

# EMS REGION XI CHICAGO

## BLS/EMT-B

### STANDING MEDICAL ORDERS



# REGION XI - CHICAGO EMS SYSTEM BLS STANDING MEDICAL ORDERS

These Standing Medical Orders (SMOs) have been developed and approved through a collaborative process involving the four EMS Systems of EMS/Trauma Region XI.

The following SMOs are to be utilized as the pre-hospital medical treatment guidelines by the system's EMT-B. It is understood that deviations from the SMOs may be necessary in the interest of assuring that a patient is transported to an appropriate medical facility rather than receive no care at all.



MARKUL

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# BLS STANDING MEDICAL ORDERS

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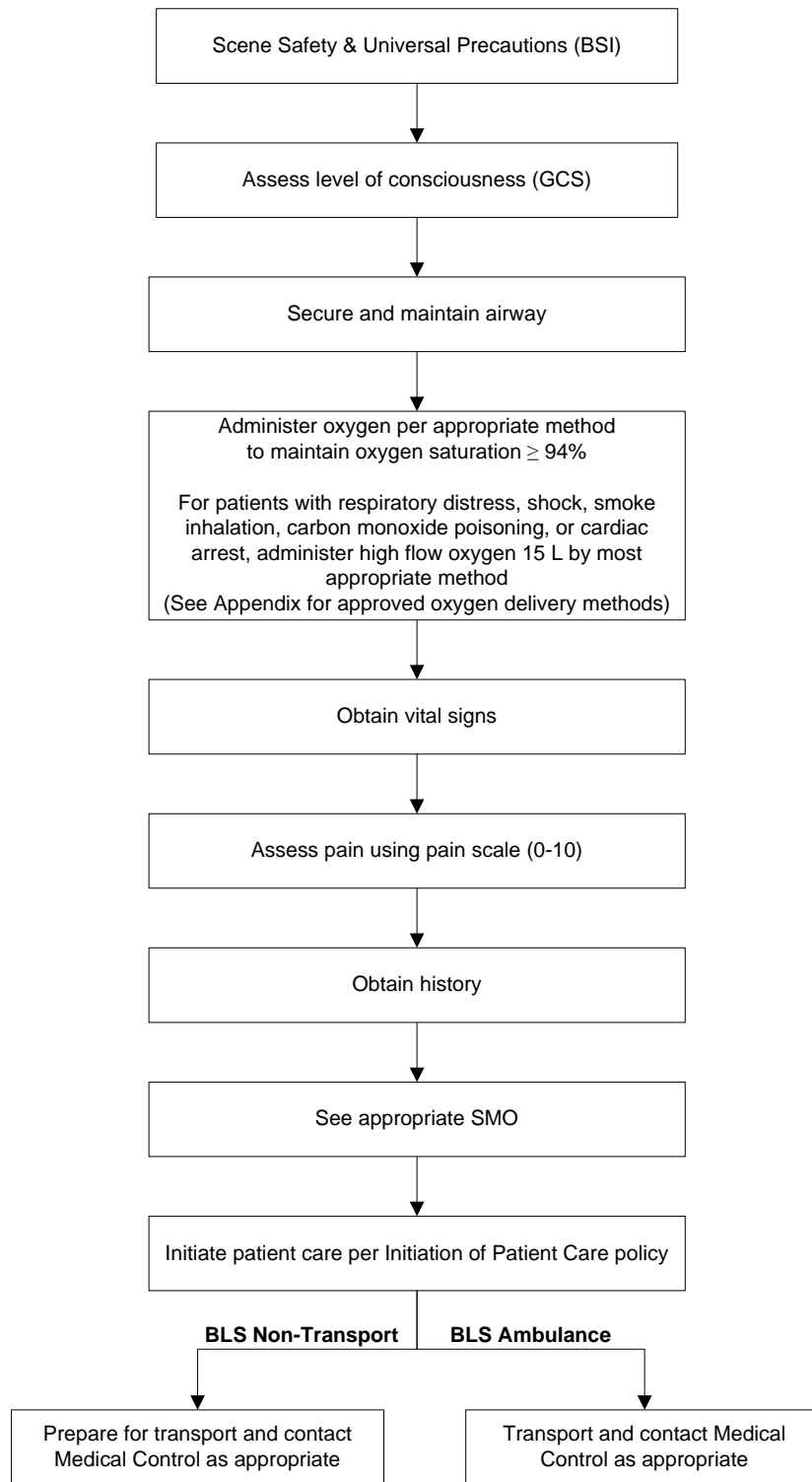
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**GENERAL**

Routine Medical Care (RMC) A-1

# ROUTINE MEDICAL CARE (RMC) - BLS



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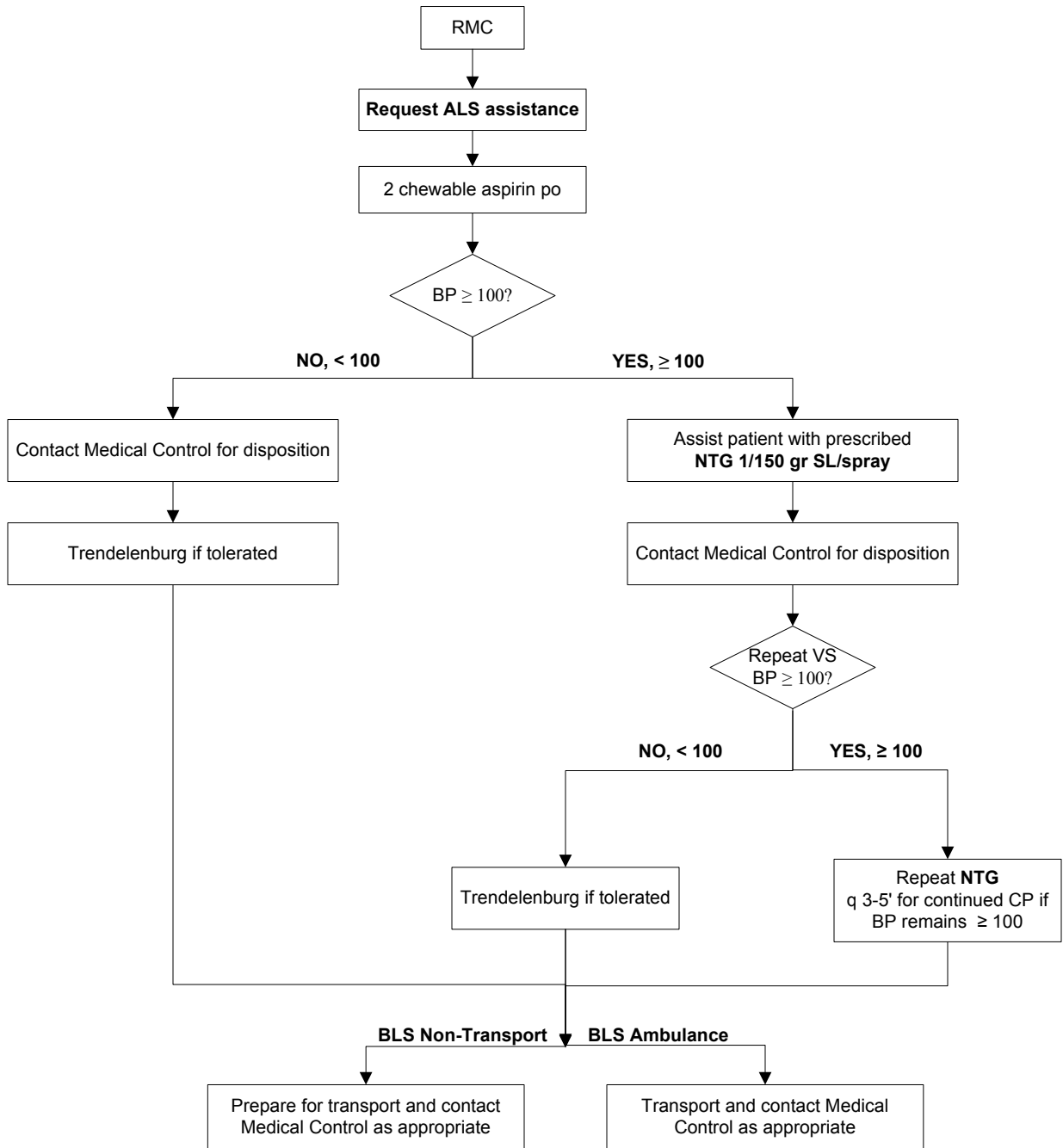
Implementation: CFD BLS 5/00; Other 8/00; 1/1/11; 3/1/16

**CARDIAC**

Cardiac Chest Pain B-1

Cardiac Arrest B-2

# CARDIAC CHEST PAIN - BLS





**RESPIRATORY**

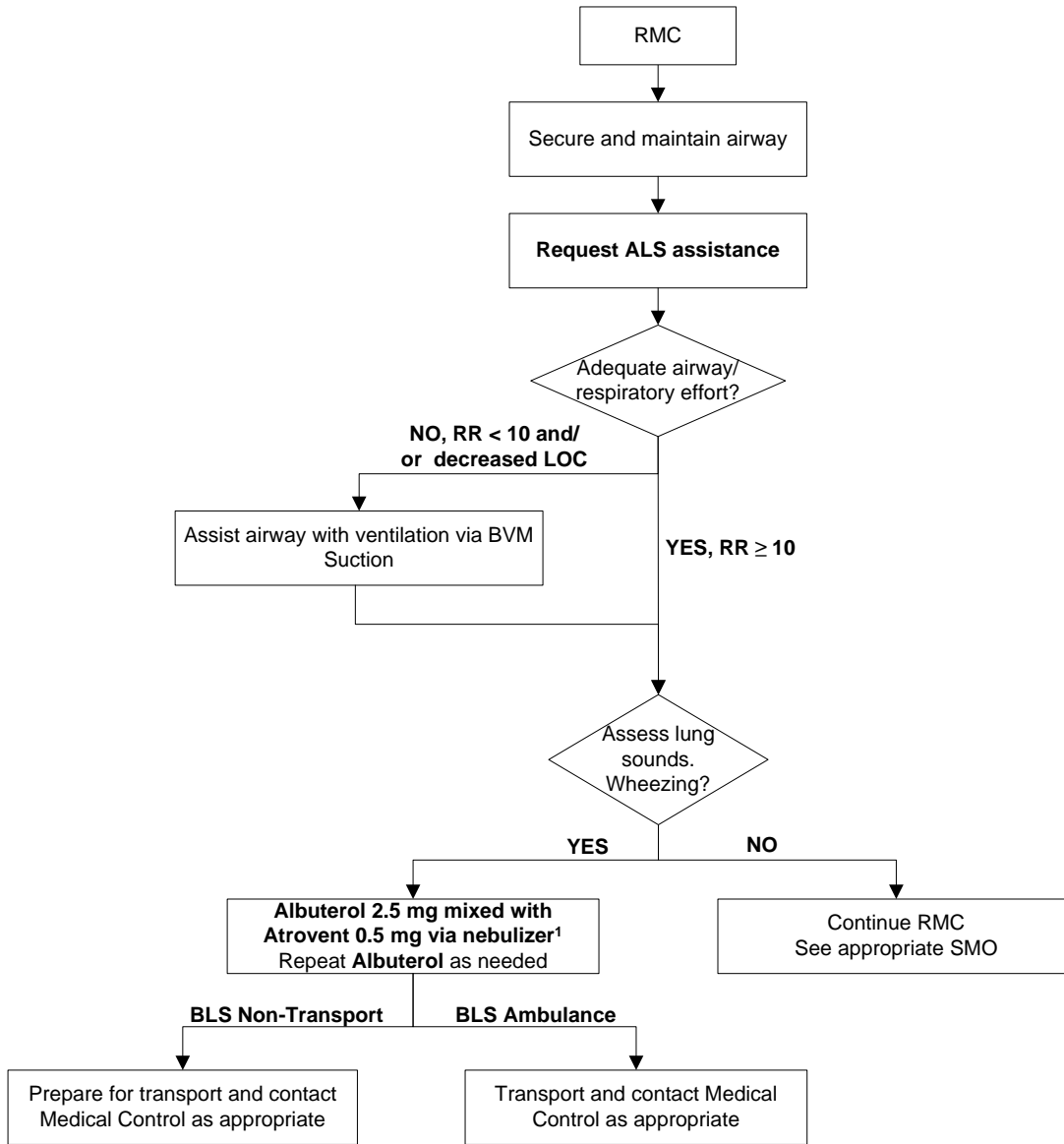
Respiratory Distress C-1

Respiratory Obstruction C-2

Allergic Reaction and/or Anaphylaxis C-3

Suspected Carbon Monoxide Poisoning C-4

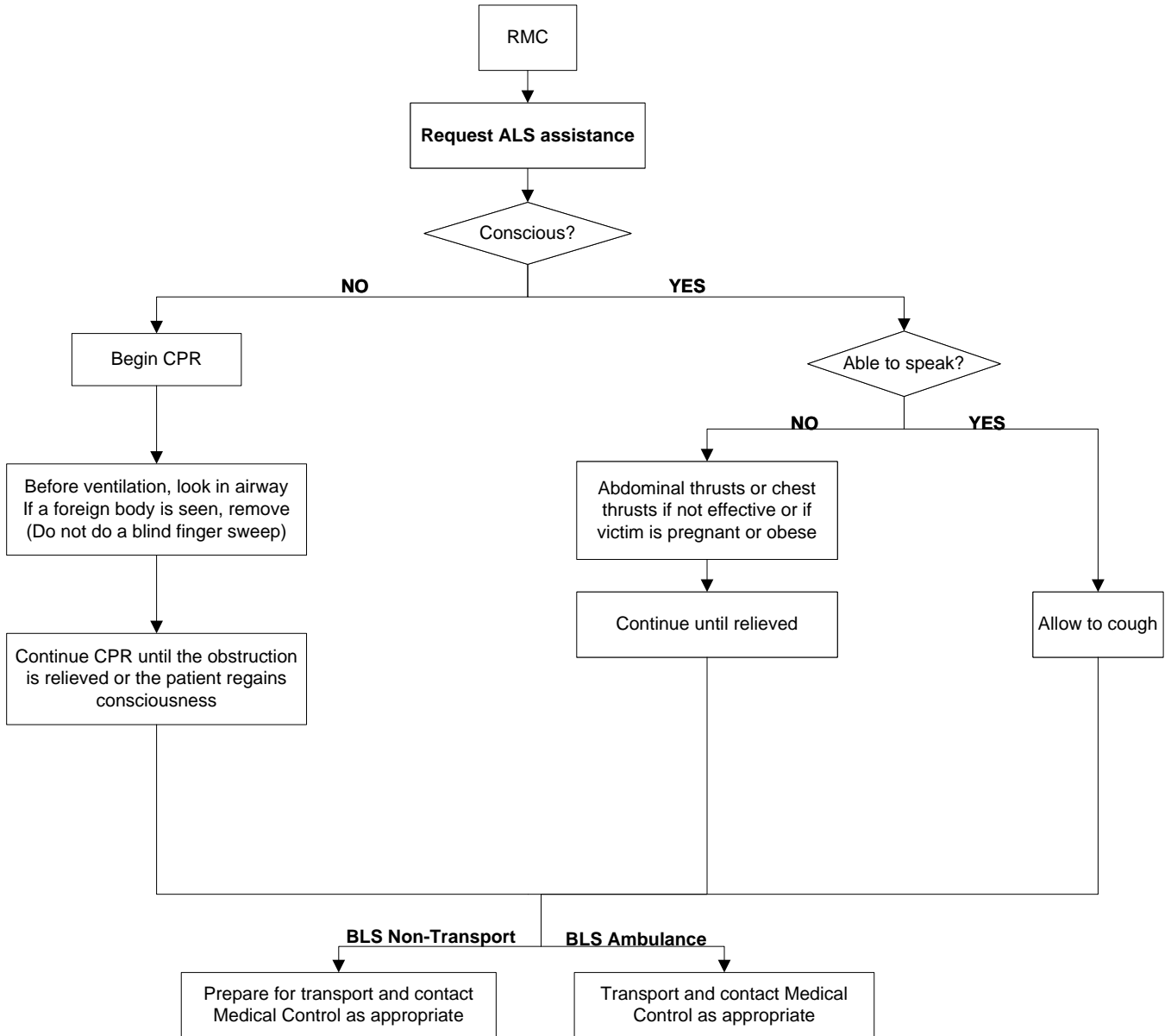
# RESPIRATORY DISTRESS - BLS



1 – If available

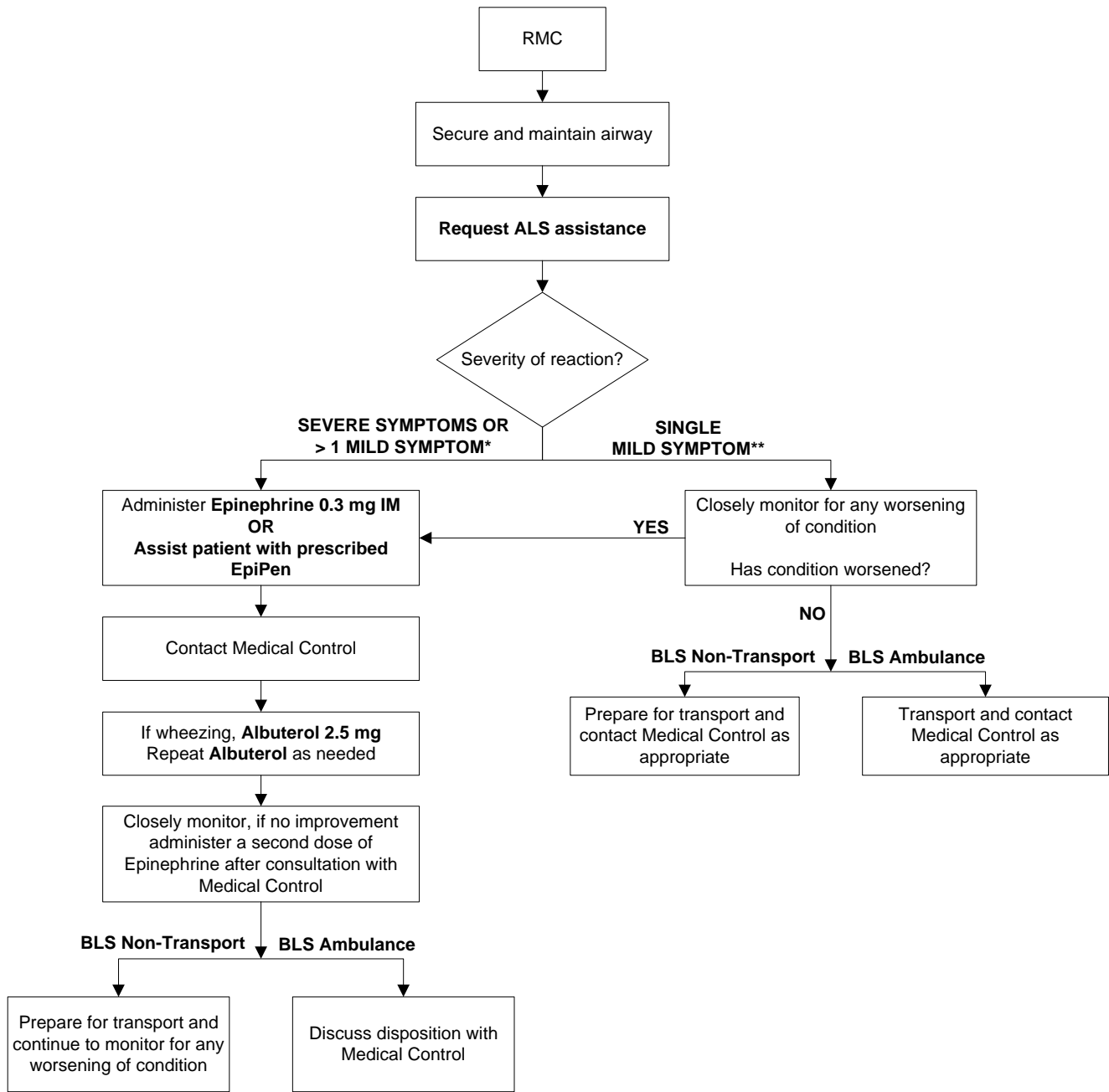
**NOTE: Complete lack of breath sounds may indicate severe bronchoconstriction**

# RESPIRATORY OBSTRUCTION - BLS



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# ALLERGIC REACTION and/or ANAPHYLAXIS - BLS



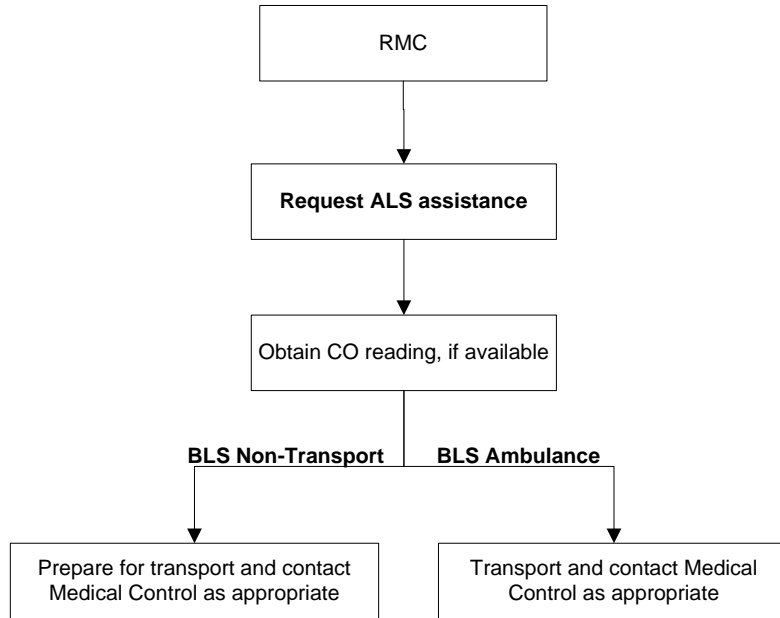
\*Severe symptoms of an allergic reaction may include any combination of the following:

- RESPIRATORY – Shortness of breath, wheezing, repetitive coughing
- CARDIOVASCULAR – Pale, cyanotic, low blood pressure, dizzy
- THROAT – Tightness, hoarse, trouble breathing/swallowing
- MOUTH – Swelling of the tongue and/or lips
- SKIN- Diffuse hives or redness
- GI – Repetitive vomiting, severe diarrhea
- NEURO – Anxiety, confusion, sense of doom

\*\*Mild symptoms of an allergic reaction may include any combination of the following:

- NOSE – Itchy/runny nose, sneezing
- MOUTH – Itching
- SKIN- Few hives, mild itching
- GI – Mild nausea/discomfort

# SUSPECTED CARBON MONOXIDE POISONING - BLS



**MEDICAL**

Altered Mental Status D-1

Seizures D-2

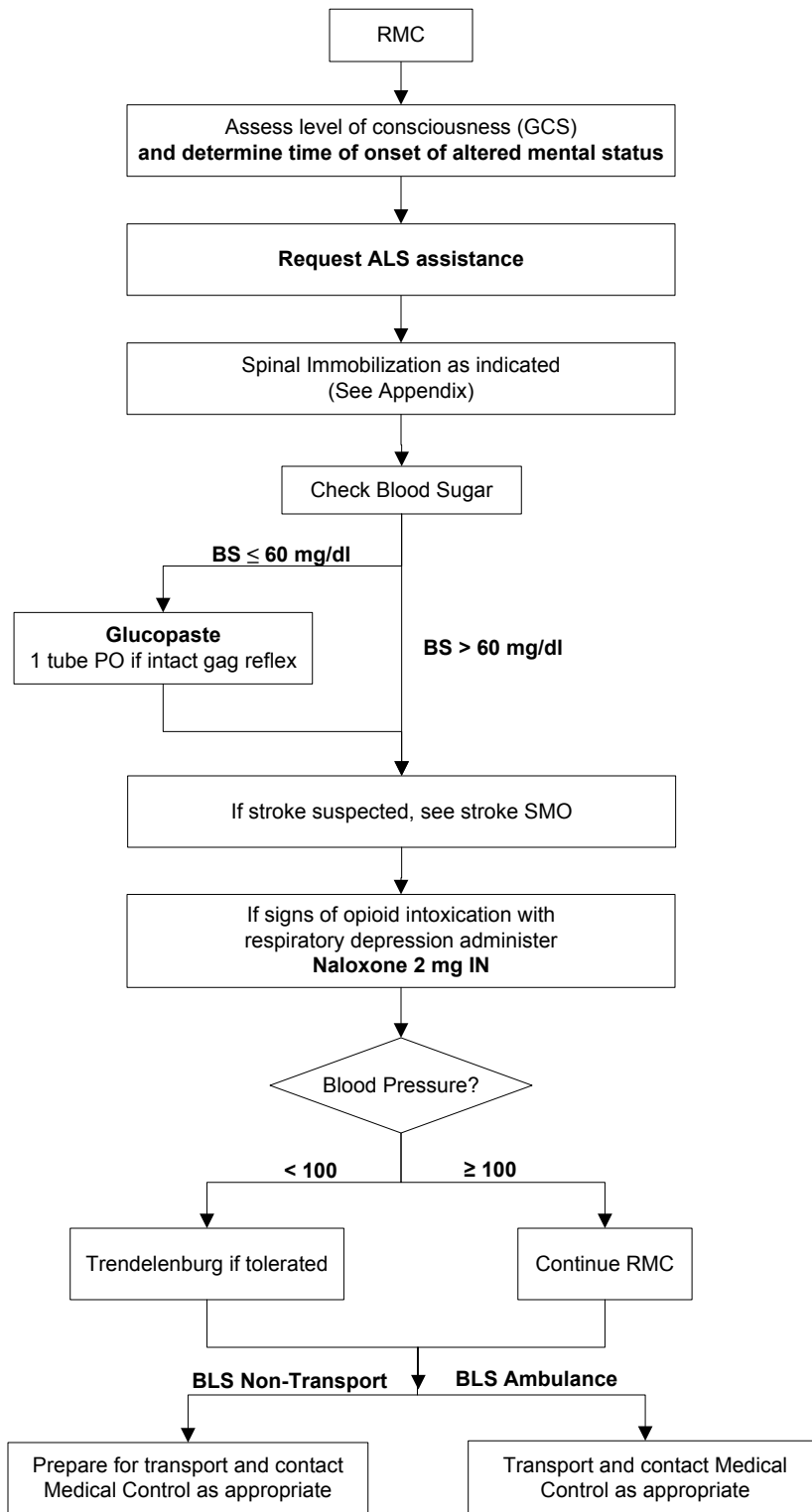
Suspected Acute Stroke D-3

Behavioral Emergency D-4

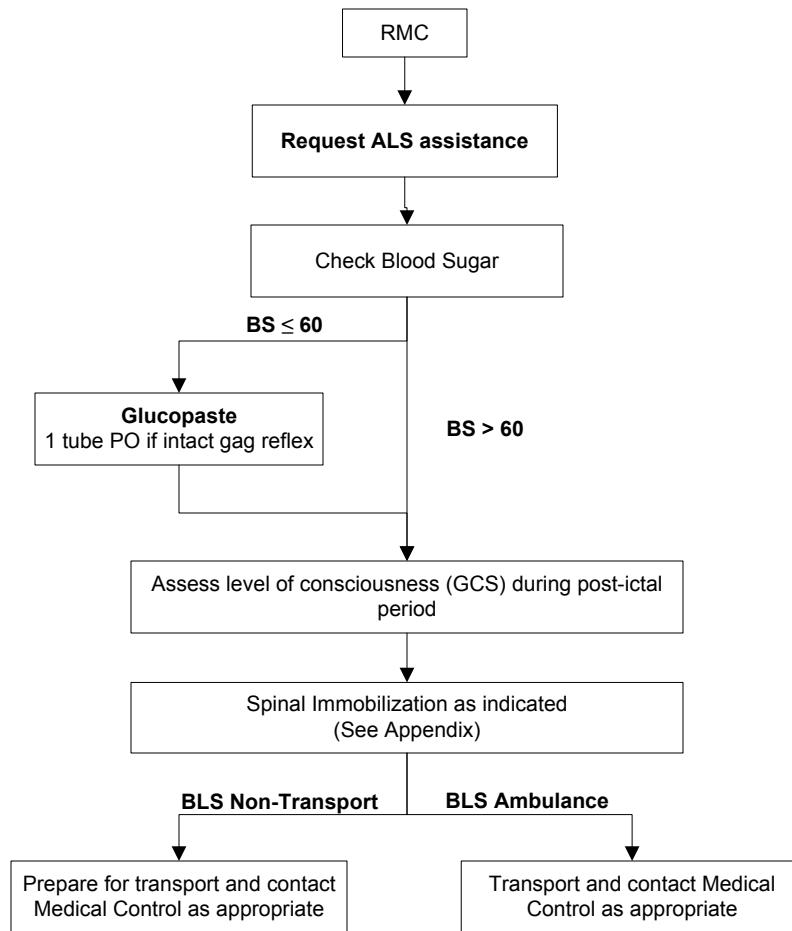
Taser/Electrical Weapon Device Exposure D-5

