bpm.....	beats per minute	EMS.....	Emergency Medical Services
bs.....	breath sounds	EMT-B.....	Emergency Medical Technician - Basic
BSA.....	body surface area	EMT-P.....	Emergency Medical Technician – Paramedic
BSI.....	body substance isolation	ENT.....	ear, nose and throat
BVM.....	bag valve mask	ET.....	endotracheal
C.....	Celsius or centigrade	EtCO2.....	end tidal carbon dioxide
CA.....	cancer	ETA.....	estimated time of arrival
c&a.....	conscious and alert	ETOH.....	alcohol
CABG.....	coronary artery bypass graft	Exam.....	examination
CAD.....	coronary artery disease	F.....	fahrenheit
CC.....	chief complaint	FB.....	foreign body
C-Collar.....	cervical collar	FBO.....	foreign body obstruction
CHB.....	complete heart block	Fib.....	fibrillation
CHF.....	congestive heart failure	FHT.....	fetal heart tones
CID.....	cervical immobilization device	FUO.....	fever of unknown origin
cm.....	centimeter	FiO2.....	fraction of inspired O2 (% O2 delivered)
CMS.....	circulation, motor, sensation	Fr.....	french (suction catheter diameter)
CNS.....	central nervous system	Fx.....	fracture
c/o.....	complains of	GCS.....	Glasgow Coma Score
CO.....	carbon monoxide	GERD.....	gastro-esophageal reflux disease
CO2.....	carbon dioxide	GI.....	gastrointestinal
COPD.....	chronic obstructive pulmonary disease	G.....	gram
CP.....	chest pain	gm.....	gram
CPAP.....	continuous positive airway pressure	gsw.....	gun shot wound
CPR.....	cardiopulmonary resuscitation	Gtt.....	drops
Cric.....	cricothyrotomy	GU.....	genitourinary
C-Section.....	caesarian section	Gyn.....	gynecological
CSF.....	cerebral spinal fluid	h or hr.....	hour

H/A headache
 H2O water
 HCO3 bicarbonate
 HEPA high efficiency particulate airborne mask
 HF heart failure
 HHN hand held nebulizer
 HIV human immunodeficiency virus
 HR heart rate
 HTN hypertension
 Hx history
 ICP intracranial pressure
 ICU intensive care unit
 ID infectious disease
 IDDM insulin dependent diabetes mellitus
 IDPH Illinois Department of Public Health
 IM intramuscular
 IN intranasal
 INH inhalation
 IO intraosseous
 IV intravenous
 IVF intravenous fluids
 IVP intravenous push
 IVPB intravenous piggy back
 IVR idioventricular rhythm
 J joules
 JVD jugular venous distension
 K potassium
 KED Kendrick extrication device
 Kg kilogram
 KVO keep vein open
 L liter
 Lbp low back pain
 Lbs pounds
 LLE left lower extremity
 LLQ left lower quadrant
 L/minute liters per minute
 LMP last menstrual period
 LOC level of consciousness
 L or Lt left
 LUE left upper extremity
 LUQ left upper quadrant
 LV left ventricle
 LVAD left ventricular assist device
 mA milliamps (pacing)
 MAD™ Mucosal Atomization Device
 MAEW moves all extremities well
 mcg microgram
 mcgts microdrops
 MCI mass casualty incident
 MERCI Medical Emergency Radio Comm. of Illinois
 mEq milliequivalents
 mg milligram(s)
 min minute
 MI myocardial infarction
 mL milliliter(s)
 mmHg millimeters of mercury
 MOI mechanism of injury
 MPMP multiple patient management plan
 m/s musculoskeletal
 MS morphine sulfate

MVC motor vehicle crash
 n/a not applicable
 NAD no apparent distress
 NC nasal cannula
 NEB nebulizer
 NKA no known allergies
 NP/NPA nasopharyngeal airway
 NPO nothing by mouth
 NRBM non-rebreather mask
 NS normal saline
 NSAID nonsteroidal anti-inflammatory drug
 NSR normal sinus rhythm
 NTG nitroglycerine
 N/V nausea/vomiting
 O2 oxygen
 OB obstetric
 OD overdose
 OP/OPA oropharyngeal airway
 Oriented X 1 oriented to person
 Oriented X 2 oriented to person, place
 Oriented X 3 oriented to person, place, time
 Oriented X 4 oriented to person, place, time, event
 P pulse
 PAC premature atrial contraction
 PALS Pediatric Advanced Life Support
 PAT paroxysmal atrial tachycardia
 PCN penicillin
 pCO2 or PaCO2 partial pressure of carbon dioxide
 PCR patient care record
 PEA pulseless electrical activity
 PEEP positive end expiratory pressure
 PERL pupils equal and reactive to light
 PID pelvic inflammatory disease
 PJC premature junctional contraction
 Pmh past medical history
 PMS pulses, motor, sensory
 PO per os (by mouth)
 pO2 partial pressure of oxygen
 PPE personal protective equipment
 PPV positive pressure ventilation
 PR per rectum
 PRI P-R interval
 Prn pro re nata or as needed
 Pt patient
 PTA prior to arrival
 PVC premature ventricular contraction
 Q every
 R respirations
 RA room air
 Resp respiratory
 RLE right lower extremity
 RLQ right lower quadrant
 RN Registered Nurse
 R/O rule out
 ROM range of motion
 ROSC return of spontaneous circulation
 RR respiratory rate
 RSV respiratory syncytial virus
 R or Rt right
 RTS revised trauma score

RUE..... right upper extremity
RUQ..... right upper quadrant
SA..... sinoatrial node
SAMPLE..... symptoms, allergies, medications,
.... past history, last oral intake, events leading up to illness
SB..... sinus bradycardia
SBP..... systolic blood pressure
SCI..... spinal cord injury
SIDS..... sudden infant death syndrome
SL..... sublingual
SMV..... sensation, motor, vascular
SOB..... shortness of breath
SOP..... Standard Operating Procedure
SpO2..... pulse oximetry
SQ..... subcutaneous
S&S..... signs & symptoms
STAT..... immediately
STD..... sexually transmitted disease
SubQ or SQ..... subcutaneous
SVT..... supraventricular tachycardia
T..... temperature
Tab..... tablet
TB..... tuberculosis
TBI..... traumatic brain injury
TIA..... transient ischemic attack
TIC..... tenderness, instability, crepitus
TKO/KVO..... to keep open
TPN..... total parenteral nutrition
Tx..... treatment
Unk..... unknown
URI..... upper respiratory infection
UTI..... urinary tract infection
V-fib or VF..... ventricular fibrillation
VO..... verbal order
VS..... vital signs
VSD..... ventricular septal defect
V-tach or VT..... ventricular tachycardia
w/..... with
w/d..... warm and dry
WPW..... Wolff-Parkinson White Syndrome
Wt..... weight
WNL..... within normal limits
w/o..... without
WOB..... work of breathing
Ws..... watt seconds
y/o..... year old
@..... at
°..... degree
#..... number
↑ or ↓..... increased or decreased
<..... less than
>..... greater than
≥..... equal to or greater than
≤..... equal to or less than
+..... positive or plus