Non-Cardiogenic/Non-Traumatic Shock D-6

# ALTERED MENTAL STATUS - BLS



# SEIZURES - BLS



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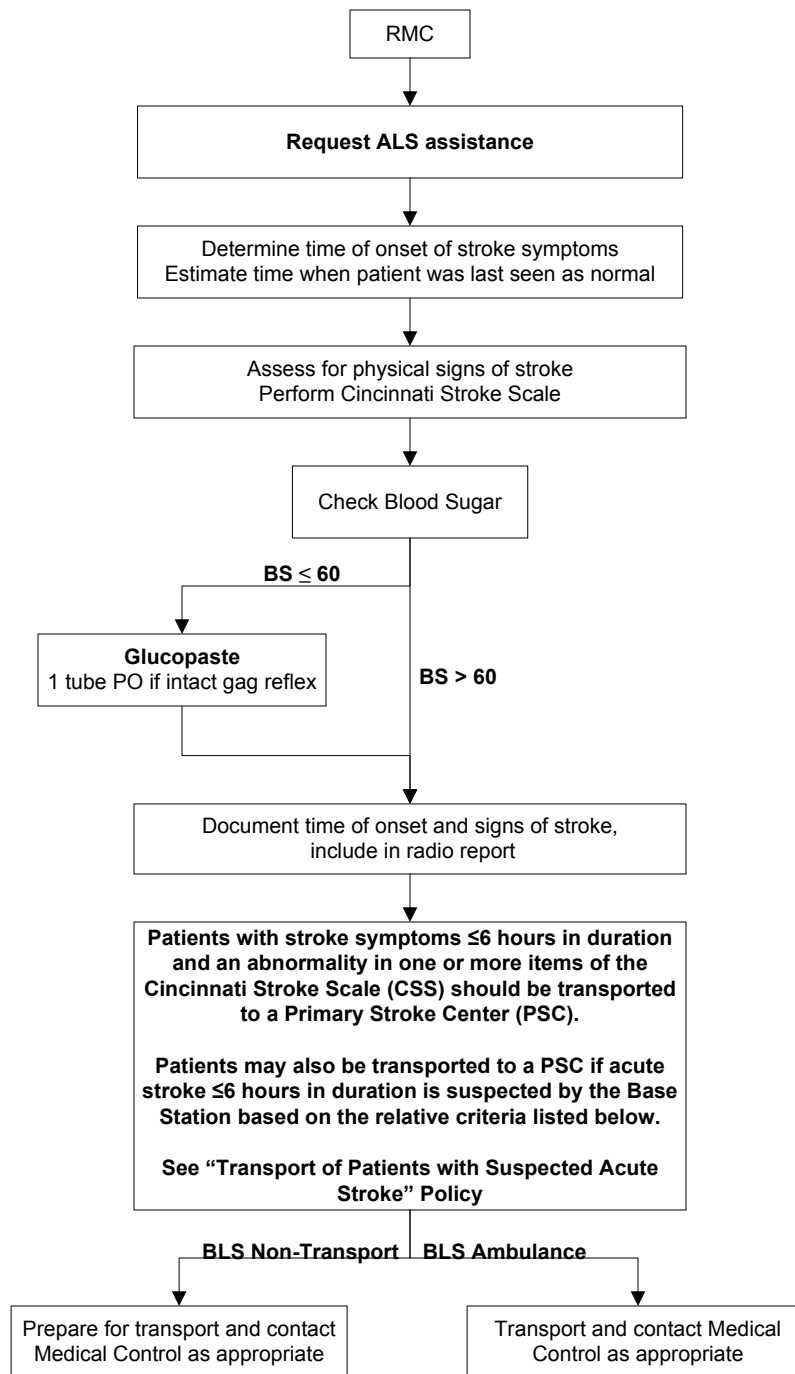
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# SUSPECTED ACUTE STROKE - BLS



## Relative Criteria

Patients with a negative or unattainable CSS may be transported to a PSC if acute stroke ≤6 hours in duration is suspected by the Base Station based on any of the following:

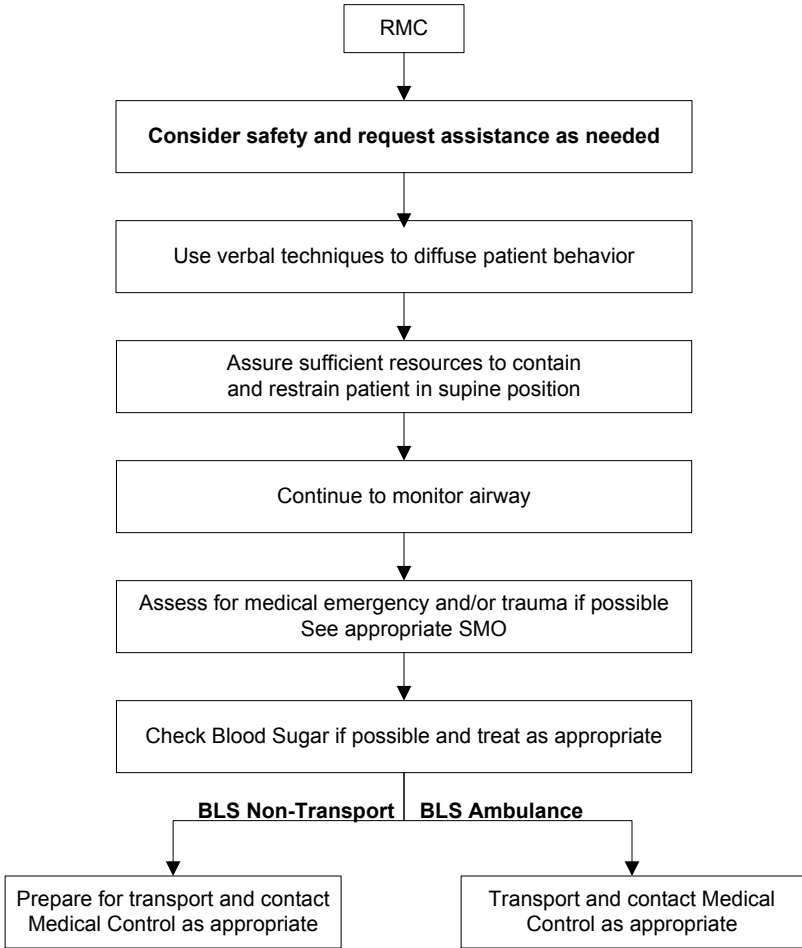
- Sudden and persistent alteration of consciousness
- Sudden onset severe headache (especially in association with vomiting +/- systolic BP >200)
- Severe and sudden loss of balance

## Cincinnati Stroke Scale (CSS) (for responsive patient):

1. **Facial droop** – have patient show teeth or smile  
Abnormal = one side does not move as the other
2. **Arm Drift** – have patient close eyes and hold arms out for 10 seconds with palms up  
Abnormal = one arm does not move or drifts down
3. **Abnormal speech** – have patient say, "You can't teach an old dog new tricks"  
Abnormal = patient slurs words, uses wrong words or is unable to speak

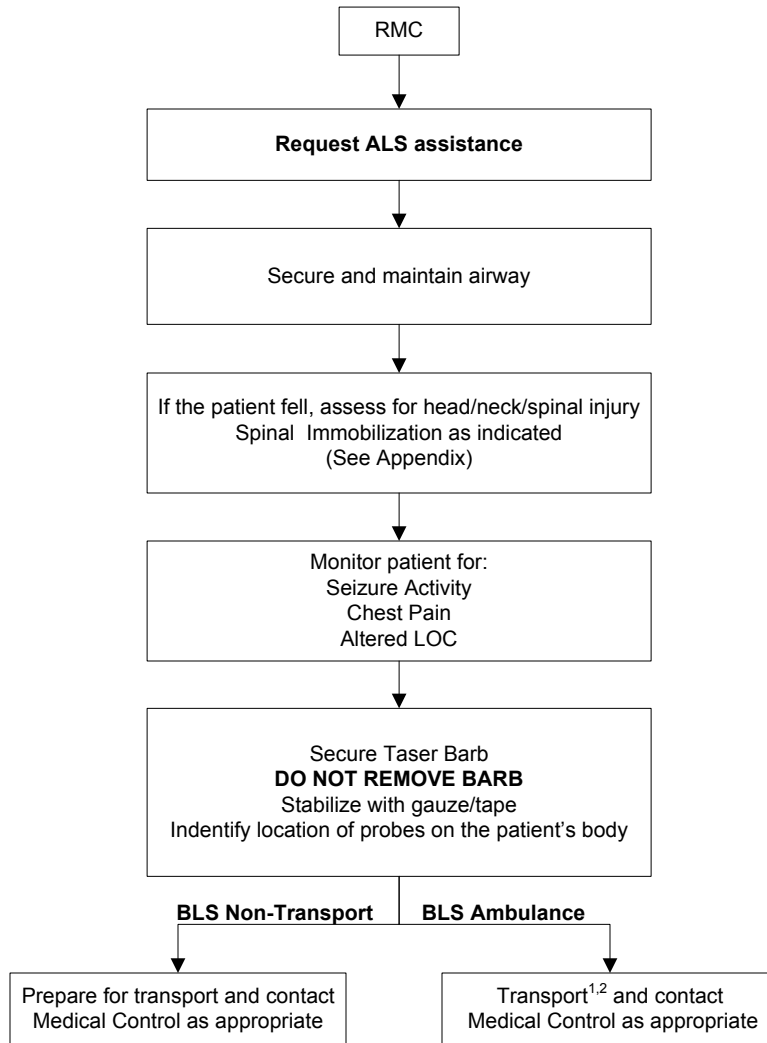
**Positive CSS = One or more of the above items are abnormal**

# BEHAVIORAL EMERGENCY - BLS



# TASER / ELECTRICAL WEAPON DEVICE EXPOSURE – BLS

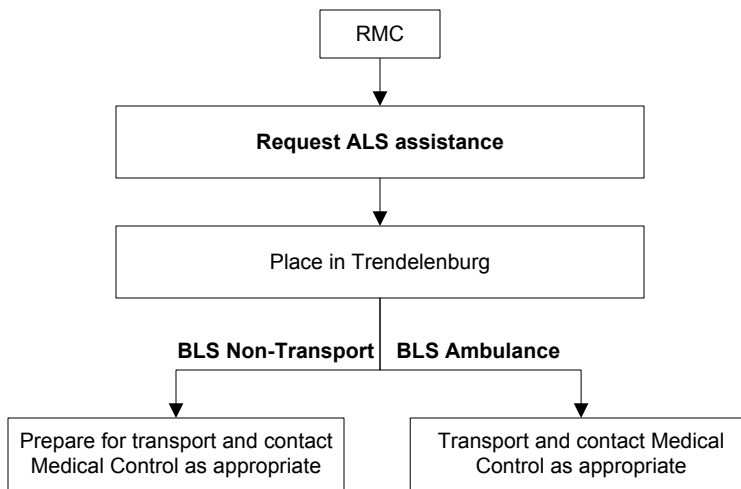
Note: This protocol is to be used for patients who have been subdued by the use of any conductive electrical weapon device (e.g. TASER)



1 – Patient will be transported to the closest comprehensive Emergency Department.

2 – Patients who are in police custody must be accompanied to the hospital by appropriate law enforcement personnel.

# NON-CARDIOGENIC / NON-TRAUMATIC SHOCK - BLS



## **ENVIRONMENTAL**

Frostbite E-1

Hypothermia E-2

Heat Illness E-3

Burns E-4.1 to E-4.3

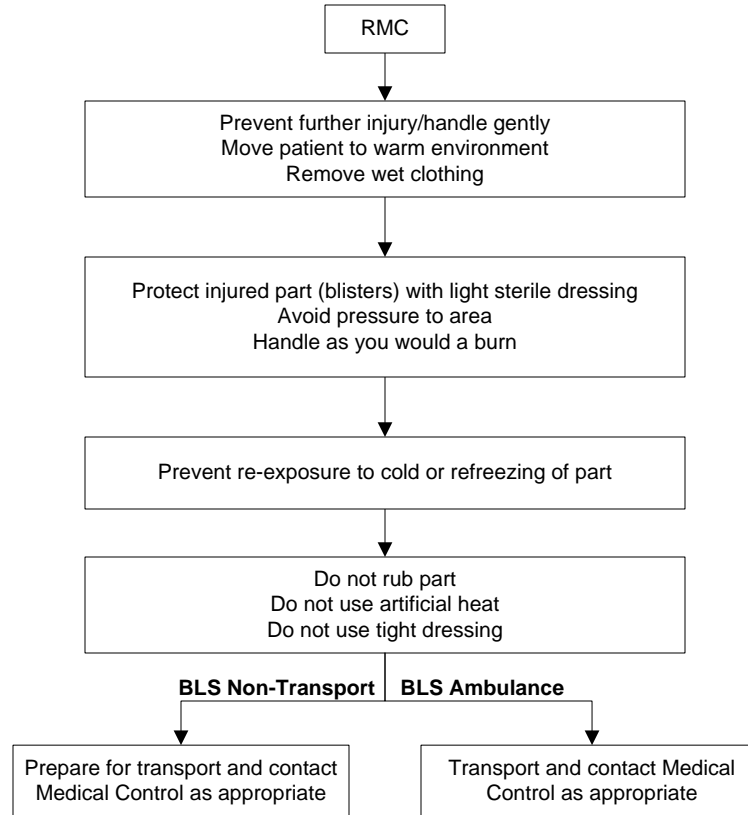
Haz Mat / Toxic Exposure E-5

Hazardous Events / Nuclear/Blast Injuries E-6.1

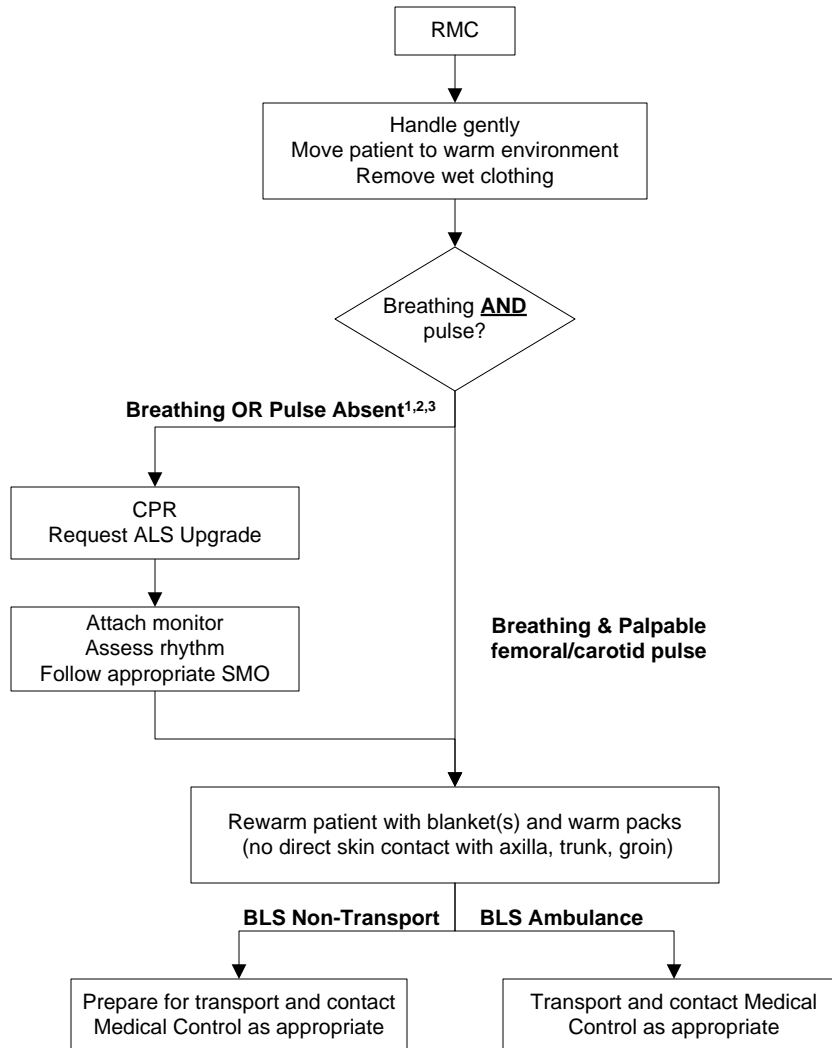
Hazardous Events / Suspected Biological E-6.2

Hazardous Events / Chemical E-6.3

# FROSTBITE - BLS

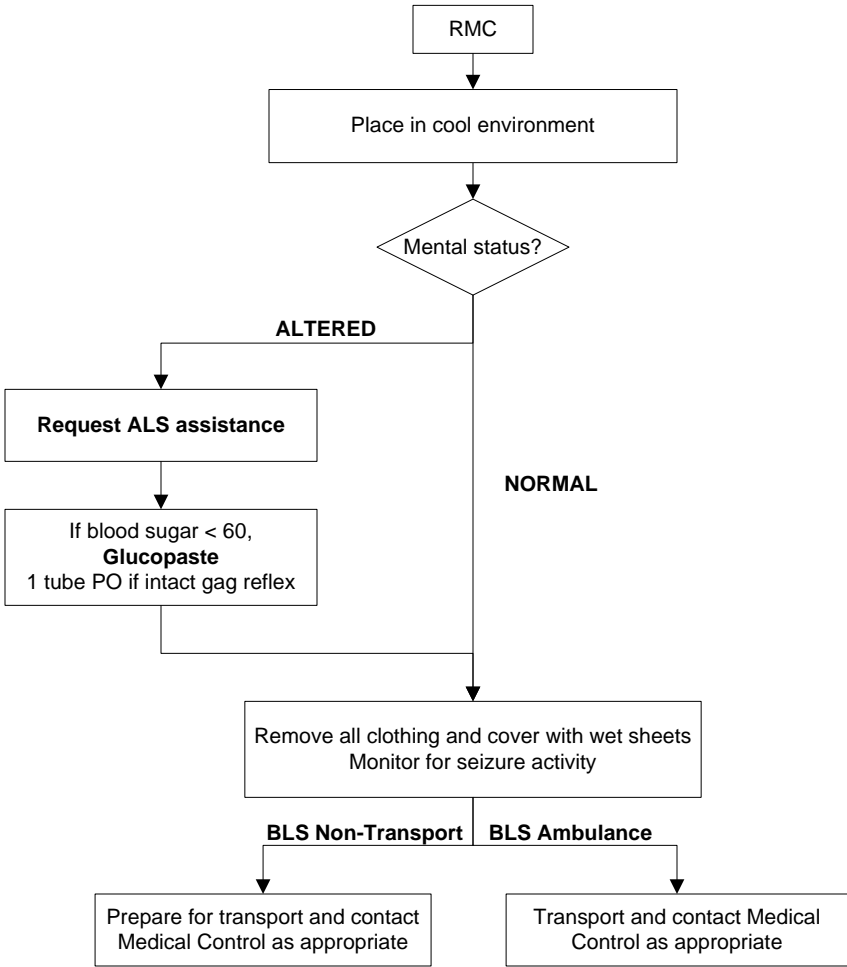


# HYPOTHERMIA - BLS



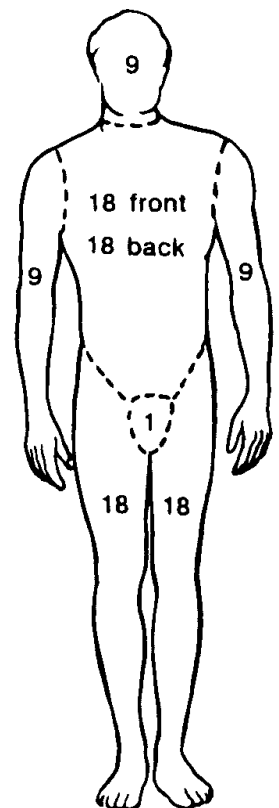
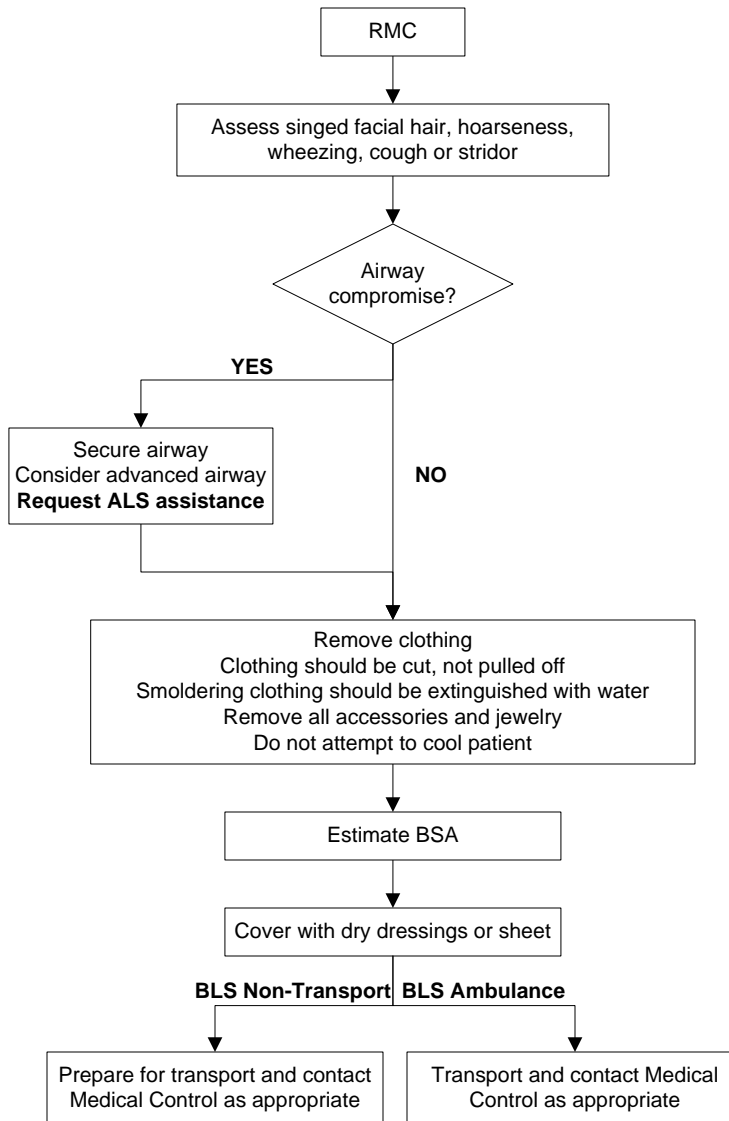
- 1 - May present with altered sensorium or unconscious. Heart more susceptible to dysrhythmias. May have apnea, dusky or cyanotic appearance, fixed and dilated pupils; may appear without signs of life.
- 2 - An individual in a frozen state is not considered salvageable.
- 3 - The suspected hypothermic patient shall never be declared dead in the field.

# HEAT ILLNESS - BLS

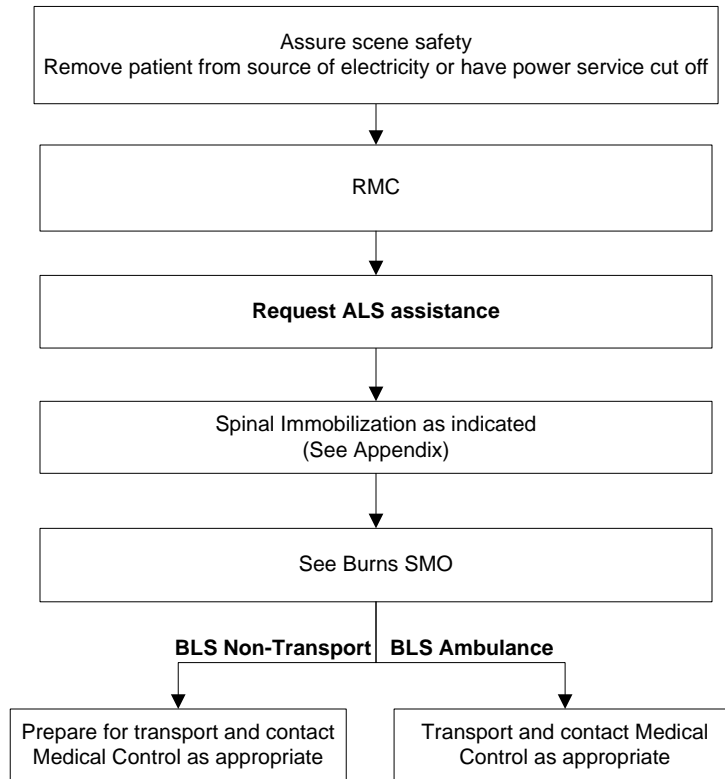


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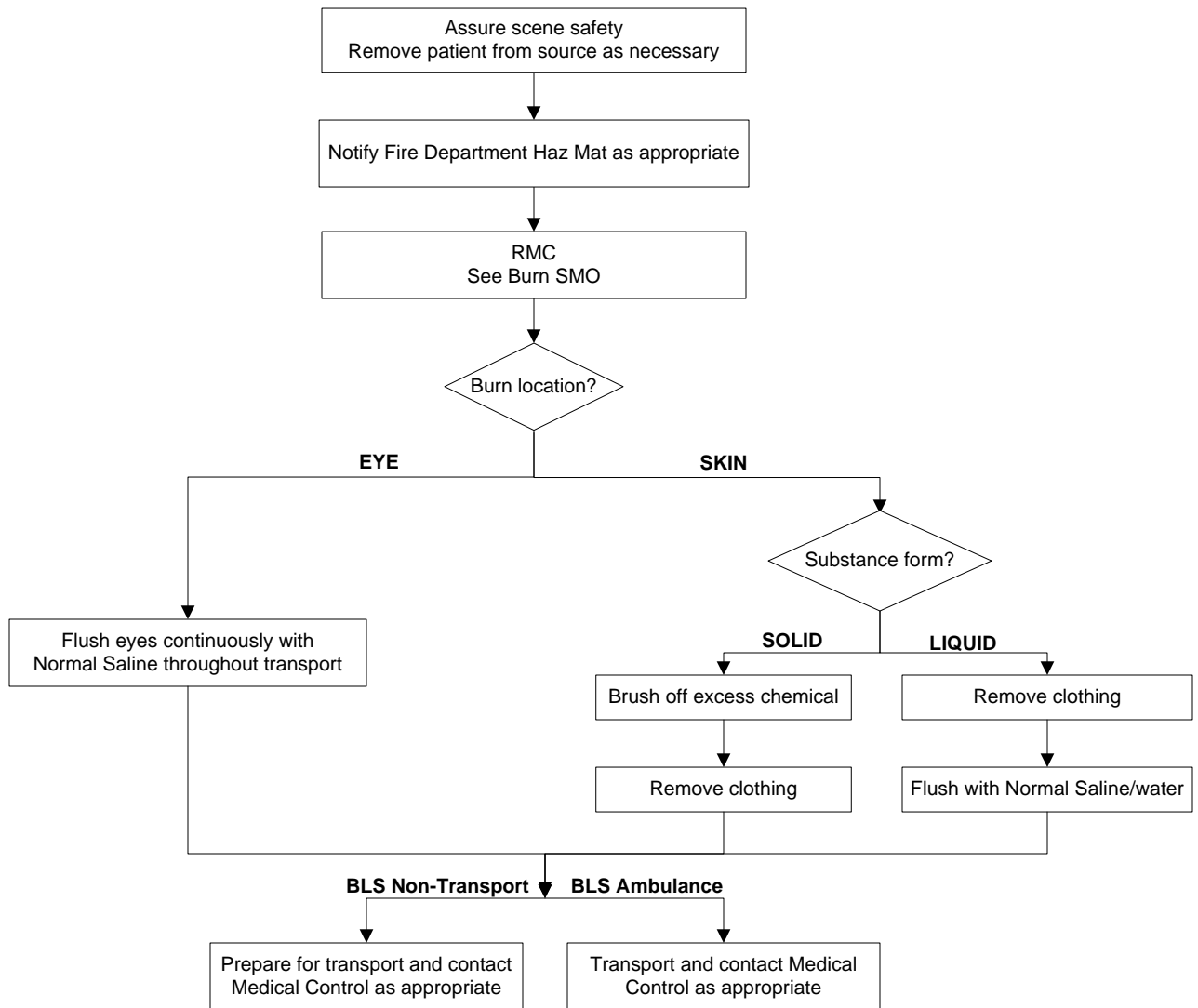
# BURNS - BLS



# ELECTRICAL BURNS - BLS

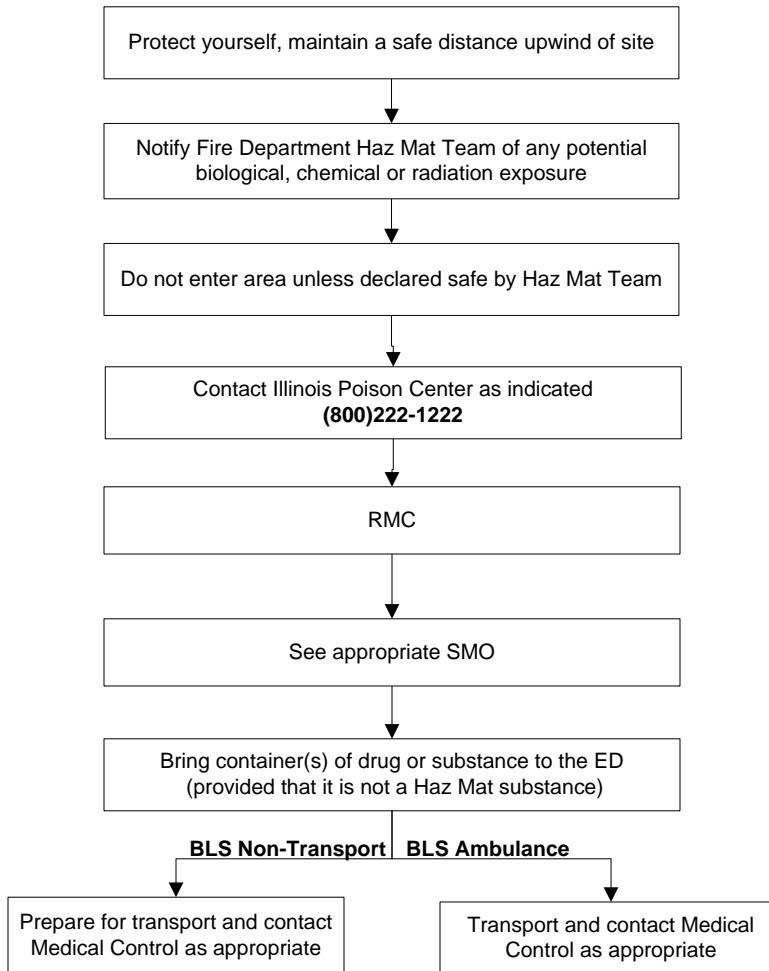


# CHEMICAL BURNS - BLS



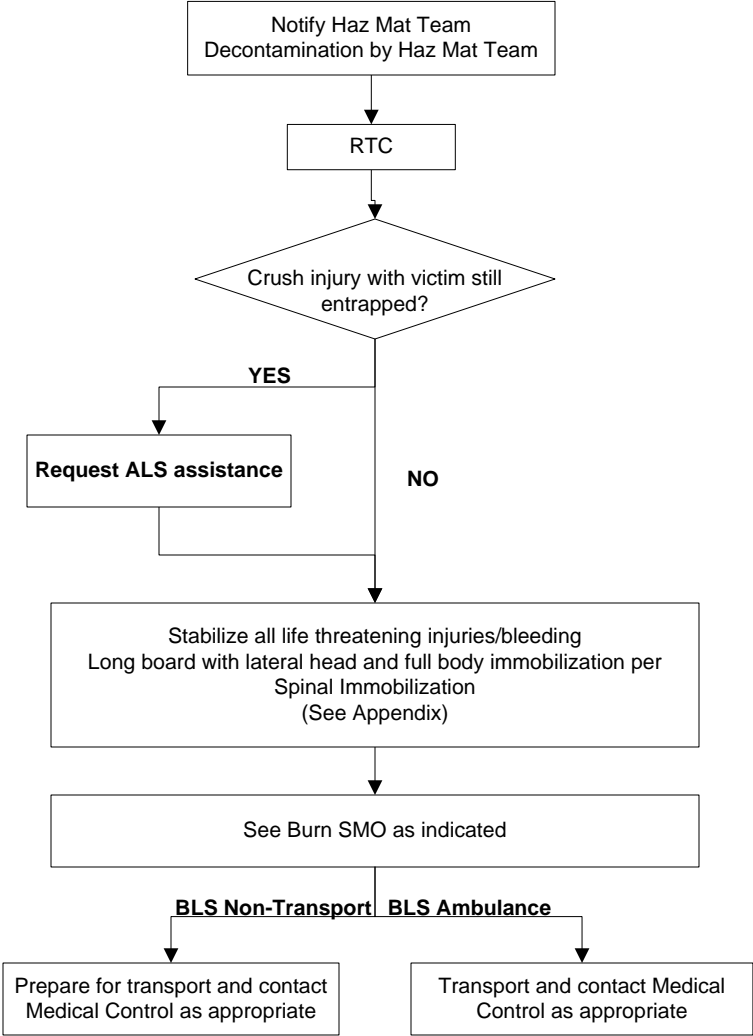
\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# HAZ MAT / TOXIC EXPOSURE - BLS



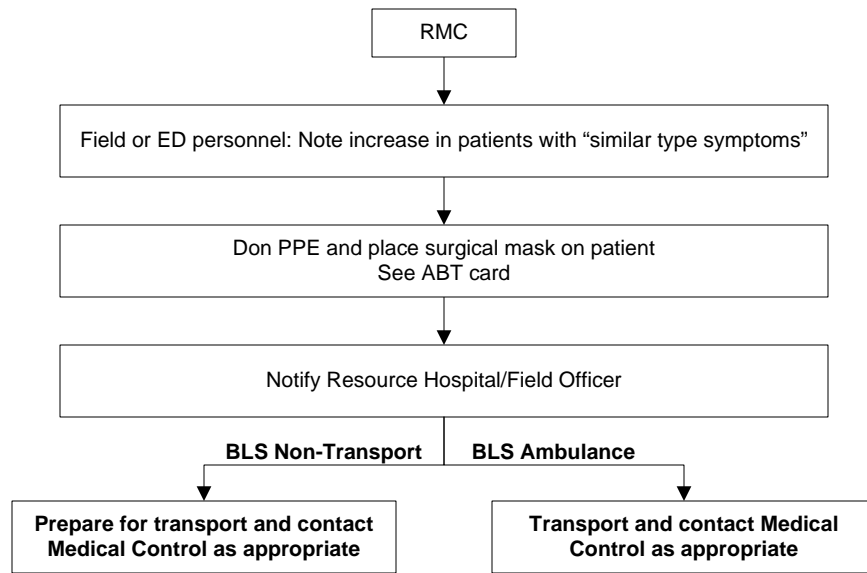
\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# HAZARDOUS EVENTS / NUCLEAR/BLAST INJURIES - BLS



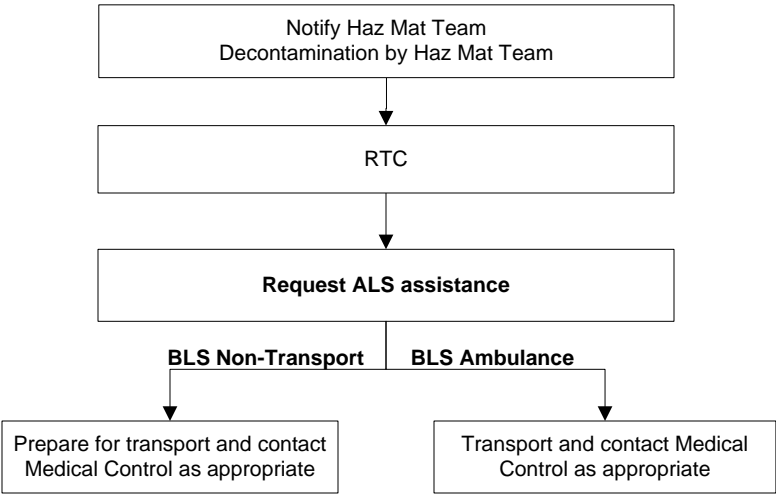
\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# HAZARDOUS EVENTS / SUSPECTED BIOLOGICAL - BLS



\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# HAZARDOUS EVENTS / CHEMICAL - BLS

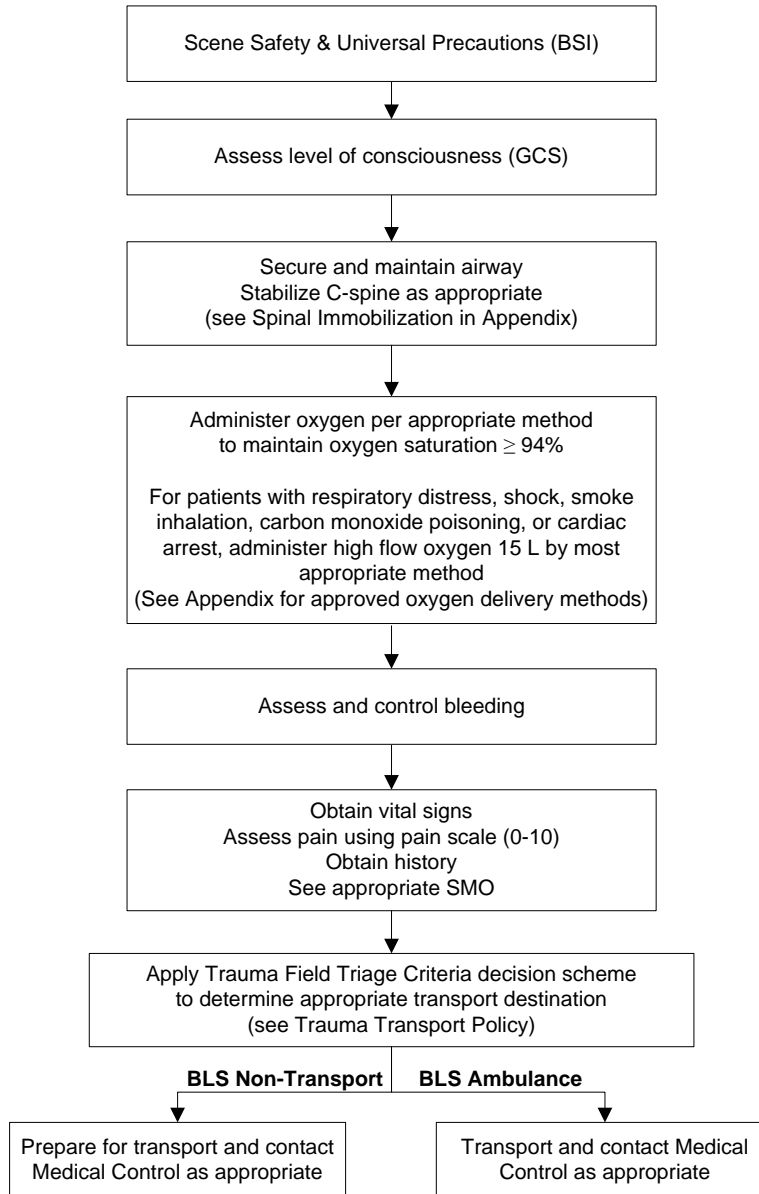


\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

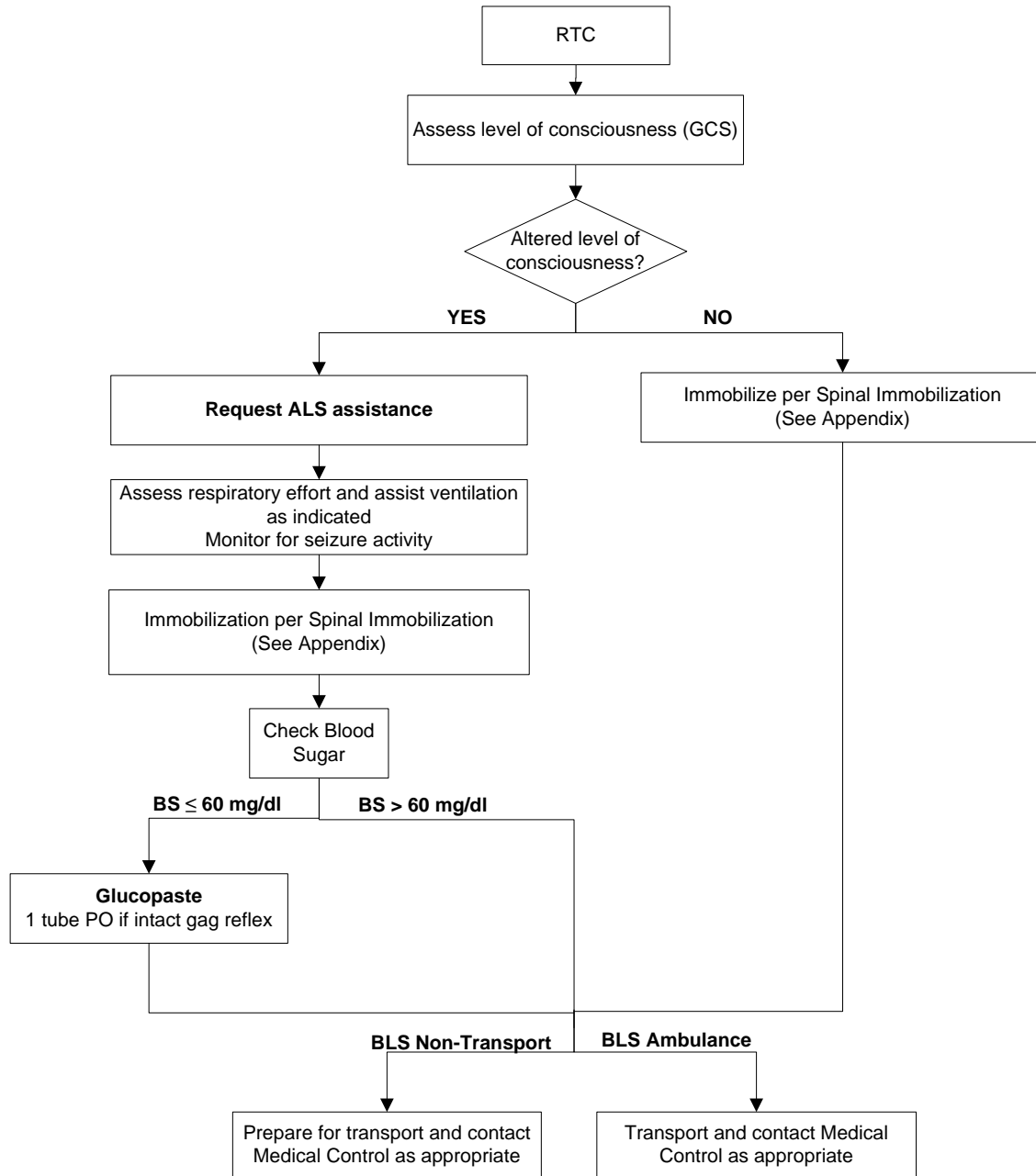
## **TRAUMA**

- Routine Trauma Care (RTC) F-1
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- Chest Trauma F-5
- Extremity Trauma F-6
- Trauma in Pregnancy F-7
- Traumatic Hemorrhagic Shock F-8
- Traumatic Arrest F-9

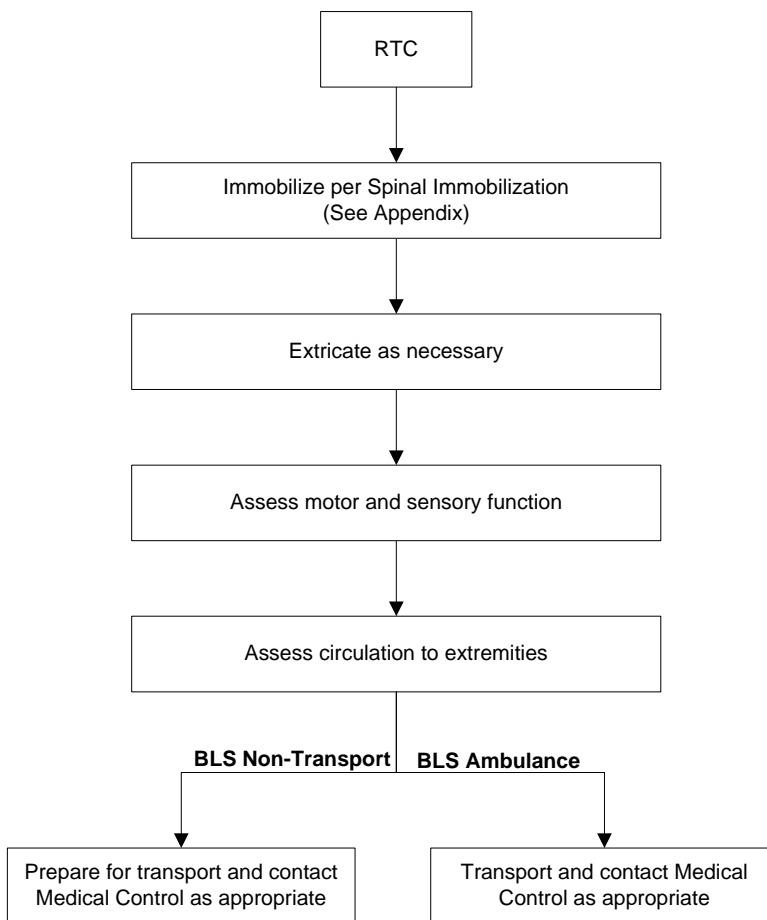
# ROUTINE TRAUMA CARE (RTC) - BLS



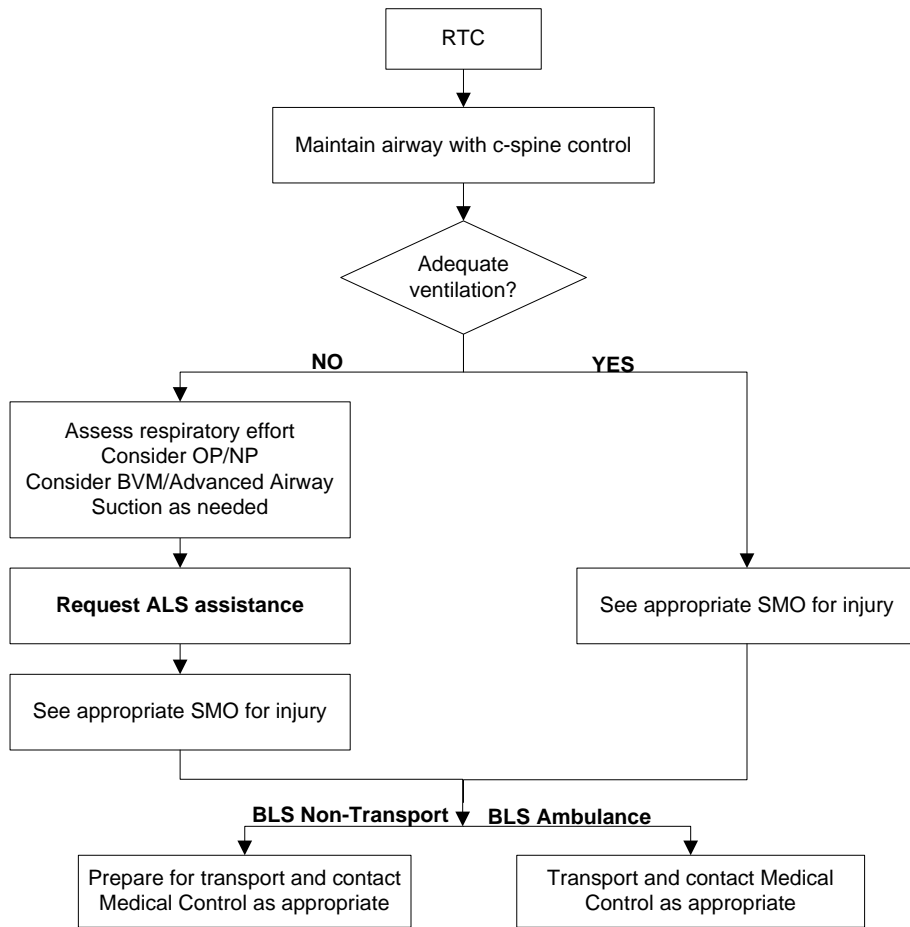
# HEAD TRAUMA - BLS



# SPINAL TRAUMA - BLS



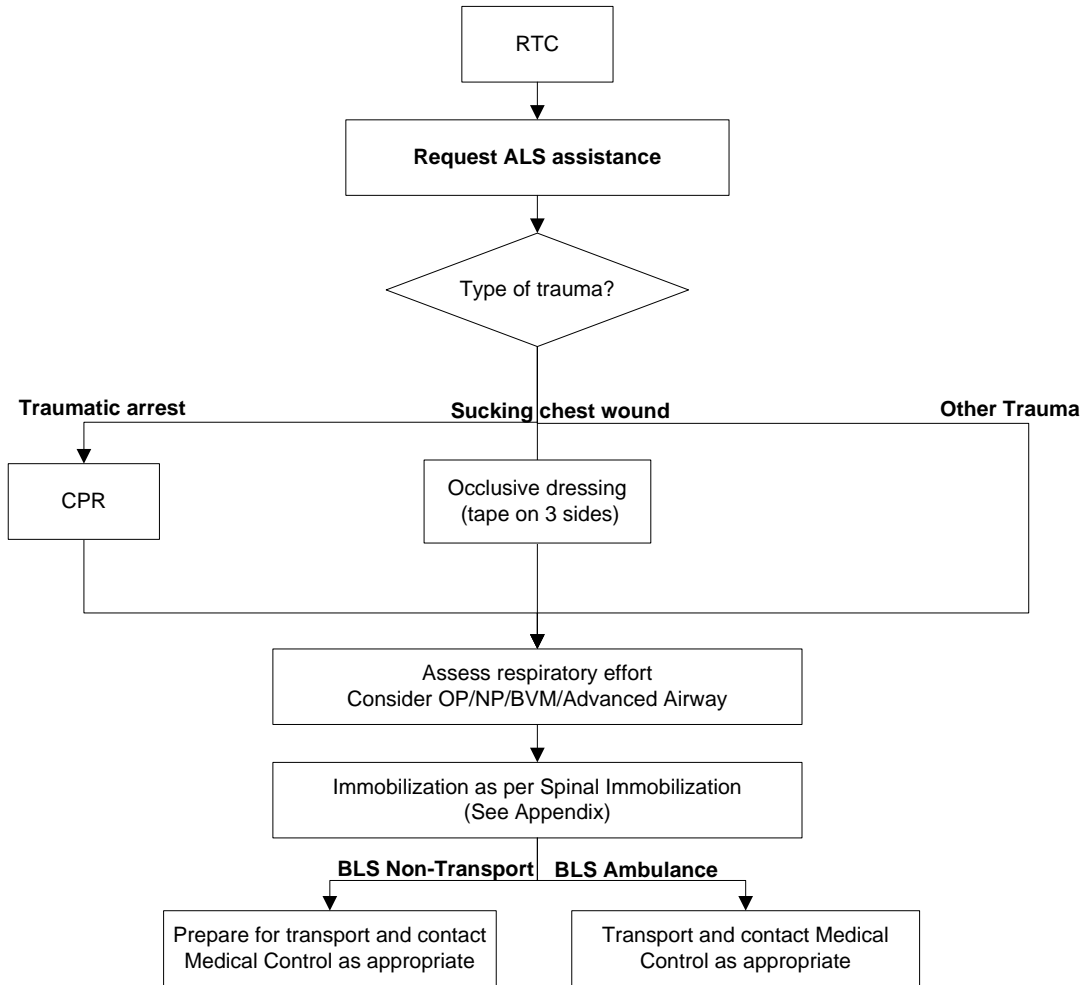
# TRAUMA AIRWAY - BLS



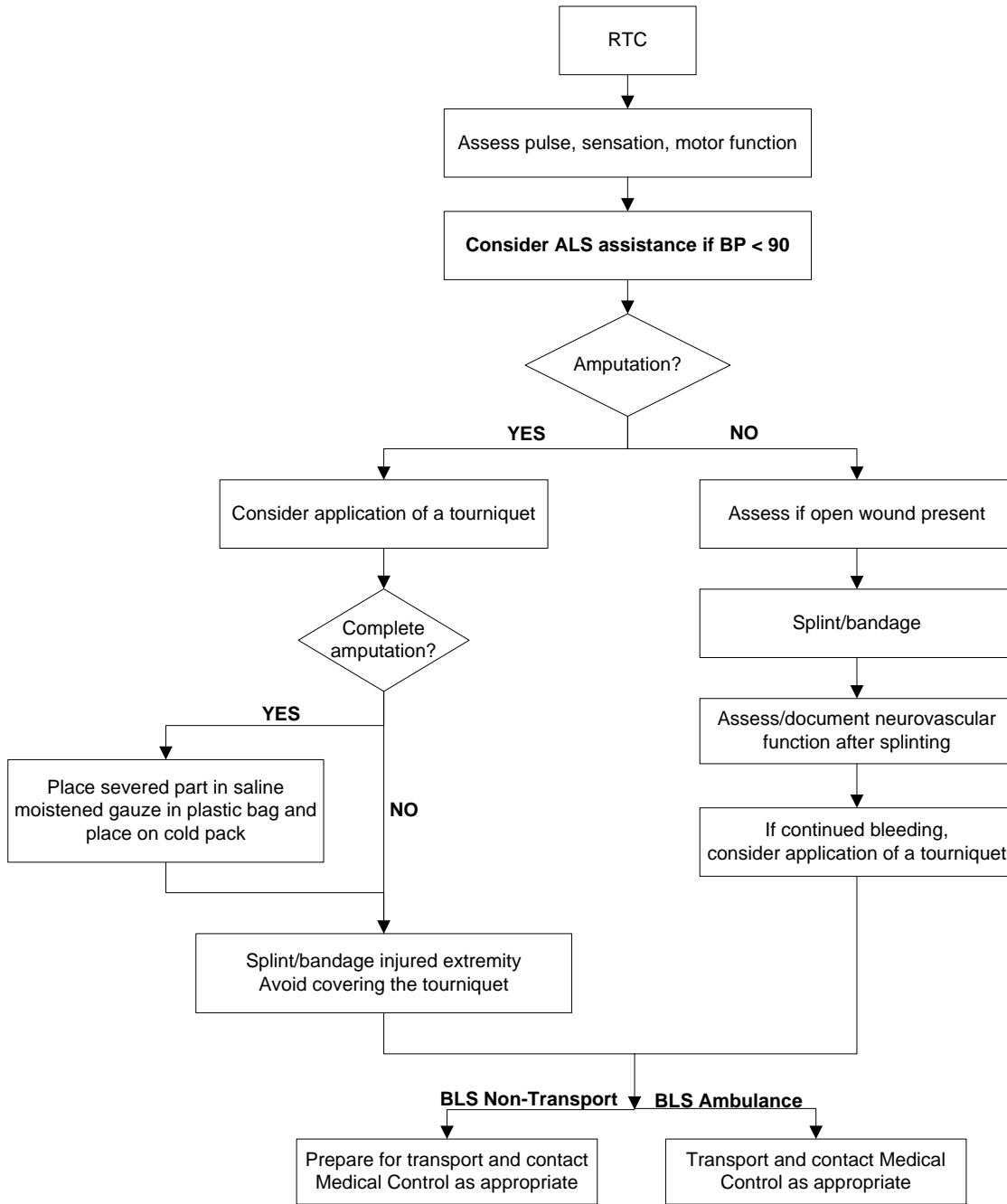
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Implementation: 1/1/11; 4/1/12

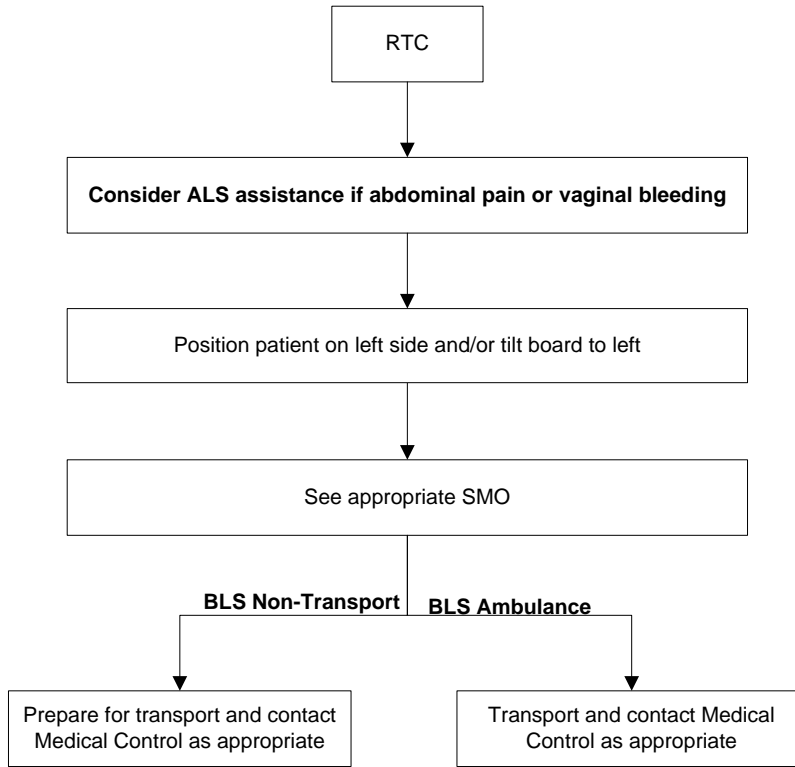
# CHEST TRAUMA - BLS



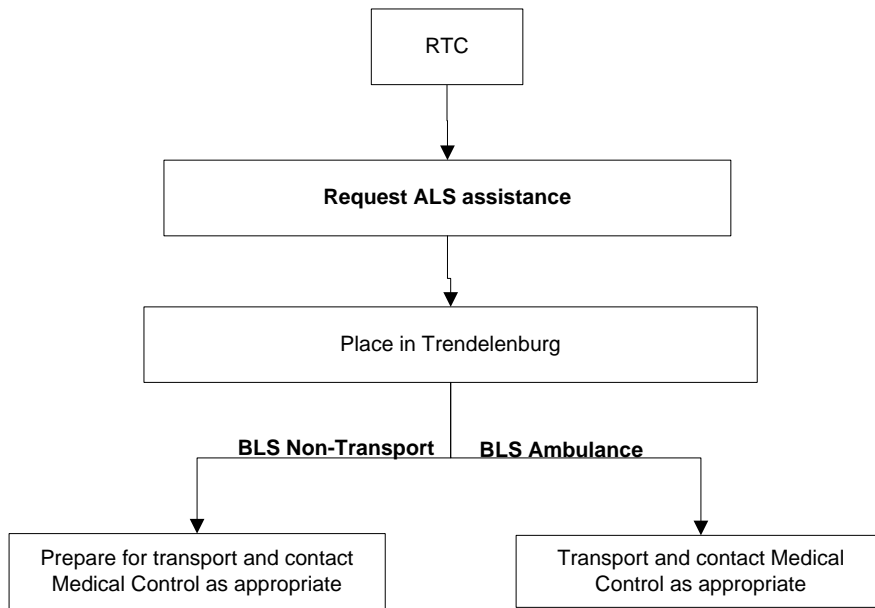
# EXTREMITY TRAUMA - BLS



# TRAUMA IN PREGNANCY - BLS



# TRAUMATIC HEMORRHAGIC SHOCK - BLS



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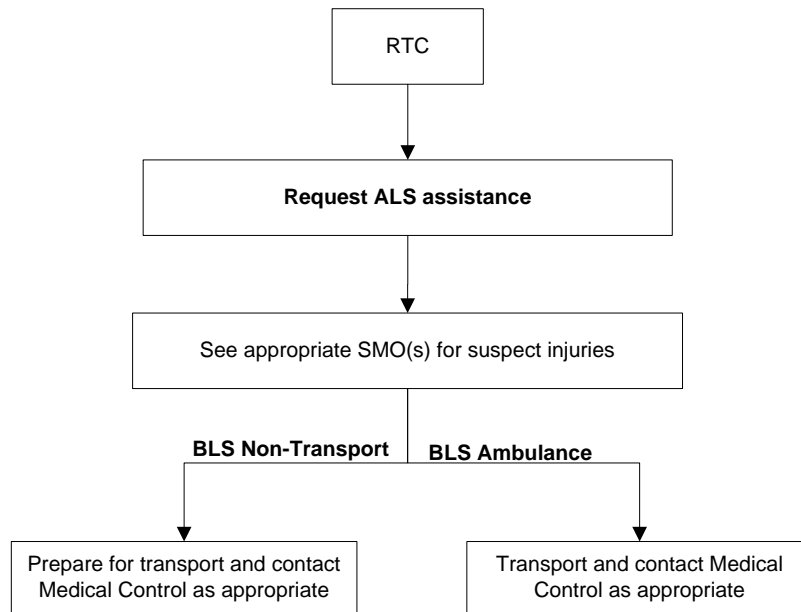
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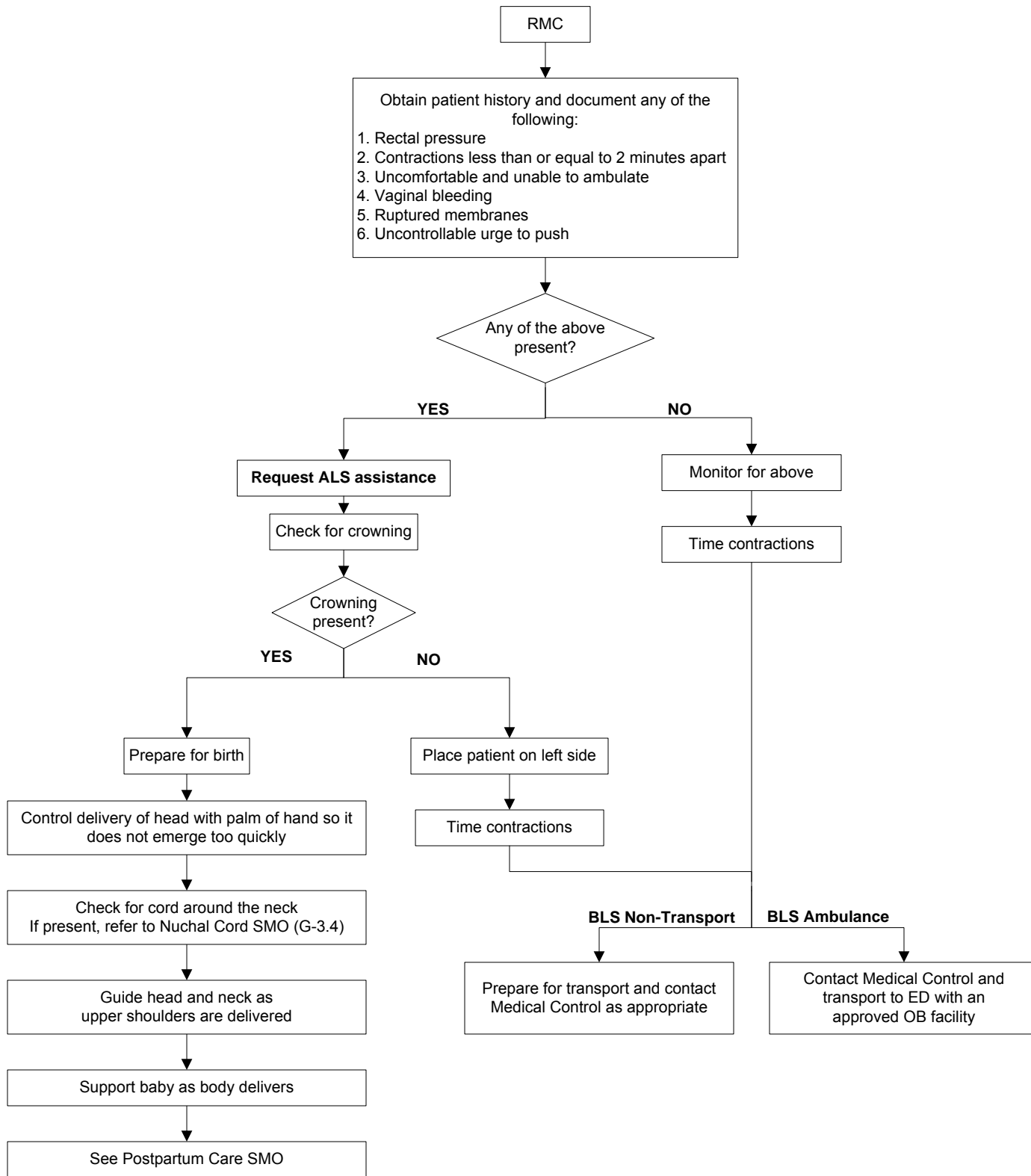
# TRAUMATIC ARREST - BLS



**OBSTETRICS**

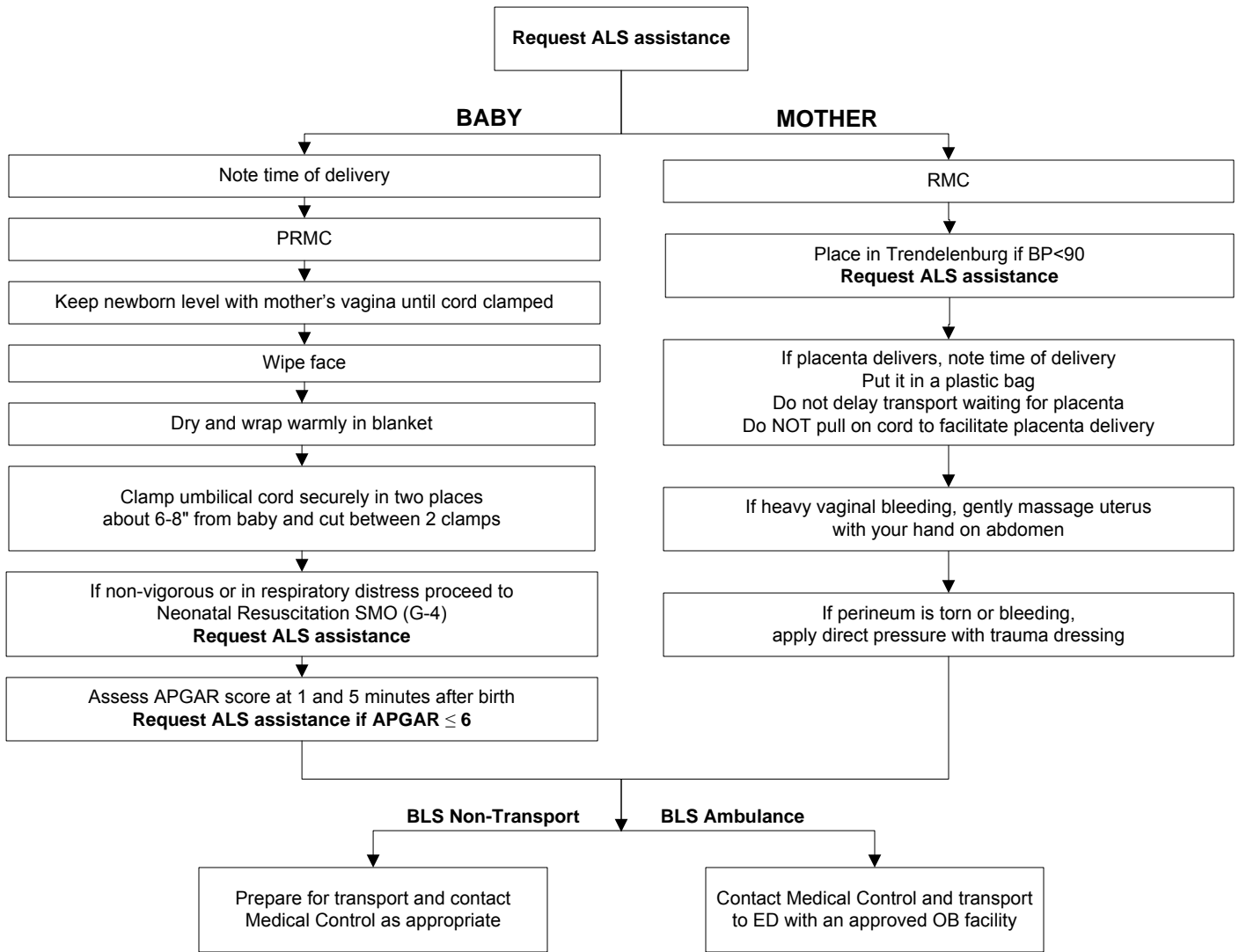
Emergency Childbirth G-1  
Postpartum Care G-2  
Obstetrical Complications G-3.1 to G-3.5  
Neonatal Resuscitation G-4

# EMERGENCY CHILDBIRTH - BLS



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 Implementation: CFD BLS 5/00; Other 8/00; 1/1/11; 4/1/12; 3/1/16

# POSTPARTUM CARE - BLS

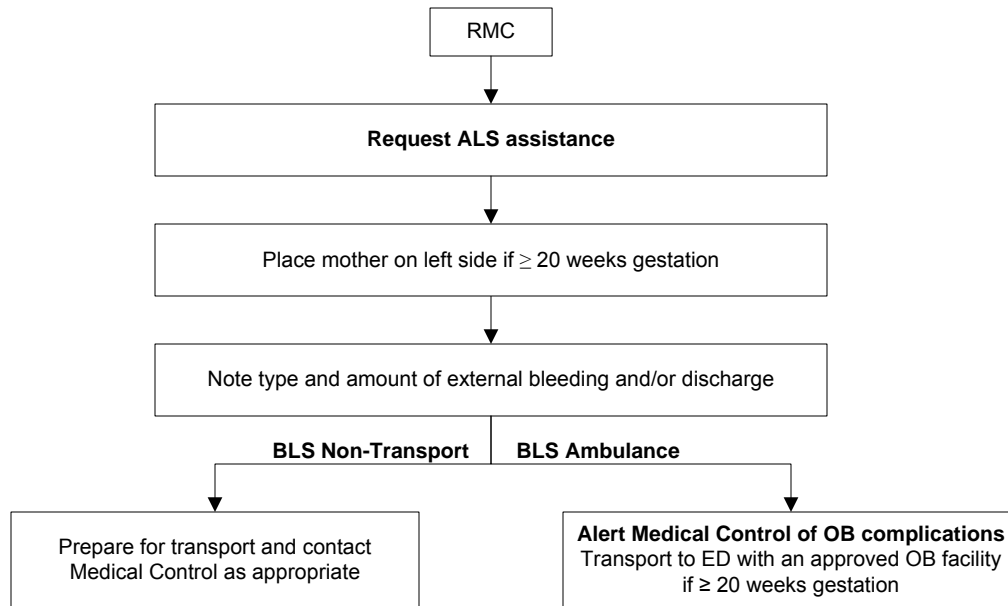


<u>APGAR SCORING</u>					
	0	1	2	1 Min	5 Min
<b>A</b> =Appearance (color)	Blue, pale	Blue hands and feet	Entirely pink	_____	_____
<b>P</b> =Pulse (heart rate)	Absent	<100/min	≥100/min	_____	_____
<b>G</b> =Grimace (reflex irritability)	No response	Grimace	Cough or sneeze	_____	_____
<b>A</b> =Activity (muscle tone)	Limp	Some flexion of extremities	Active motion	_____	_____
<b>R</b> =Respiratory effort	Absent	Weak cry, hypoventilation	Good, strong cry	_____	_____
			<b>TOTALS =</b>		

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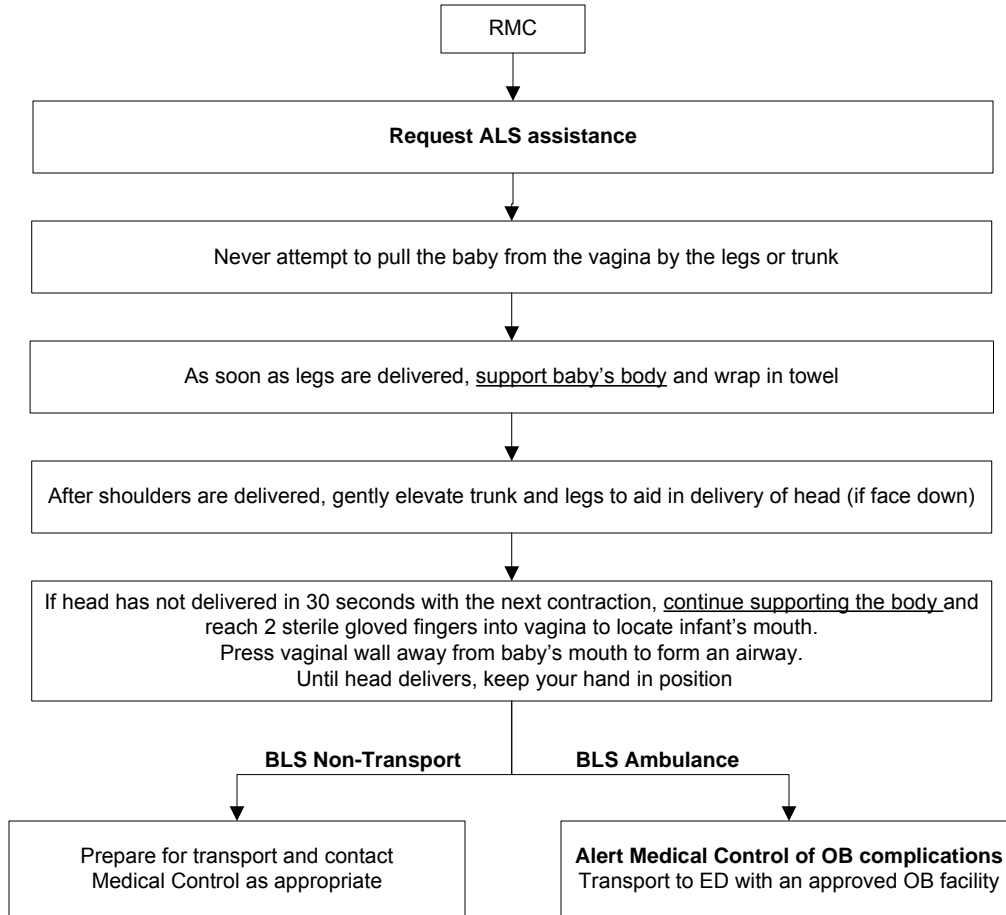
# OBSTETRICAL COMPLICATIONS - BLS

## BLEEDING IN PREGNANCY



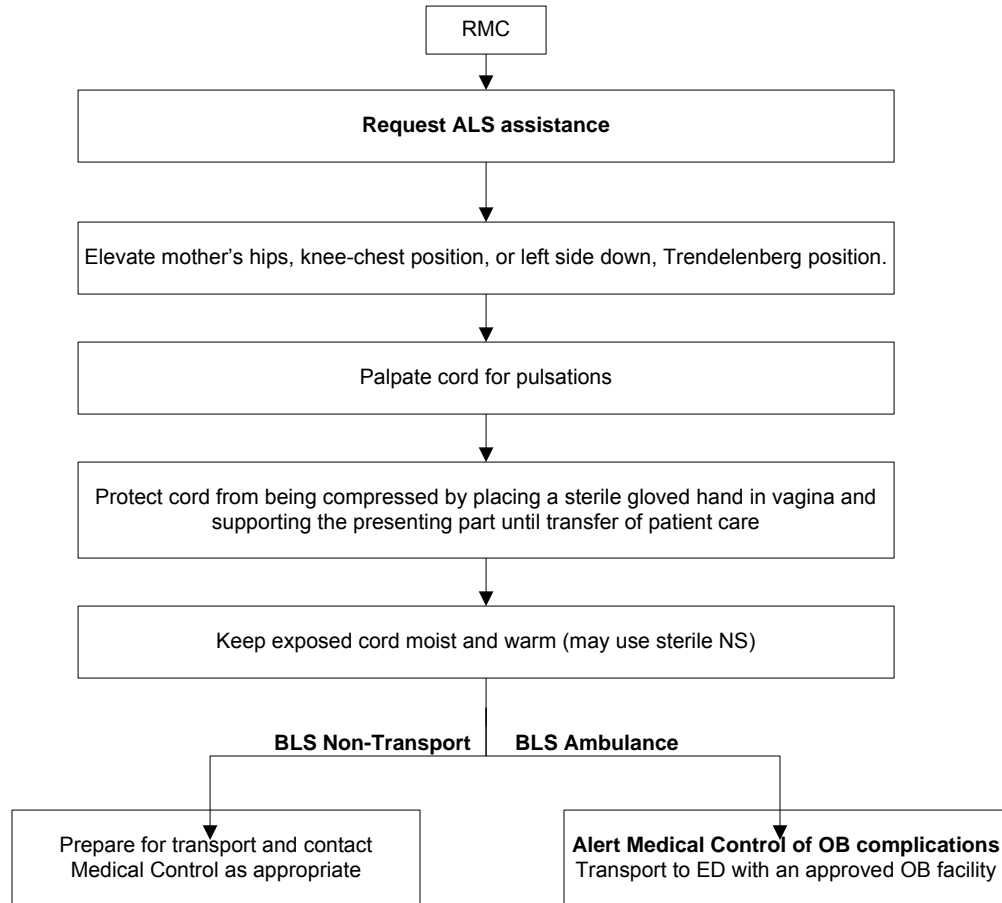
# OBSTETRICAL COMPLICATIONS - BLS

## BREECH BIRTH



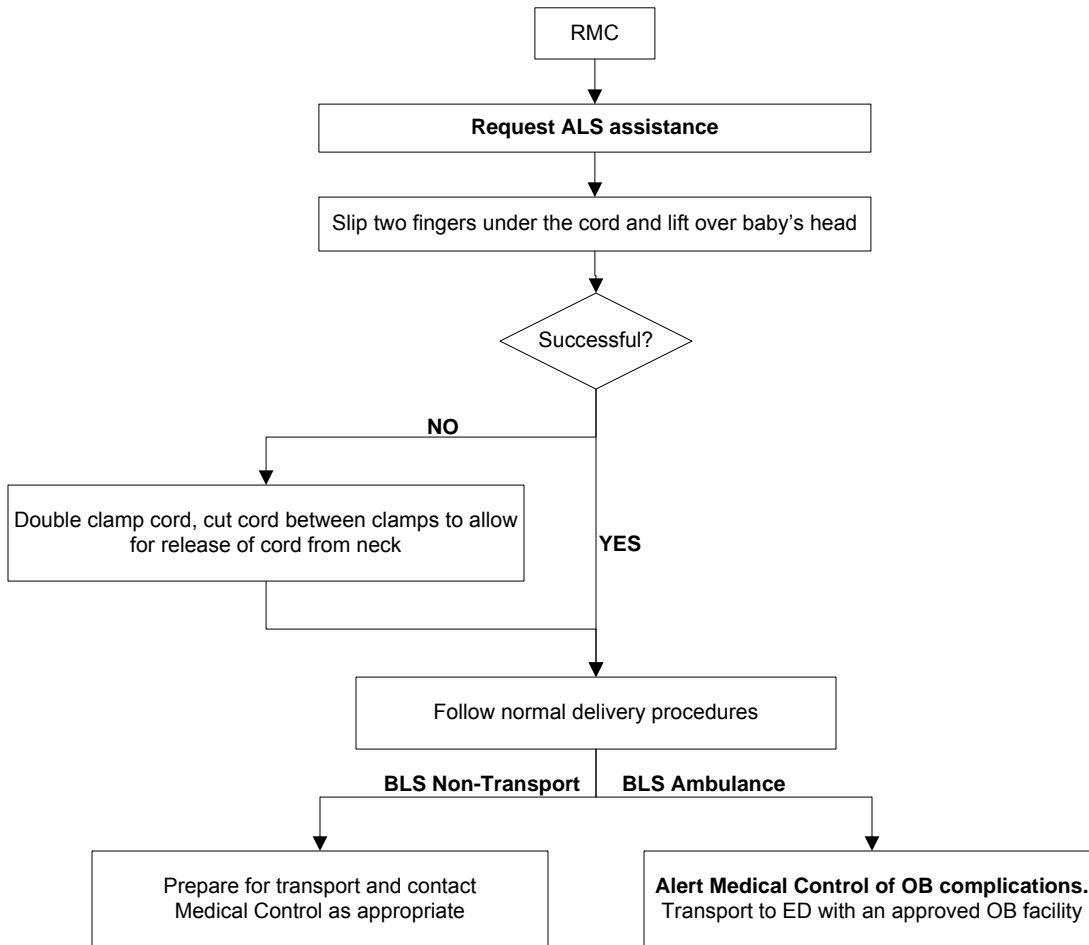
# OBSTETRICAL COMPLICATIONS - BLS

## PROLAPSED CORD



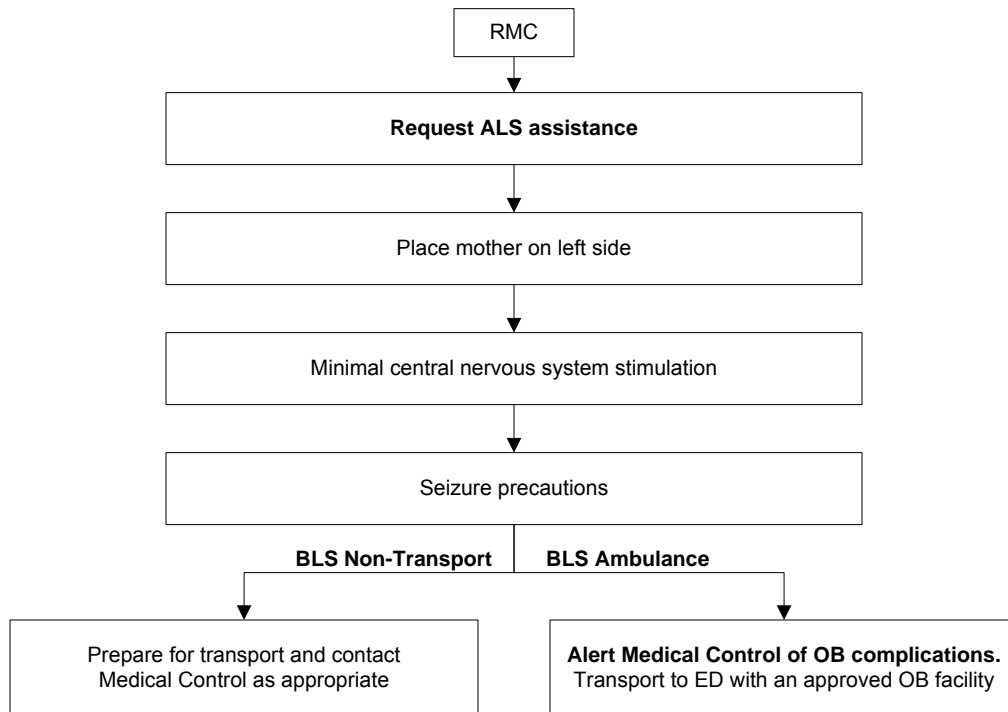
# OBSTETRICAL COMPLICATIONS - BLS

## NUCHAL CORD

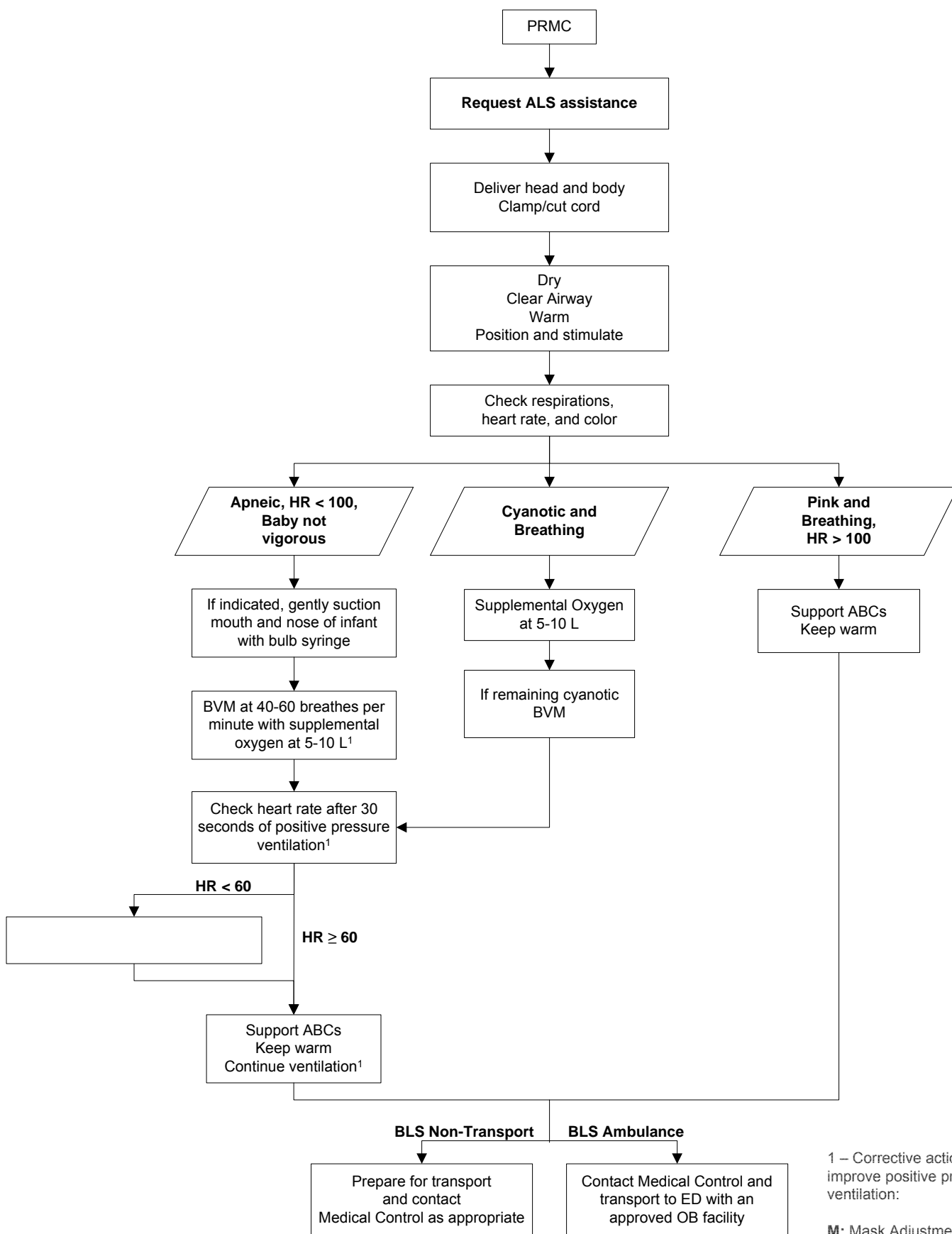


# OBSTETRICAL COMPLICATIONS - BLS

## PRE-ECLAMPSIA OR TOXEMIA (ECLAMPSIA)



# NEONATAL RESUSCITATION - BLS



1 – Corrective action steps to improve positive pressure ventilation:

- M: Mask Adjustment
- R: Reposition Airway
- S: Suction Mouth & Nose
- O: Open Mouth
- P: Pressure Increase
- A: Airway Alternative

## **PEDIATRICS**

Pediatric Initial Assessment	H-1.1 to H-1.5
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Pediatric Drug Dosing Dose Reference Guide	H-19

# PEDIATRIC INITIAL ASSESSMENT - BLS

## I. SCENE SIZE-UP

- A. Protect from body substance through isolation (glasses, gloves, gown and mask).
- B. Assess the scene for safety and take appropriate steps.
- C. Determine the mechanism of injury/nature of illness.
  1. Note the number of patients.
  2. Initiate Mass Casualty Plan, if necessary.
    - a. Call for additional personnel and equipment.
    - b. Begin triage.
  3. Assess for any indication of abuse or neglect of the patient (See policy "Reporting Abused and/or Neglected Patients")

## II. INITIAL ASSESSMENT OF PEDIATRIC PATIENT

- A. Assess general impression of child and environment with initial assessment of wellness and general appearance (conduct from a distance). Complete assessment while protecting the cervical spine, if necessary.
  1. Determine nature of illness or mechanism of injury.
  2. Is child in a life threatening condition? Treat immediately.
  3. Obtain SAMPLE history and identify any caregivers at scene.
- B. Assess child's mental status.
  1. Identify yourself and your purpose using age appropriate terms.
  2. Initially approach child in non-threatening manner, on their level when appropriate. Initiate touch in a non-threatening manner, before examining child when appropriate.
  3. Evaluate child's mental status utilizing Pediatric Coma Scale.
- C. Assess airway
  1. Responsive Child

# PEDIATRIC INITIAL ASSESSMENT (cont.)

- a. If child is talking or crying, then assess for adequacy of breathing.
- b. If child is not talking or crying, open airway using modified jaw thrust maneuver.

## 2. Unresponsive Child

- a. Open the airway using modified jaw thrust maneuver.
- b. Consider use of oral airway.

## D. Assess Breathing

### 1. Non-breathing child

- a. Maintain open airway and assist breathing utilizing ventilatory adjuncts and oxygen at the appropriate rate.
- b. Suction if necessary.
- c. Pulse oximeter

### 2. Breathing child

- a. Look for rise and fall of chest and feel for rate and depth of breathing.
- b. Look for use of accessory muscles, nasal flaring, grunting and retractions.
- c. Determine adequacy of breathing for age (either too fast or too slow).
- d. If breathing is inadequate, assist breathing utilizing ventilatory adjuncts and oxygen at the appropriate rate.
- e. Suction if necessary.
- f. Pulse oximeter (if indicated)

## PEDIATRIC VITAL SIGNS

Weight in kg = (2 x age in years) + 10

<u>Age</u>	<u>Pulse</u>	<u>Systolic Blood Pressure</u>	<u>Respiratory Rate</u>
Neonate (0-30 days)	100-180	> 60	30-60
Infant (31 days - < 1yr)	100-160	> 60	30-60
Toddler (1 yr - < 3 yrs)	90-150	> 70	24-40
Pre-School (3 yrs - < 5 yrs)	80-140	> 75	22-34
School Age (5 yrs – 12 yrs)	70-120	> 80	18-30
Adolescent (> 12 yrs)	60-100	> 90	12-16

# PEDIATRIC INITIAL ASSESSMENT (cont.)

## E. Assess Circulation

### INDICATORS OF HYPOPERFUSION IN CHILDREN

- Cyanosis despite administration of oxygen
- Truncal pallor/cyanosis and coolness
- Hypotension (late sign)
- Bradycardia (ominous sign)
- Weak, thready, or absent peripheral pulses
- No palpable blood pressure
- Decreasing level of consciousness

1. Check brachial or femoral pulse for rate and quality.
2. If none found, check for carotid pulse. If pulseless, start CPR and see appropriate SMO.
3. Assess capillary refill.
4. Assess skin condition.
5. Assess and control severe bleeding.

F. Identify priority pediatric patients for immediate transport and initiate interventions as per SMOs.

G. Repeat initial assessment.

1. Every 15 minutes in a stable child.
2. Every 5 minutes in an unstable child.
3. Repeat before beginning detailed physical examination.

H. Initiate measures to prevent heat loss to keep the child from becoming hypothermic.

I. For children with special healthcare needs (CSHN), refer as needed to child's emergency care plan. Understanding the child's baseline will assist in determining the significance of altered physical findings.

# PEDIATRIC INITIAL ASSESSMENT (cont.)

PEDIATRIC GLASGOW COMA SCALE (PGCS)				
	> 1 Year		< 1 Year	Score
<b>EYE OPENING</b>	Spontaneously		Spontaneously	4
	To verbal command		To shout	3
	To pain		To pain	2
	No response		No response	1
<b>MOTOR RESPONSE</b>	Obeys		Spontaneous	6
	Localizes pain		Localizes pain	5
	Flexion-withdrawal		Flexion-withdrawal	4
	Flexion-abnormal (decorticate rigidity)		Flexion-abnormal (decorticate rigidity)	3
	Extension (decerebrate rigidity)		Extension (decerebrate rigidity)	2
	No response		No response	1
	<b>&gt; 5 years</b>	<b>2-5 Years</b>	<b>0-23 Months</b>	
<b>VERBAL RESPONSE</b>	Oriented	Appropriate words/phrases	Smiles/coos appropriately	5
	Disoriented/confused	Inappropriate words	Cries and is consolable	4
	Inappropriate words	Persistent cries and screams	Persistent inappropriate crying and/or screaming	3
	Incomprehensible sounds	Grunts	Grunts, agitated, and restless	2
	No response	No response	No response	1
<b>TOTAL PEDIATRIC GLASGOW COMA SCORE:</b>				<b>(3-15)</b>

## PEDIATRIC PAIN SCALE



0  
No Hurt



1  
Hurts  
Little Bit



2  
Hurts  
Little More



3  
Hurts  
Even More



4  
Hurts  
Whole Lot



5  
Hurts  
Worst

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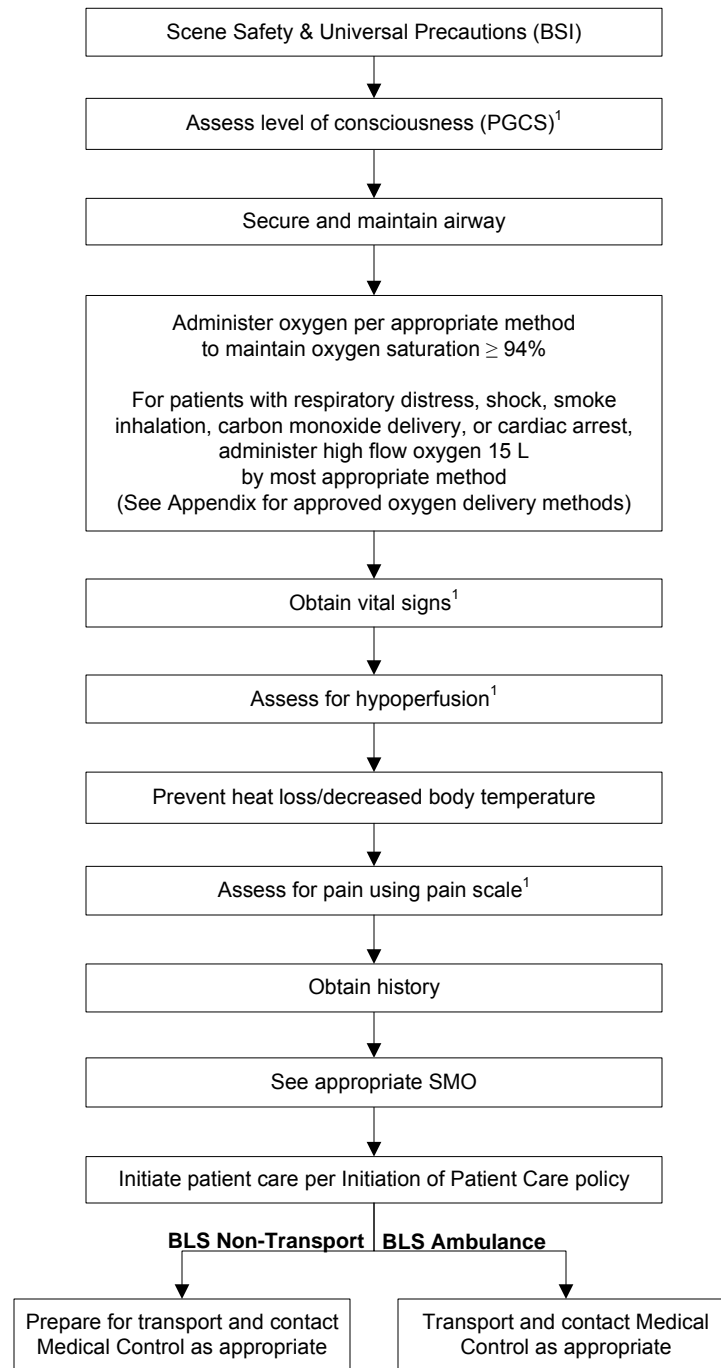
Revised: 3/00; 1/02; 3/09; 10/15

MDC Approval: 1/00; 3/00; 4/7/09; 10/6/15

IDPH Approval: 5/02; 7/9/09; 2/25/16

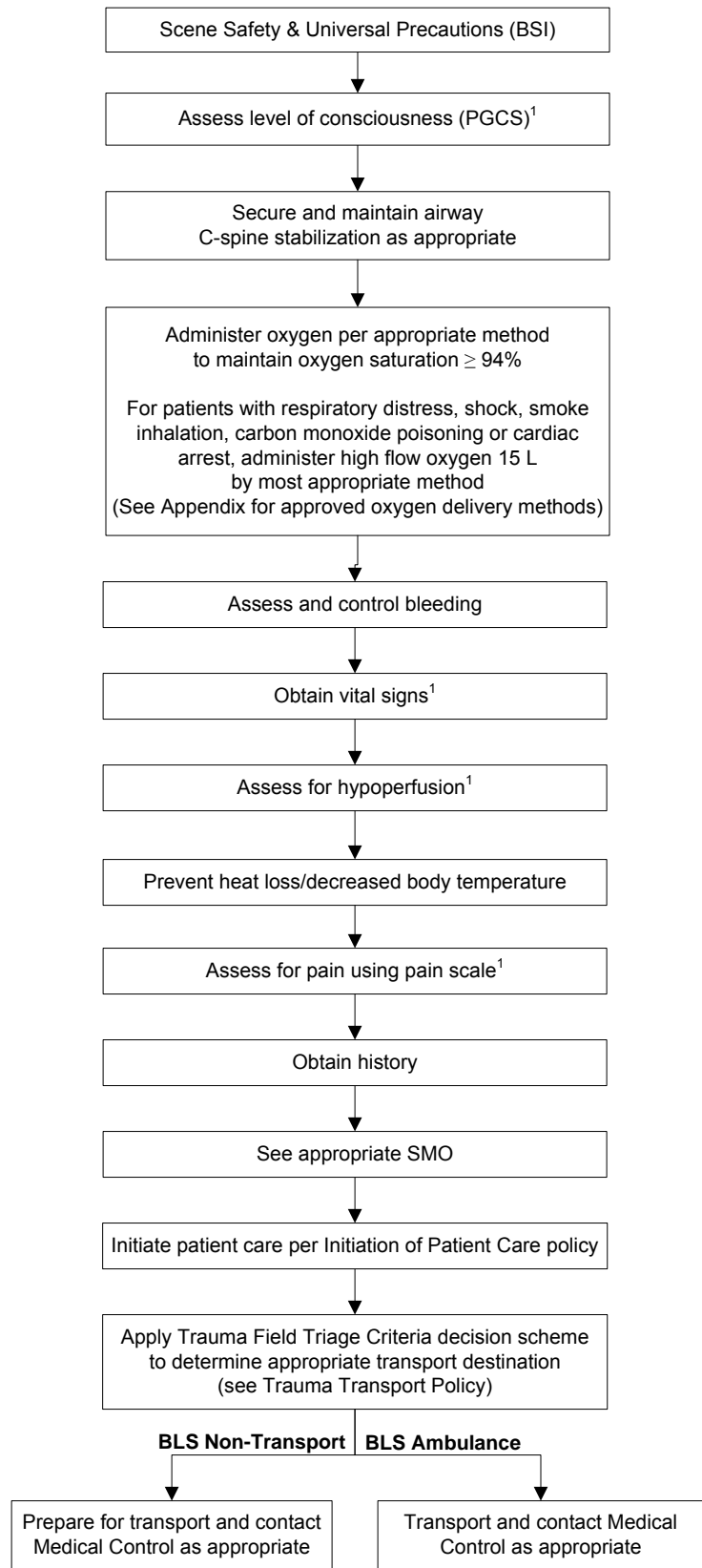
Implementation: CFD BLS 5/00; Other 8/00; 1/1/10; 3/1/16

# PEDIATRIC ROUTINE MEDICAL CARE (PRMC) - PEDIATRIC - BLS (Age Newborn – 15 yrs.)



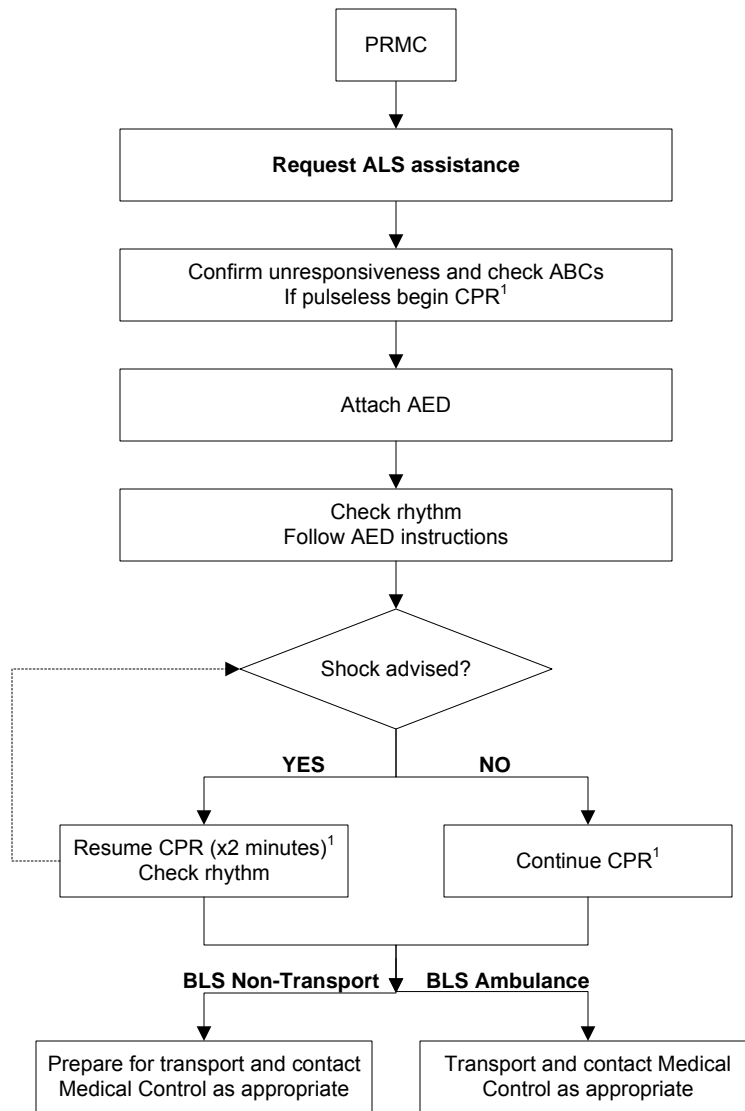
1 – See Pediatric Initial Assessment

# PEDIATRIC ROUTINE TRAUMA CARE (PRTC) - PEDIATRIC - BLS (Age Newborn – 15 yrs.)



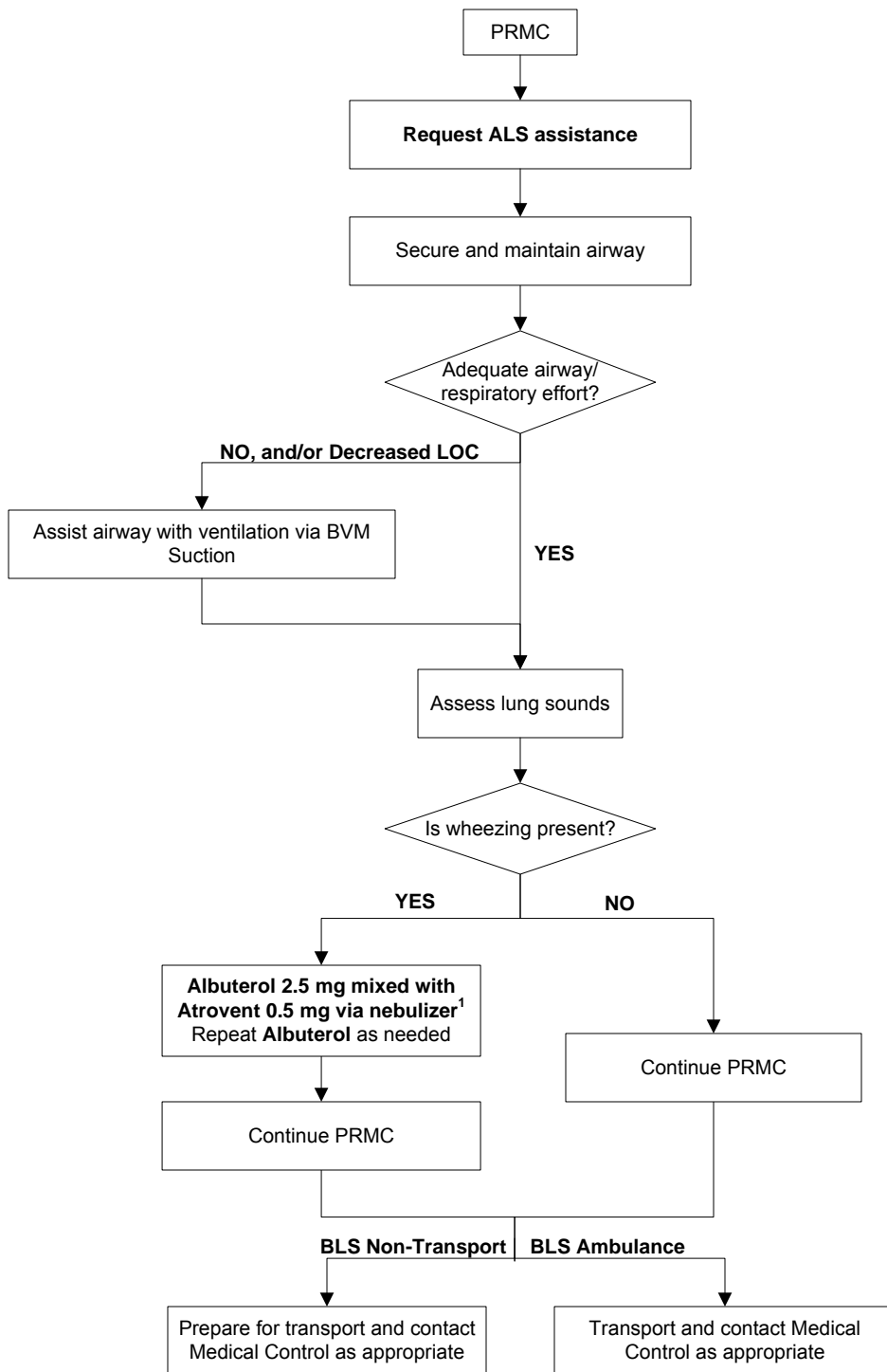
1 – See Pediatric Initial Assessment

# CARDIOPULMONARY ARREST - PEDIATRIC - BLS



**1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations  
2 rescuers = 15 compressions: 2 ventilations**

# RESPIRATORY DISTRESS - PEDIATRIC - BLS

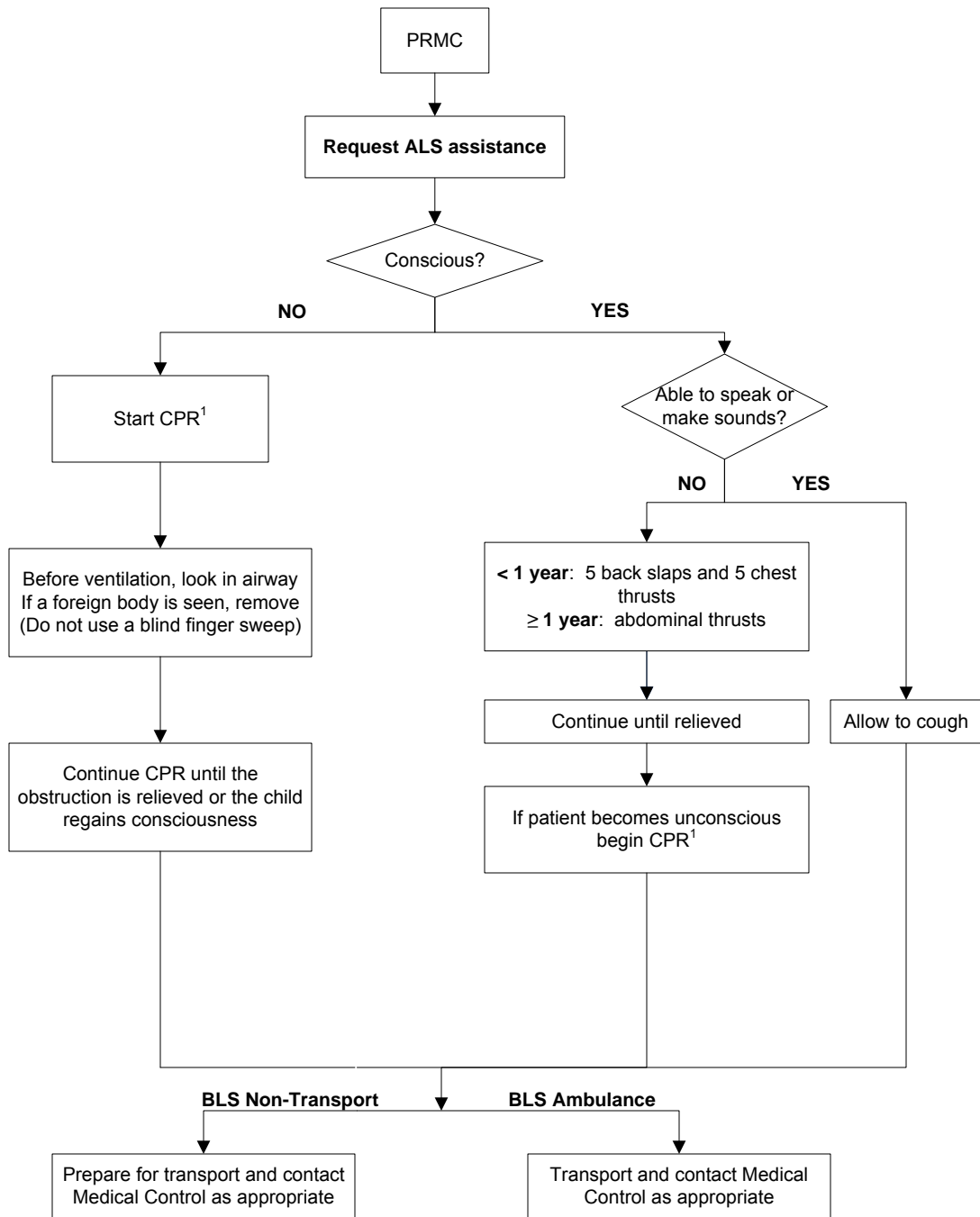


1 – If available

**NOTE:** If patient has an established tracheostomy, see Tracheostomy with Respiratory Distress SMO

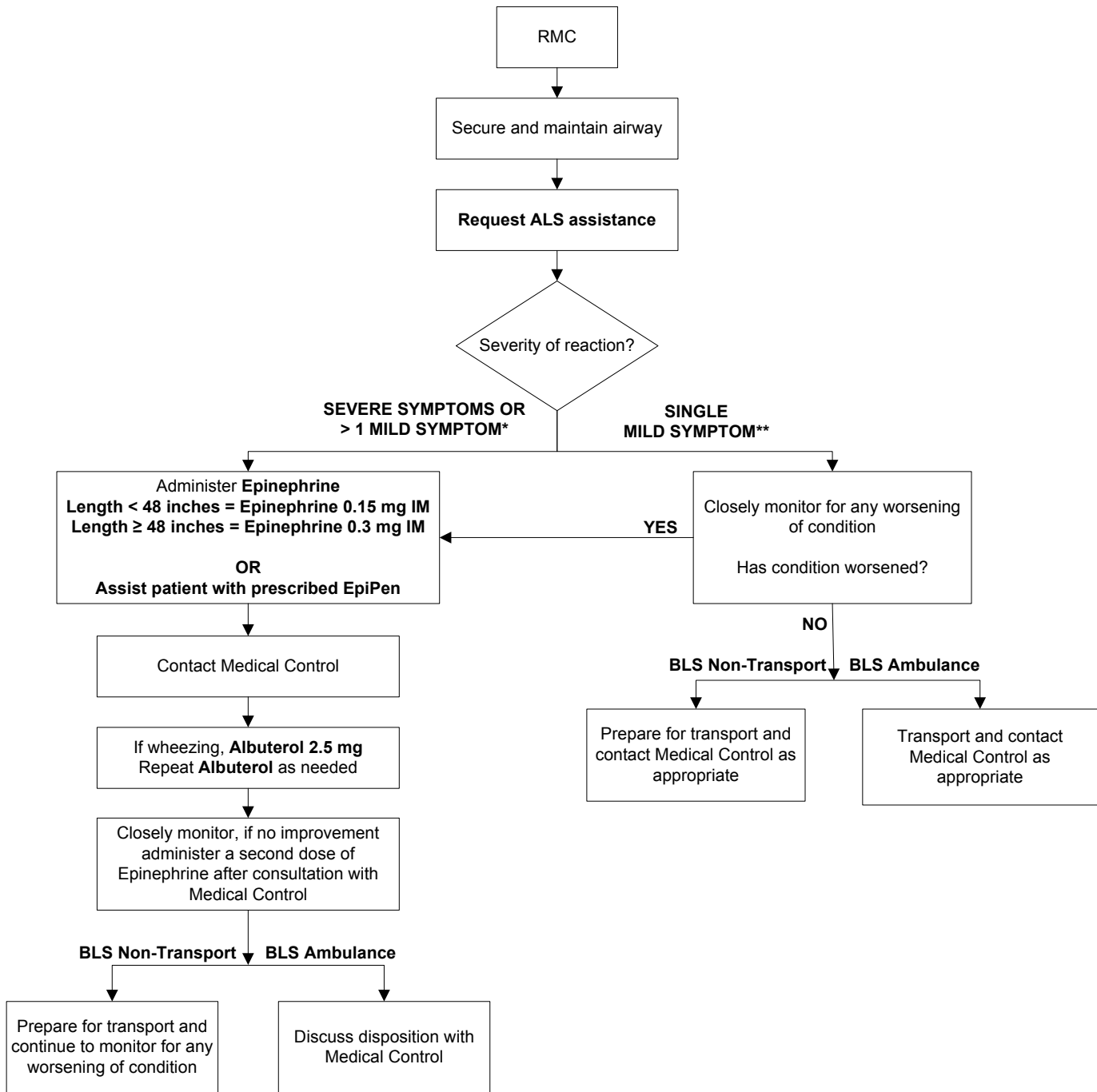
**NOTE:** Complete lack of breath sounds may indicate severe bronchoconstriction

# RESPIRATORY OBSTRUCTION - PEDIATRIC - BLS



**1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations  
2 rescuers = 15 compressions: 2 ventilations**

# ALLERGIC REACTION and/or ANAPHYLAXIS - PEDIATRIC - BLS



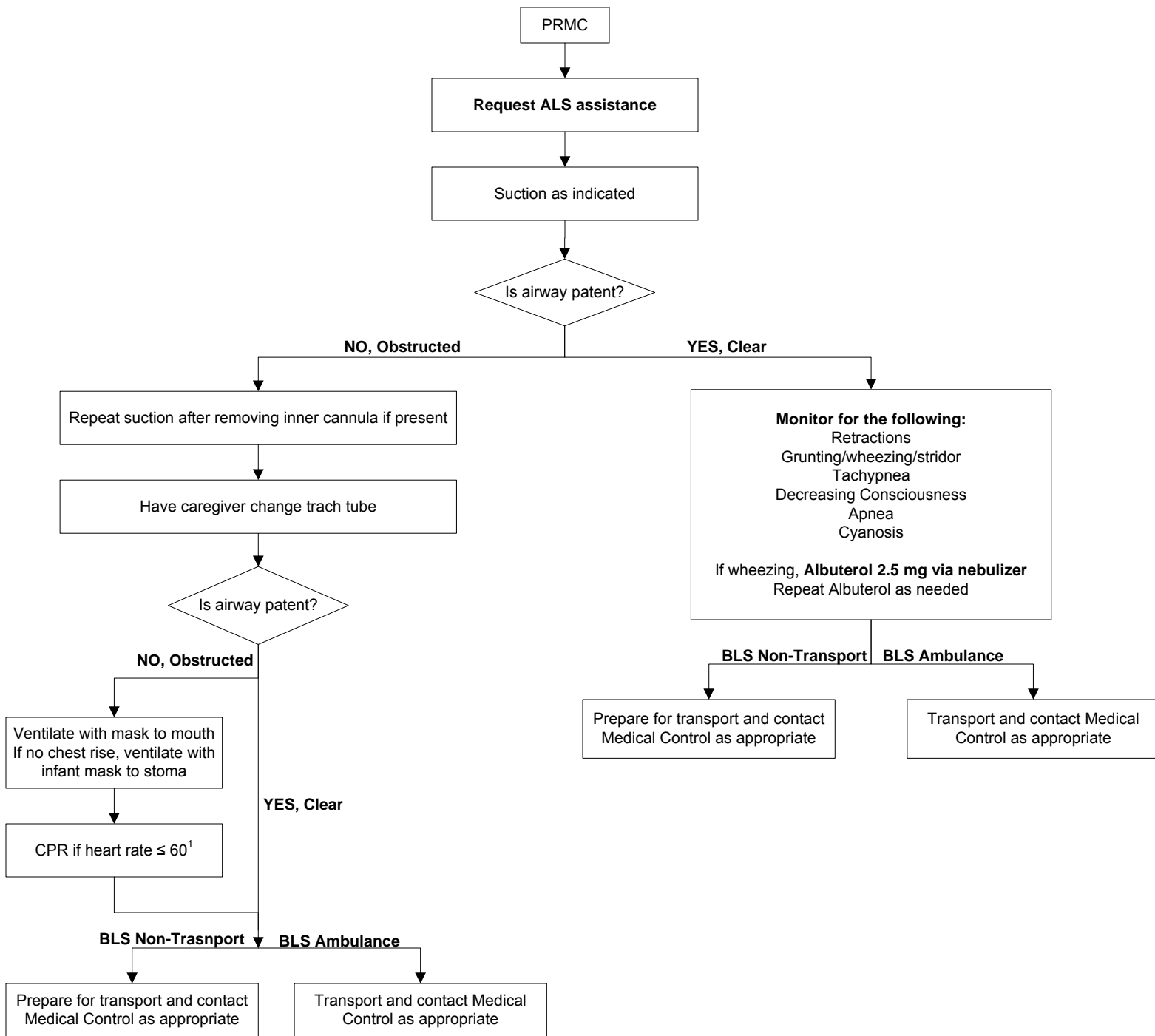
**\*Severe symptoms of an allergic reaction may include any combination of the following:**

**RESPIRATORY** – Shortness of breath, wheezing, repetitive coughing  
**CARDIOVASCULAR** – Pale, cyanotic, low blood pressure, dizzy  
**THROAT** – Tightness, hoarse, trouble breathing/swallowing  
**MOUTH** – Swelling of the tongue and/or lips  
**SKIN**- Diffuse hives or redness  
**GI** – Repetitive vomiting, severe diarrhea  
**NEURO** – Anxiety, confusion, sense of doom

**\*\*Mild symptoms of an allergic reaction may include any combination of the following:**

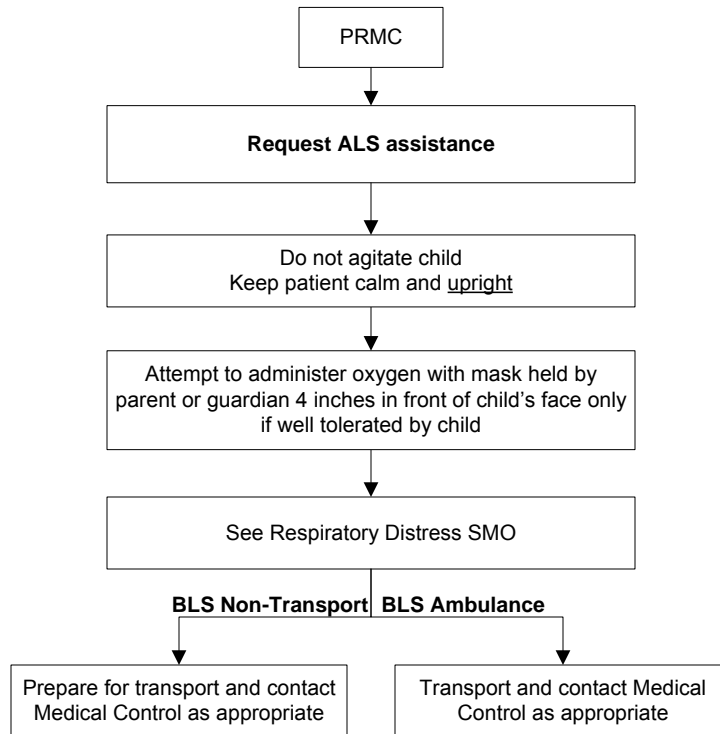
**NOSE** – Itchy/runny nose, sneezing  
**MOUTH** – Itching  
**SKIN**- Few hives, mild itching  
**GI** – Mild nausea/discomfort

# TRACHEOSTOMY WITH RESPIRATORY DISTRESS - PEDIATRIC - BLS

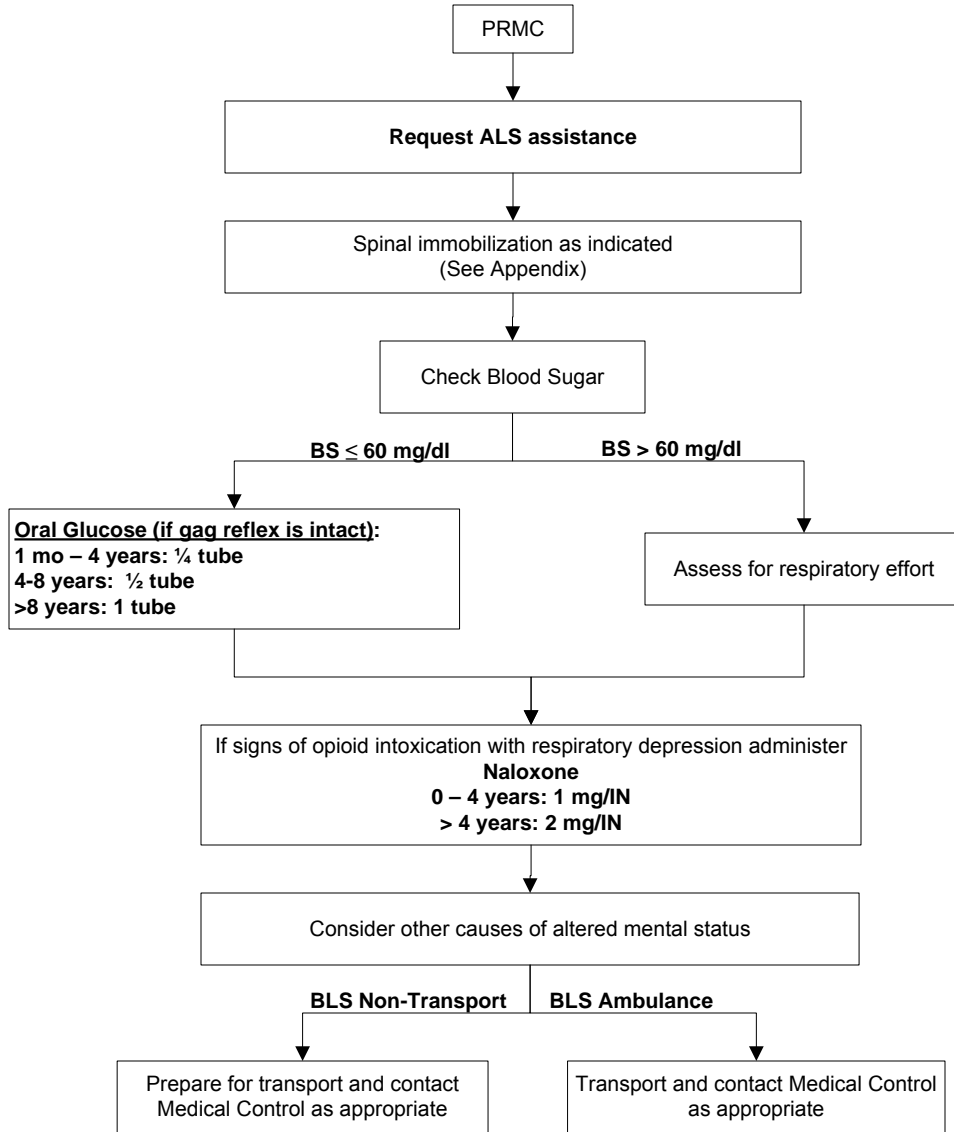


**1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations  
2 rescuers = 15 compressions: 2 ventilations**

# SUSPECTED CROUP OR EPIGLOTTITIS - PEDIATRIC - BLS



# ALTERED MENTAL STATUS - PEDIATRIC - BLS

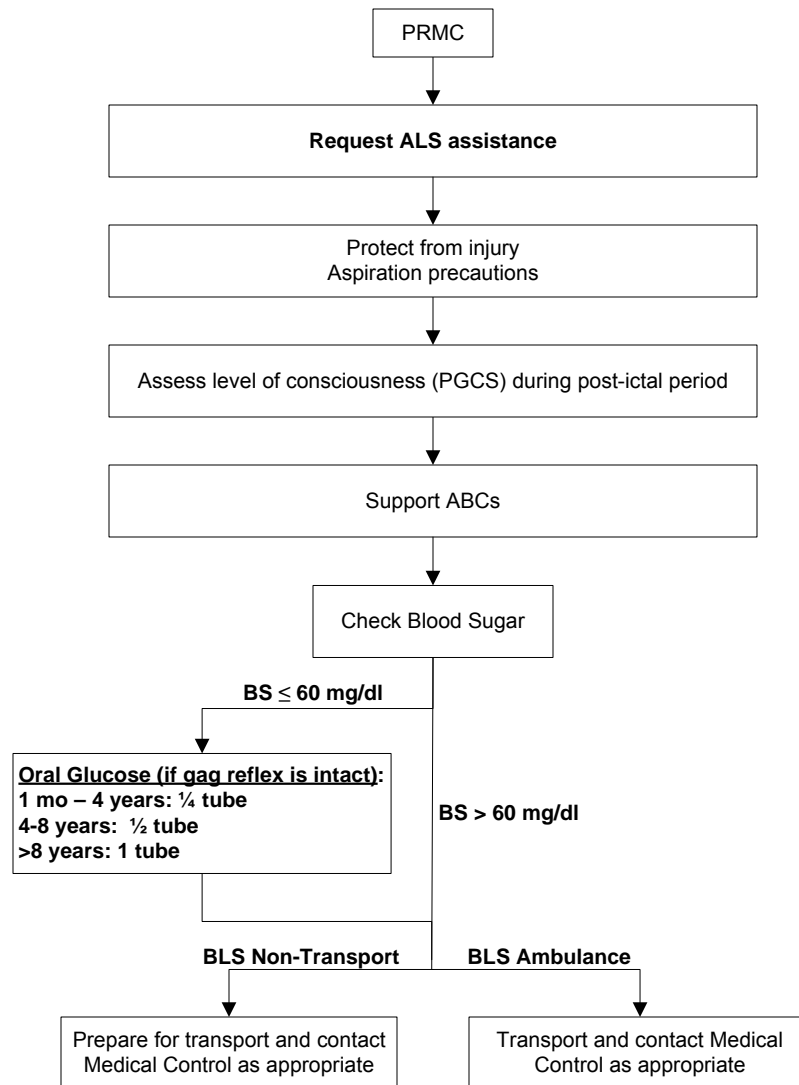


## Special Considerations:

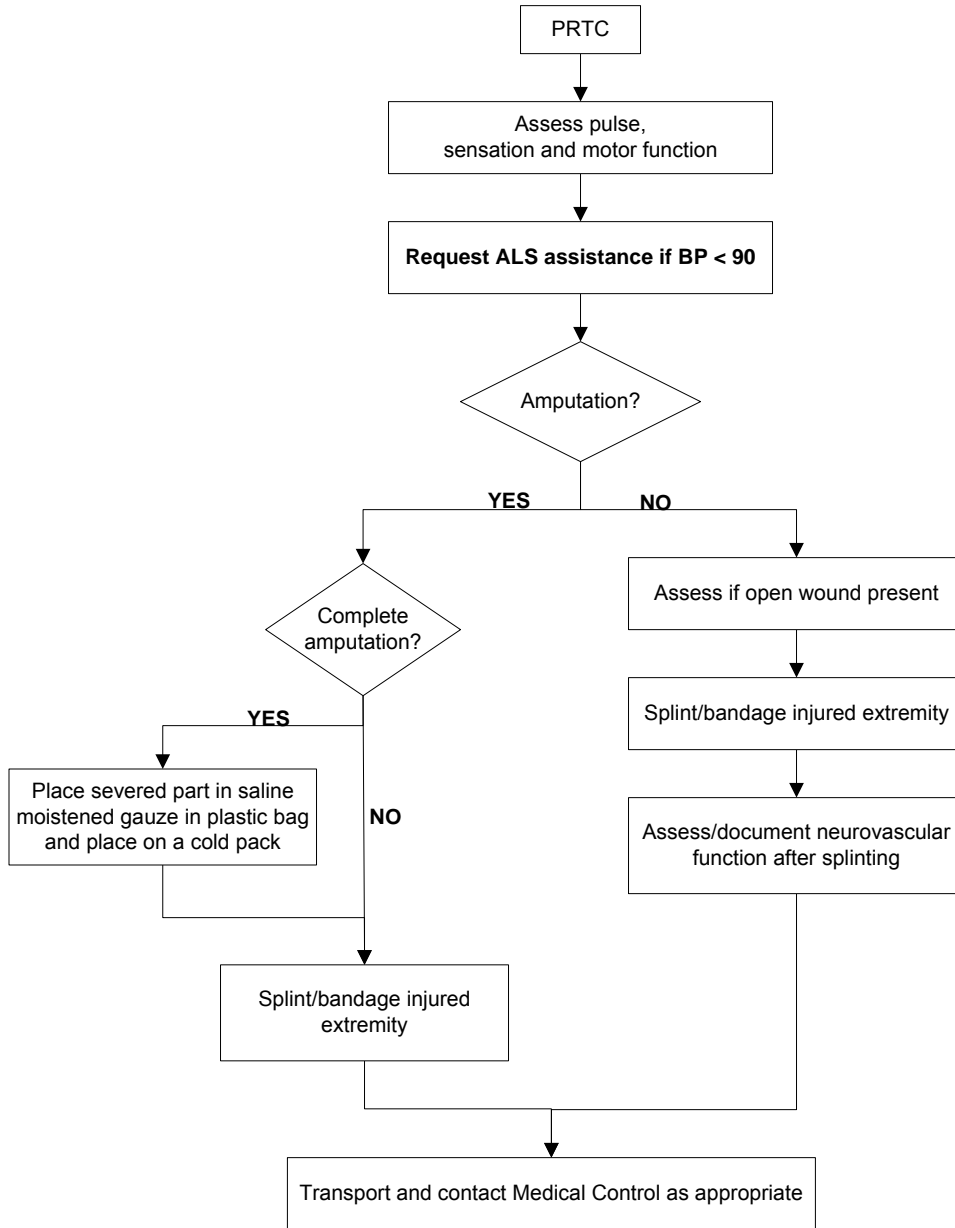
Consider causes:

- |   |  |
|---|--|
| <b>A</b> Alcohol, abuse                         | <b>T</b> Trauma, temperature   |
| <b>E</b> Epilepsy, electrolytes, encephalopathy | <b>I</b> Infection, intussusception, inborn errors                                       |
| <b>I</b> Insulin                                | <b>P</b> Psychogenic   |
| <b>O</b> Opiates, overdose                      | <b>P</b> Poison  |
| <b>U</b> Uremia                                 | <b>S</b> Shock, seizures, stroke, space-occupying lesion, subarachnoid hemorrhage, shunt |

# SEIZURES - PEDIATRIC - BLS



# EXTREMITY TRAUMA - PEDIATRIC - BLS



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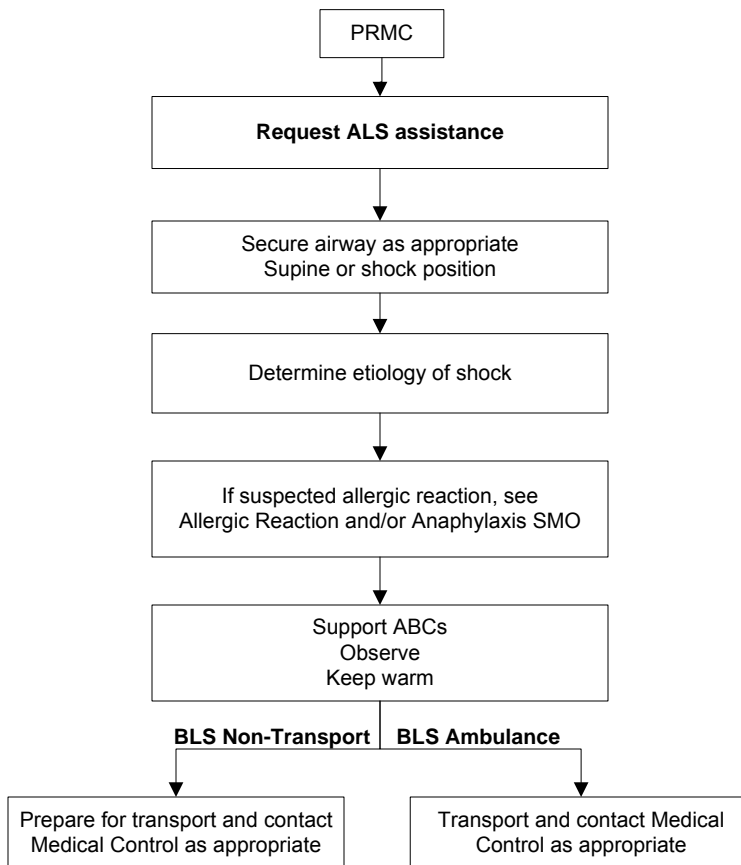
Revised: 9/09; 5/11

MDC Approval: 6/04; 6/7/11

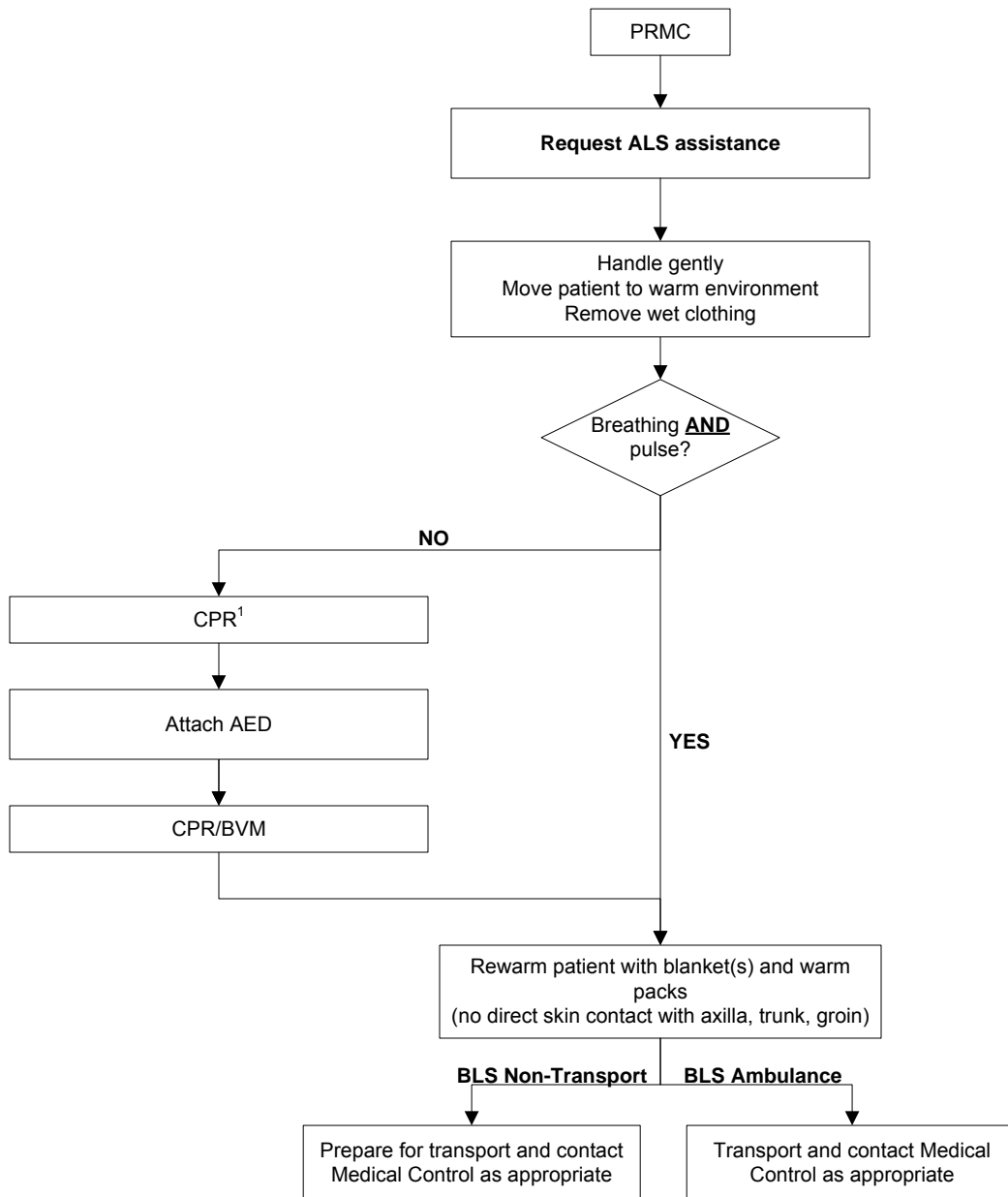
IDPH Approval: 9/04; 3/5/10; 9/29/11

Implementation: 1/1/05; 1/1/11; 4/1/12

# NON-TRAUMATIC SHOCK - PEDIATRIC - BLS



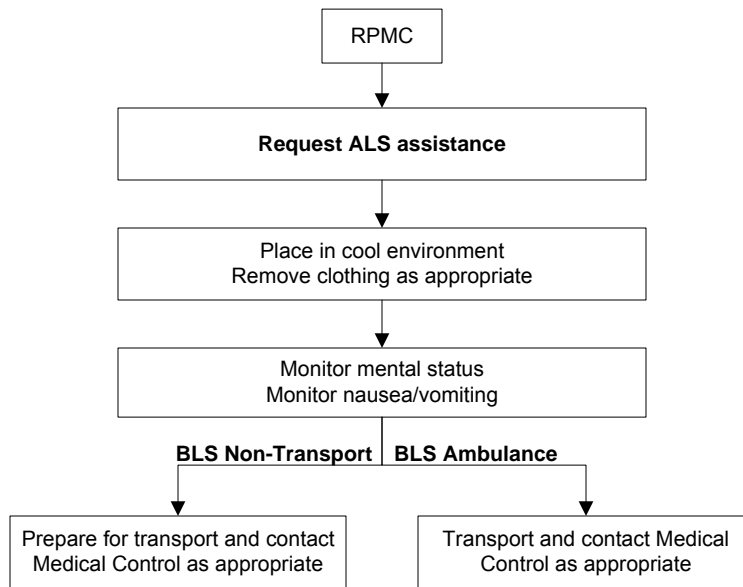
# HYPOTHERMIA - PEDIATRIC - BLS



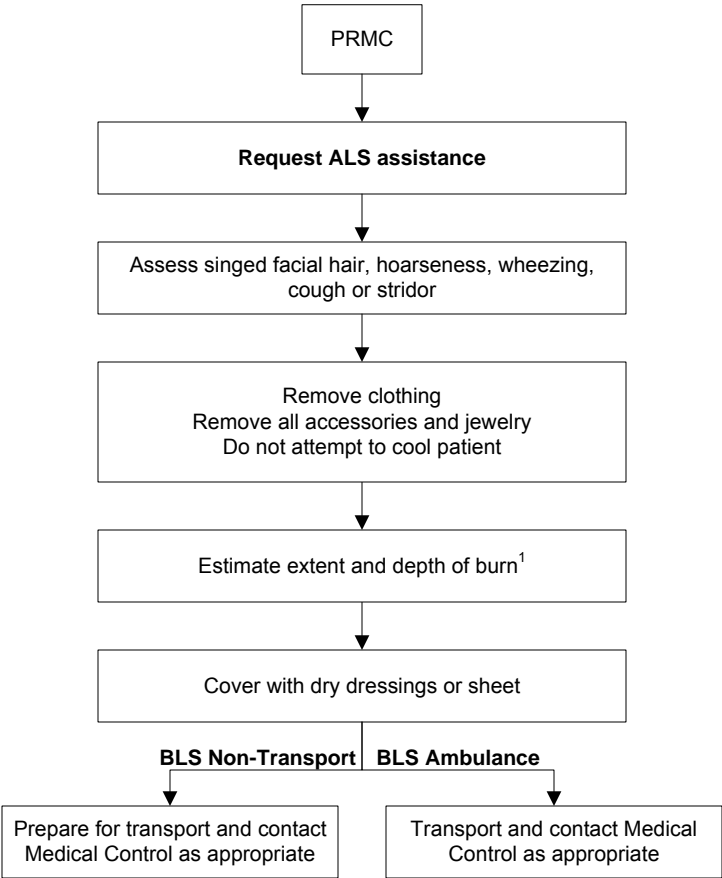
- NOTES:**
- May present with altered sensorium or as unconscious. Heart more susceptible to dysrhythmias. May have apnea, dusky or cyanotic appearance, fixed and dilated pupils; may appear without signs of life.
  - An individual in a frozen state is not considered salvageable.
  - The suspected hypothermic patient shall never be declared dead in the field.

1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations  
2 rescuers = 15 compressions: 2 ventilations

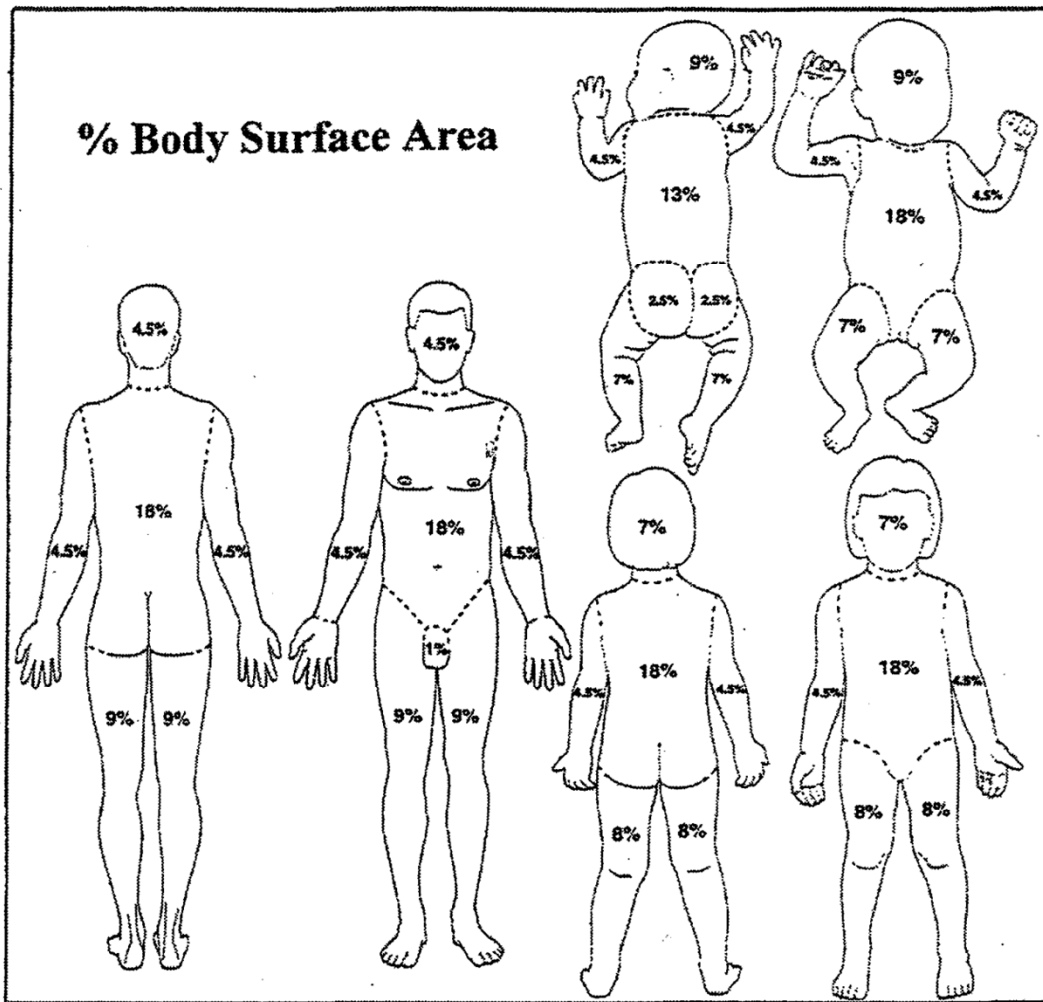
# HEAT ILLNESS - PEDIATRIC - BLS



# BURNS - PEDIATRIC - BLS



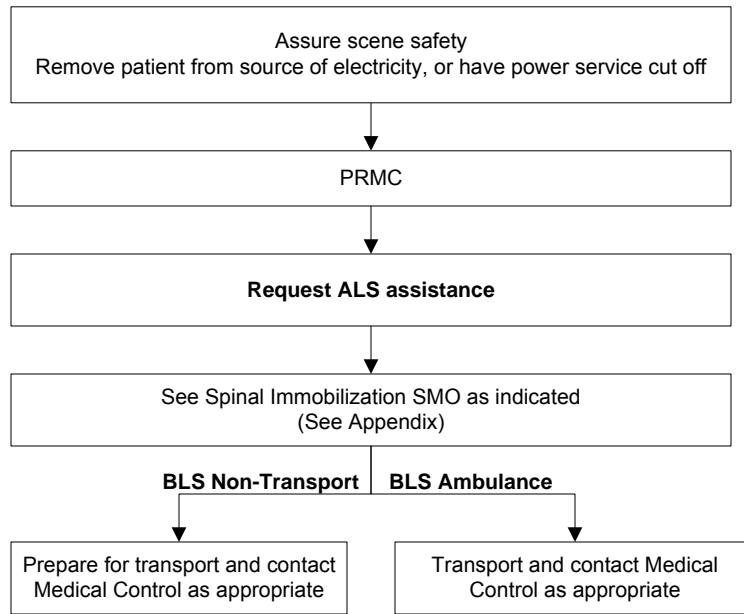
1 – See next page for Pediatric Burns % Body Surface Area



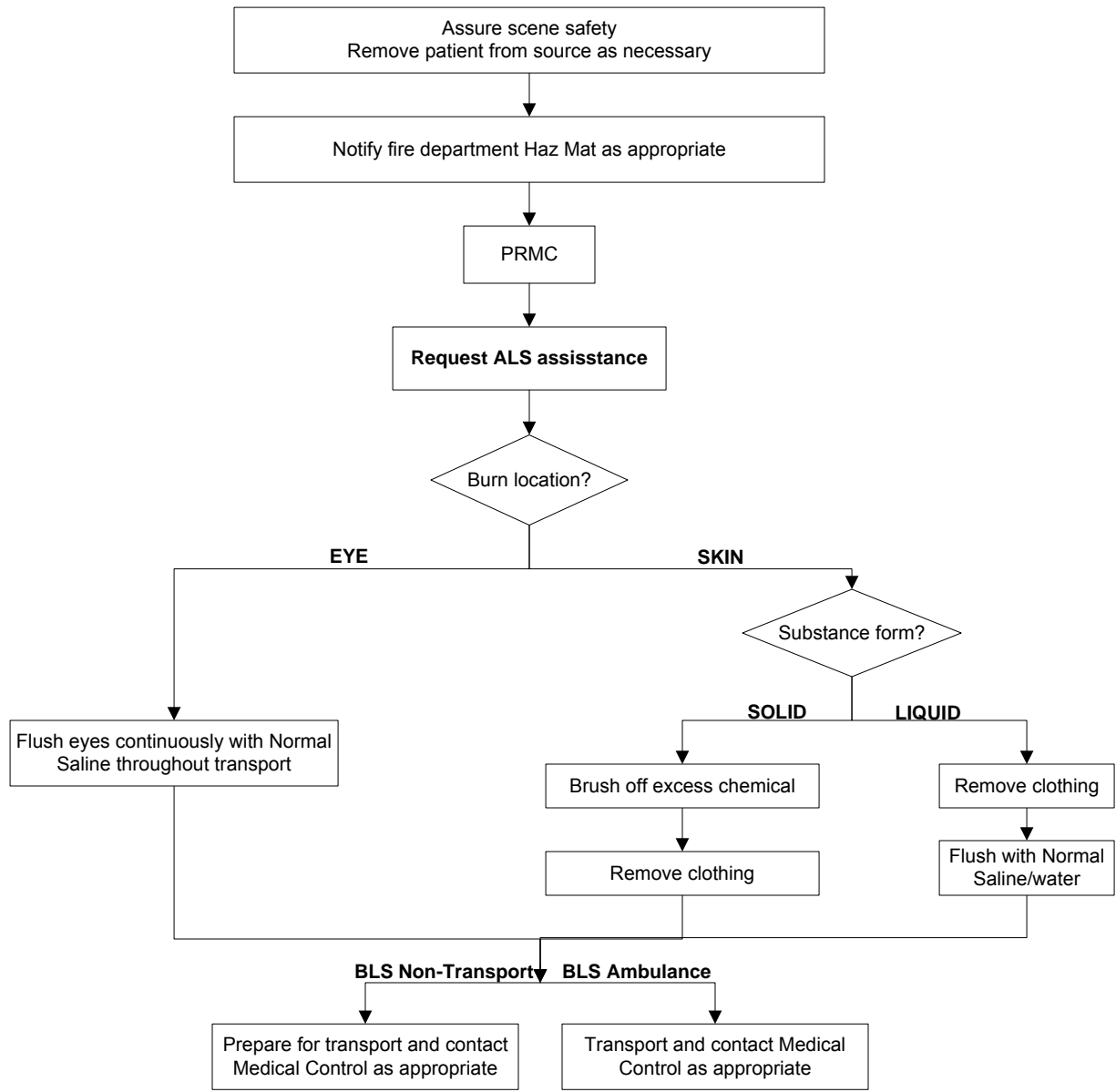
Palm of hand (including fingers) of infant or child = 1% of the total body surface

Any patient with a life threatening condition should be treated until stable at the nearest appropriate facility before being transferred to a burn center.

# ELECTRICAL / LIGHTNING BURNS - PEDIATRIC - BLS

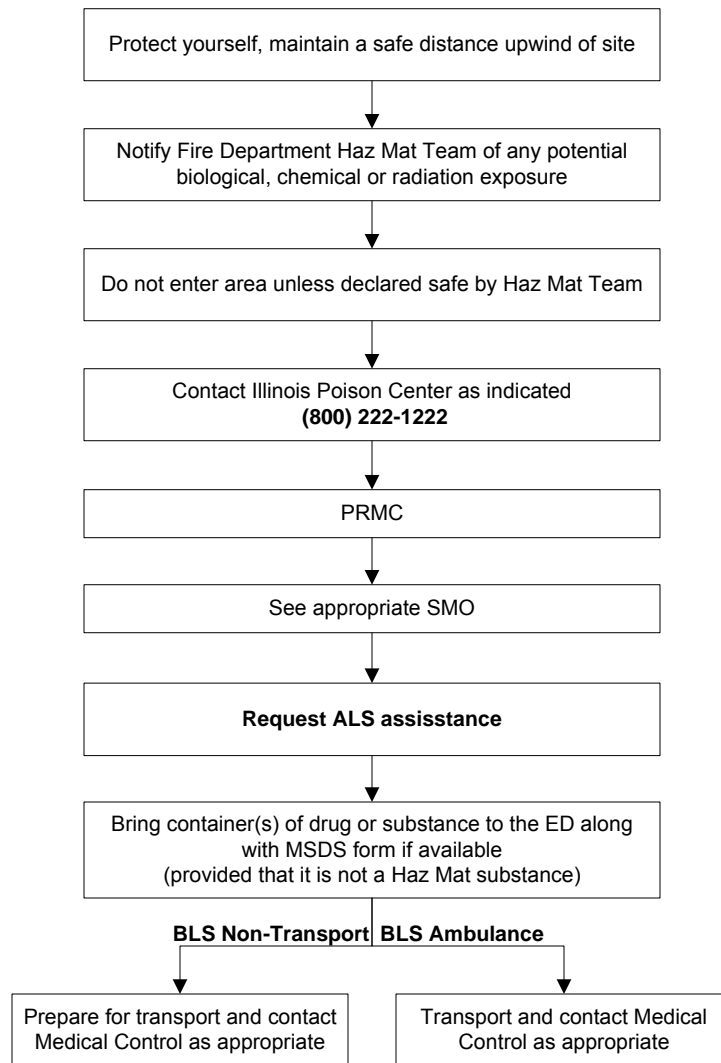


# CHEMICAL BURNS - PEDIATRIC - BLS



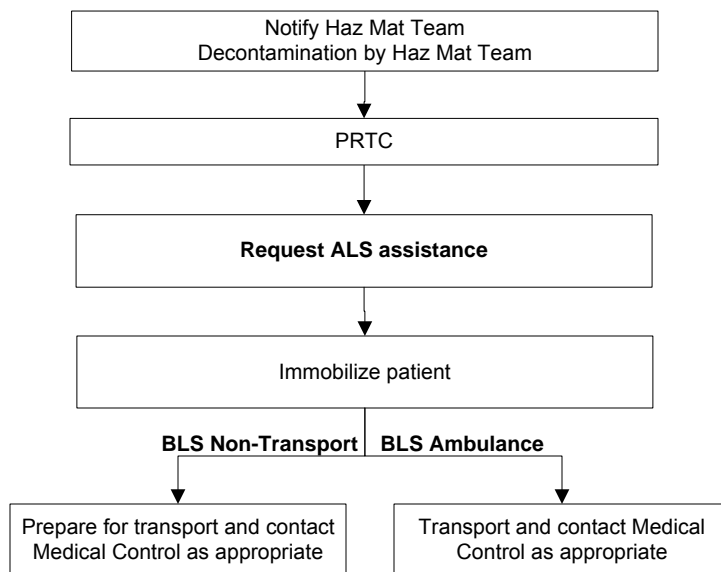
\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# HAZ MAT / TOXIC EXPOSURE - PEDIATRIC - BLS



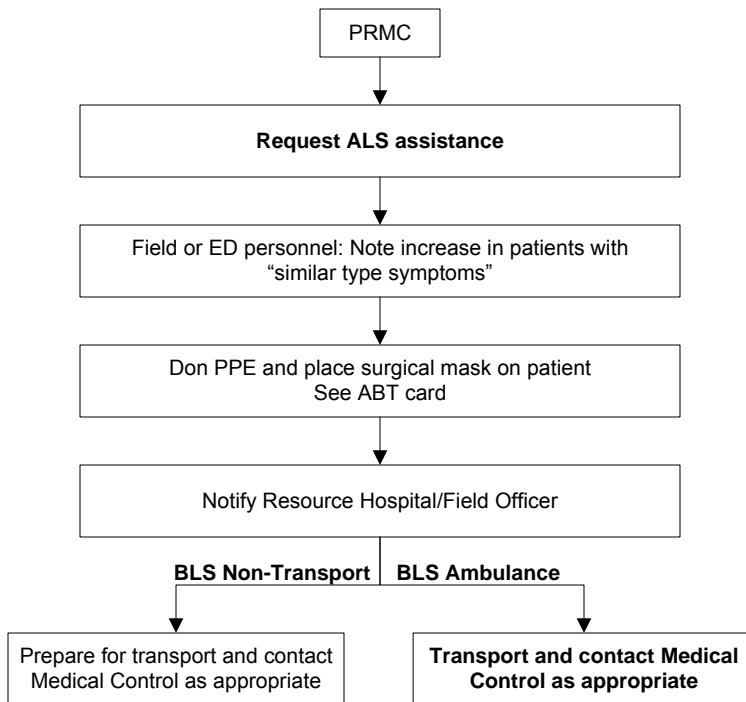
\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# HAZARDOUS EVENTS / NUCLEAR/BLAST INJURIES - PEDIATRIC - BLS



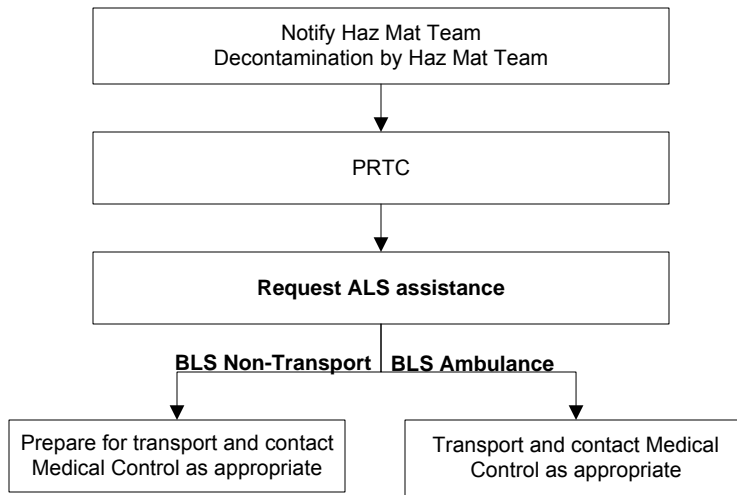
\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# HAZARDOUS EVENTS / SUSPECTED BIOLOGICAL - PEDIATRIC - BLS



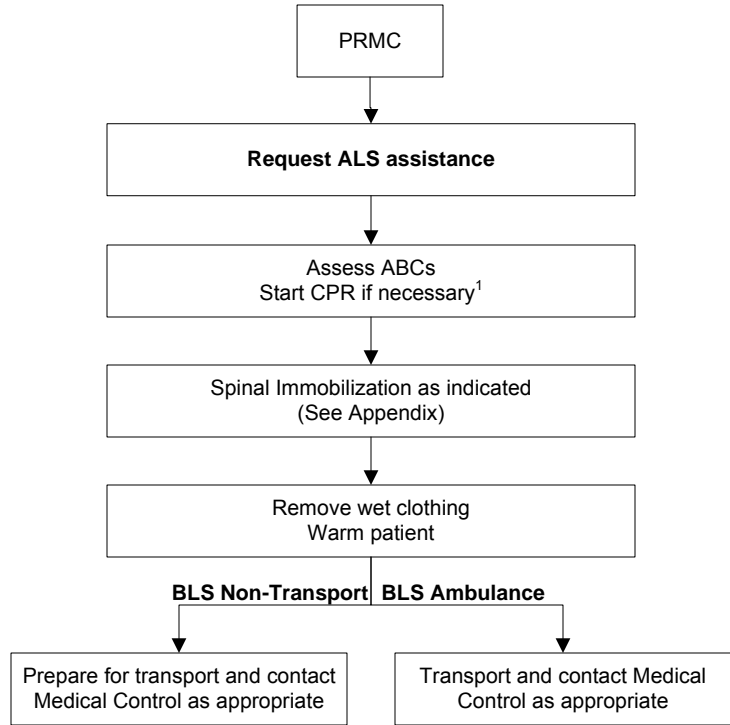
\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# HAZARDOUS EVENTS / CHEMICALS and NERVE AGENTS - PEDIATRIC - BLS



\* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.

# NEAR DROWNING - PEDIATRIC - BLS



**1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations  
2 rescuers = 15 compressions: 2 ventilations**

## PEDIATRIC DRUG DOSING DOSE REFERENCE GUIDE - BLS

<u>DRUG</u>	<u>DOSE</u>	<u>MODE</u>	<u>INTERVAL/ RATE</u>	<u>DOSE PREP.</u>
ALBUTEROL	2.5 mg	Nebulizer	X 1	2.5 mg/3 ml
ATROVENT	0.5 mg	Nebulizer	X 1	0.5 mg/3 ml
GLUCOSE, ORAL <sup>1</sup> (Age 1 month to 4 years)	¼ tube	PO	as indicated	25 gm/tube
GLUCOSE, ORAL (Age 4 to 8 years)	½ tube	PO	as indicated	25 gm/tube
GLUCOSE, ORAL (Age greater than 8 years)	1 tube	PO	as indicated	25 gm/tube
NALOXONE	1 mg: 0-4 years	IN	as indicated	2 mg/2 ml
NALOXONE	2 mg: > 4 years	IN	as indicated	2 mg/2 ml

**1 - Oral Glucose is NOT to be used for patients less than 1 month old.**

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Revised: 3/09; 5/11; 5/16

MDC Approval 4/7/09; 6/7/11

IDPH Approval: 7/9/09; 9/29/11

Implementation: 1/1/10; 4/1/12

## **APPENDIX**

Approved Oxygen Delivery Methods	I-1
Glasgow Coma Scale	I-2
Cincinnati Stroke Scale	I-3
Advanced Airway Management	I-4.1 to I-4.2
Cardiac Arrest Management	I-5.1 to I-5.4
Automatic External Defibrillator	I-6
Intra-Nasal Drug Administration	I-7
Epinephrine Auto-Injector (EpiPen)	I-8
Tourniquet Application	I-9.1 to I-9.2
Spinal Immobilization	I-10
Latex Allergic Reaction	I-11
Abbreviations/Acronyms	I-12.1 to I-12.2

## REGION XI APPROVED OXYGEN DELIVERY METHODS

Delivery Method	Flow Rate
Nasal Cannula	1 – 6L / min.
Non-rebreather Mask (NRB)	10 -15L / min.
Bag Valve Mask (BVM)	15L / min.
Endotracheal Intubation	15L / min.
King LT Supraglottic Airway	15L / min.
Blow-by (for children who do not tolerate a NRB)	10 – 15L / min.

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Written: 2/16

Reviewed:

Revised:

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Implementation: 3/1/16

# GLASGOW COMA SCALE (GCS)

TOTAL 3 to 15

<u>EYES OPEN:</u>	Spontaneously	4
	Verbal	3
	Pain	2
	None	1

<u>BEST VERBAL:</u>	Oriented	5
	Confused	4
	Inappropriate	3
	Incomprehensible	2
	None	1

<u>BEST MOTOR:</u>	Obeys	6
	Localizes	5
	Withdraws	4
	Abnormal Flexion	3
	Abnormal Extension	2
	None	1

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IDPH Approval: 7/9/09

Implementation: 1/1/10

BLS I-2

# CINCINNATI STROKE SCALE

1) **Facial droop:** Have patient show teeth or smile

Abnormal: One side does not move as the other

2) **Arm drift:** Have patient close eyes and hold arms out for 10 seconds with palms up

Abnormal: One arm does not move or drifts down

3) **Abnormal speech:** Have patient say "You can't teach an old dog new tricks"

Abnormal: Patient slurs words, uses wrong words, or is unable to speak

## Relative Criteria for Transport to a Primary Stroke Center (PSC)

Patients with a negative or unattainable CSS may be transported to a PSC if acute stroke  $\leq 6$  hours in duration is suspected by the Base Station based on any of the following:

- Sudden and persistent alteration of consciousness
- Sudden onset severe headache (especially in association with vomiting +/- systolic BP  $>200$ )
- Severe and sudden loss of balance

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Implementation: 1/1/10; 4/1/12

# ADVANCED AIRWAY MANAGEMENT

## KING LTS-D AIRWAY (SUPRAGLOTTIC AIRWAY) INTUBATION

### INDICATIONS

- Airway management in a non-breathing person without a gag reflex
- Patient is over 4 feet in height.

### CONTRAINDICATIONS

- Patients under 4 feet in height.
- Intact gag reflex.
- Patients with known esophageal disease
- Patients who have ingested caustic substances

### EQUIPMENT

1. King LTS-D Airway
2. 14 Fr soft suction catheter
3. Lubricant
4. 60 cc syringe

### PROCEDURE

1. Pre-oxygenate the patient.
2. Choose the correct size King LTS-D airway
  - **Size 3** fits **4-5 feet** in height **Yellow** connector.
  - **Size 4** fits **5-6 feet** in height **Red** connector.
  - **Size 5** fits **6+ feet** in height **Purple** connector.
3. Inspect the King LTS-D for visible damage prior to insertion.
4. Test cuff to ensure there are no leaks.
5. Apply a water-based lubricant to the beveled distal tip and posterior aspect of the tube. Avoid getting lubricant near the ventilatory openings.
6. Position patient's head. The ideal position for the King LTS-D insertion is "sniffing position". The angle of the King LTS-D does not allow for insertion at a neutral angle.
7. Hold the King LTS-D at the connector with the dominant hand. With the non-dominant hand, hold the mouth open and apply chin lift, unless contraindicated by C-spine precautions or patient position. Using a lateral approach, introduce tip into corner of mouth.
8. Advance the tip behind the base of the tongue while rotating tube back to midline so that the blue orientation line faces the chin of the patient.
9. Without exerting excessive force, advance the King LTS-D until base of connector is aligned with teeth or gums.

10. Inflate the cuffs with the minimum volume necessary to seal the airway. Inflation volumes are located the King LTS-D airway. Typical inflation volumes are as follows:
  - Size 3: 45-60 cc
  - Size 4: 60-80 cc
  - Size 5: 70-90 cc
11. Gently ventilate the patient using BVM. If initial ventilations meet resistance perform the following:
  - Slowly pull back on King LTS-D airway while gently ventilating.
  - When ventilations suddenly become easy and free flowing with corresponding chest wall rise maintain that level of insertion.
12. Confirm placement to ensure adequate ventilations by auscultation of lung sounds, observing adequate chest rise, and verification of end tidal CO<sub>2</sub> waveform.
13. If necessary, add additional volume to cuff to maximize seal of the airway (within cuff size limits).
14. Secure King LTS-D airway to patient utilizing tape or appropriate commercial device.
15. Lubricate a 14 Fr. suction catheter prior to inserting into the King LTS-D's gastric access lumen.
16. Document the size of King LTS-D airway used and the depth of insertion at teeth or lips.

***Note: The King LT airway does not protect the airway from aspiration like ET intubation does.***

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IDPH Approval: 7/9/09; 5/20/15

Implementation: CFD BLS 5/00; Other 8/00; 1/1/10; 6/1/15

# **CARDIAC ARREST MANAGEMENT**

## **Incident Command for Cardiac Arrest (ICCA)**

### INDICATIONS

- Non-traumatic cardiac arrest

### CODE TASKS

- Resuscitation must begin and continue where patient is encountered
- Provide high quality, uninterrupted chest compressions
- Provide early defibrillation
- Provide controlled ventilatory management during the resuscitation
- IV/IO access and ALS drug delivery
- End Tidal CO<sub>2</sub> monitoring

### EQUIPMENT

#### **BLS:**

1. Automated External Defibrillator
2. Bag Valve Mask
3. Supraglottic Airway (Combitube or King Airway)
4. Oxygen

#### **ALS:**

1. Lifepak 1000 monitor/defibrillator/pads (or private provider equivalent)
2. Lifepak 12/15 monitor/defibrillator/ETCO<sub>2</sub>/pads (or private provider equivalent)
3. Bag Valve Mask
4. Advanced airway equipment (supraglottic airway or endotracheal tube)
5. IV/IO equipment
6. ACLS drugs

### PROCEDURE

1. Begin and continue resuscitation where the patient is encountered. **DO NOT MOVE THE PATIENT.** Call for an assist company (or as per private provider protocol). Patients should only be moved for scene safety concerns, not for provider convenience. Any delay in initiation of resuscitation will decrease the chance of survival.
2. Initiate high quality uninterrupted chest compressions. Harder-deeper-faster with rate 100-120 per minute. Use alternate providers to avoid fatigue. Chest compressions should only be interrupted to analyze rhythm and deliver defibrillation (< 10 seconds).
3. Attach cardiac monitor and assess rhythm. Defibrillate if ventricular fibrillation or pulseless ventricular tachycardia (or if AED advises). May initiate care with Lifepak 1000, however, upgrade to Lifepak 12/15 as soon as manpower allows.
4. Basic airway management with bag valve mask ventilation. Apply End Tidal CO<sub>2</sub> to BVM. Monitor ETCO<sub>2</sub> to assess quality of CPR. Goal ETCO<sub>2</sub>: > 12. If < 12 improve quality of chest compressions or switch compressors.

5. Continue 2 minute cycles of CPR and defibrillation until assist company arrives. Do not attempt IV/IO access or advanced airway management until at least three providers are on scene.
6. Code commander delegates tasks when assist company arrives.
7. IV/IO access and administration of drugs as per ALS SMOs B-3 and B-4. The proximal tibia is the preferred site for IO access during cardiac arrest resuscitation.
8. Place supraglottic airway (preferred advanced airway for patients in cardiac arrest). Endotracheal intubation may be performed as backup airway if unable to ventilate/oxygenate with supraglottic airway. Do not interrupt compressions during placement of an advanced airway.
9. Apply End Tidal CO2. Monitor waveform and number to assess:
  - a. Correct advanced airway position and ventilation
  - b. Quality of CPR
  - c. Return of spontaneous circulation (ROSC)
10. Contact online medical control from the scene (before moving the patient) to discuss the following options:
  - a. Termination of Resuscitative efforts (see policy....)
  - b. Continue resuscitation on scene and recontact medical control
  - c. ROSC achieved (consider therapeutic hypothermia see protocol ...) and transport to closest STEMI center
  - d. Ongoing resuscitation of patient without ROSC and transport to closest STEMI center versus closed comprehensive ED.

Patients with ROSC or refractory Ventricular Fibrillation/Pulseless ventricular tachycardia should be transported to the closest STEMI-Receiving Center (SRC). Consider transport to a SRC for any patient with ongoing resuscitation.

### MANDATORY DOCUMENTATION

1. "Cardiac Arrest" should be listed for paramedic impression for all non-traumatic cardiac arrest victims. Do not use "rule out" for any cardiac arrest impression.
2. All information from the first company on scene should be relayed to the transporting paramedics and included in both patient care records (assist company sheet and MRU).
3. All mandatory cardiac arrest questions in the MRU should be completed before record is closed.
4. End-Tidal CO2 number and waveform should be documented in the patient care record.
5. Lifepak 15 "Report>All" should be downloaded into the MRU computer once at hospital. This includes every monitor that was used during the code.
6. Lifepak 15 "Report>All" should additionally be uploaded to CodeSTAT.

## ICCA ROLES AND RESPONSIBILITIES

Cardiac arrest is a shared ALS and BLS response. Successful resuscitation requires a coordinated effort. Upon arrival, resuscitation roles should be clearly delegated by the highest ranking medical member on scene, so that primary **code tasks** are carried out quickly and efficiently.

### 1. Code Commander

- Highest ranking medical member on scene
- Oversees all operations
- Responsible for timing of CPR cycles and defibrillation
- Requests additional manpower/resources
- Completes and/or delegates **code tasks**

### 2. Compressor-1

- Performs high quality uninterrupted chest compressions
- Assume compressor 2's role when relieved

### 3. Compressor-2

- Monitor's the effectiveness of compressor 1's compressions (monitors ETCO<sub>2</sub> for compression quality feedback)
- Assists with seal during bag valve mask ventilation
- Relieves compressor 1 after 2 minutes or when compression quality decreases

### 4. Procedures

- Apply cardiac monitor/analyze rhythm
- Defibrillate
- Gain IV/IO access
- Administer medications as per ALS SMOs B-3 and B-4
- Basic and advanced airway management
- Apply and monitor End Tidal CO<sub>2</sub>

### 5. Logistics

- Oversee distribution of equipment
- Set up IV/IO equipment
- Assemble medications/assist with drug delivery
- Facilitates communication with online medical control
- Prepares for transport
- Relief for other tasks

### 6. Liaison/Safety

- Control the scene and provide for the safety of the resuscitation team
- Data collection/documentation: Patient demographics, medications, medical history, events
- Communicates and assists with family/bystanders

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BLS I-5.4

# AUTOMATIC EXTERNAL DEFIBRILLATOR (AED)

## INDICATIONS

- See appropriate SMO

## CONTRAINDICATIONS

- Potential injury to rescuer

## EQUIPMENT

1. Conduction jelly/defibrillation pads/saline pads
2. Monitor/defibrillator
3. Therapy pads

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# INTRA-NASAL DRUG ADMINISTRATION

## Mucosal Atomization Device (MAD)

### INDICATIONS

- Opioid Overdose – Naloxone (Adults & Pediatrics)

### CONTRAINDICATIONS

- Nasal trauma

### EQUIPMENT

1. Mucosal Atomizer Device (MAD)
2. Syringe

### PROCEDURE

1. Draw up dose of medication into syringe
2. Expel air from syringe
3. Remove needle and attach MAD to syringe
4. Insert tip of MAD into nostril.
5. Rapidly administer medication (1ml max per nostril; recommend giving ½ the volume in each nostril)
6. Document the medication dose and patient response.

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# EPINEPHRINE AUTO-INJECTOR (EpiPen)

## INDICATIONS:

- Allergic Reactions

## CONTRAINDICATIONS:

- None

## MEDICATION:

- EpiPen Auto-Injector - Adult dose 0.3 mg of epinephrine
  - EpiPen Jr Auto-Injector - Pediatric dose 0.15 mg of epinephrine
- Use an EpiPen 0.3 mg auto-injector for children over 25 kg (55 lb) and EpiPen Jr 0.15 mg auto-injector for children less than 25 kg (55 lb).***

## PROCEDURE

1. Obtain appropriate Epi-pen (adult dose 0.3 mg or pediatric dose 0.15 mg).
2. Make sure the medication is not discolored or expired.
3. Remove safety cap from auto-injector, if possible wipe patient's thigh with alcohol wipe. However, do not delay administration of the drug.
4. Place the tip of the auto-injector against the lateral part of the patient's thigh, midway between the waist and the knee.
5. Push injector firmly against the thigh until the injector activates, hold the injector in place until the medication is injected about 10 seconds.
6. Remove the injector from the patient's thigh and dispose of it in the proper biohazard container.
7. Reassess and record patient's vital signs after using the auto-injector.
8. Record the time and dose of injection on your patient care report.

## REFERENCES:

- *Illinois EMSC Pediatric Allergic Reaction/Anaphylaxis BLS Care Guidelines.*
- *Brady Emergency Care 12<sup>th</sup> Edition*

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# TOURNIQUET APPLICATION

## INDICATIONS

- Life threatening extremity hemorrhage that cannot be controlled by other means.

## CONTRAINDICATIONS

- Non-extremity hemorrhage.
- Proximal extremity location where tourniquet application is not practical.

## EQUIPMENT

System approved tourniquet

## PROCEDURE

1. Visually inspect injured extremity and avoid placement of tourniquet over joint, angulated or open fracture, stab or gunshot wound sites.
2. Apply the tourniquet directly to skin, proximal to the wound, 2-3 inches above the wound or as high as you can go above the wound.
3. Secure tourniquet:
  - Pull the free running end of the self-adhering band *tight* and securely fasten the band back on itself (if applying to an arm wound). Do not adhere the band past the windlass rod.
  - If applying to a leg wound, the self adhering band must be routed through the friction adapter buckle and fastened back on itself. This will prevent it from loosening when twisting the windlass rod.
4. Twist the windlass rod until *bright red bleeding has stopped and the distal pulse is eliminated.*
5. Place the windlass rod inside the clip locking it in place. *Check for bleeding and distal pulse.* If bleeding is not controlled consider additional tightening or applying a second tourniquet side by side to the first tourniquet and reassess.
6. Secure the rod inside the clip with the strap.
7. Record time of tourniquet application.
8. Cover wound with appropriate sterile dressing and/or bandage. ***Do not cover tourniquet - the device must remain visible.***
9. Reassess and document absence of bleeding distal to tourniquet.
10. Remove any improvised tourniquets that might have been previously applied.
11. Prepare patient for transport and reassess effectiveness of the tourniquet every 10 minutes.
12. Ensure receiving hospital staff is aware of tourniquet placement and time tourniquet was applied.

## MANDATORY DOCUMENTATION

- Location of injury and mechanism involved.
- Methods attempted to control bleeding and the time direct pressure was applied.
- Location of application of tourniquet
- Time of application of tourniquet
- Reassessment of tourniquet and its effectiveness
- Person at receiving hospital to whom use and location of the tourniquet is reported to

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BLS I-9.2

# SPINAL IMMOBILIZATION

## INDICATIONS

- Traumatic head/neck/back pain - blunt and penetrating
- All patients with altered levels of consciousness who sustain trauma above the clavicles
- All patients with sensory or motor deficits following blunt or penetrating neck/back injury
- Significant mechanism of injury
- Patients demonstrating sensory or motor deficits should be considered for short board/KED extrication
- Consider patient exposed to electrical source (i.e. lightning, electrocution)

## CONTRAINDICATIONS

- Caution should be used with impaled objects

## EQUIPMENT

1. Hard cervical collar
2. Short board/KED
3. Long board with straps
4. Padding material
5. Lateral immobilization/padding

## PROCEDURE

1. Secure scene and employ universal precautions
2. Stabilize head with hands and maintain in-line position
3. Apply appropriately sized collar
4. Move patient to long board, apply firm padding as needed to maintain full neutral spinal position. Head padding should be sufficient to limit lateral cervical movement
2. Secure/tape patient's torso and extremities to board. Infants in car seats should have application of an appropriate collar and lateral immobilization positioned in the car seat
3. Secure/tape head to padding and long board across forehead and collar

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# LATEX ALLERGIC PATIENTS

## INDICATIONS

- Patients with known sensitivity to latex
- Patients with onset of respiratory or dermatological signs and symptoms once care is initiated

## CONTRAINDICATIONS

- None

## EQUIPMENT

**LATEX FREE** products for:

1. AIRWAY:
  - a. Oral/Nasal airways
  - b. Suction catheters
  - c. BVM/masks
  - d. O<sub>2</sub> tubing
  - e. Endotracheal tubes
  - f. Stylets
2. IV:
  - a. Tourniquets
  - b. Gloves
  - c. Tape

When utilizing other medical equipment such as stethoscopes or blood pressure cuffs, provide a barrier between the patient and the device, for example Kerlix, 4 x 4's, cloth, etc.

## PROCEDURE

1. Utilize latex free products whenever possible
2. If a patient experiences an onset of symptoms (i.e., respiratory and/or dermatological signs and symptoms) and routine, latex gloves have been utilized:
  - a) *DO NOT REMOVE GLOVES.*
  - b) *PLACE LATEX FREE GLOVES OVER LATEX GLOVES, AS A SECOND PAIR.*
3. **MEDICATION ADMINISTRATION:** Medication should not be drawn from a multi-dose vial, if possible. Medication drawn up in a syringe must be given immediately after withdrawing the medication.
4. **BANDAGING:** Secure bandaged sites with cloth or silk tape.
5. **TREATMENT OF REACTION:** See Allergic Reaction SMO for treatment of a latex reaction.

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## ABBREVIATIONS/ACRONYMS

ABCs	Airway, Breathing, Circulation
ABT	Advanced Bioterrorism Triage
ALS	Advanced Life Support
BLS	Basic Life Support
BP	Blood Pressure
BSA	Body Surface Area
BS	Blood Sugar
BSI	Body Substance Isolation
BVM	Bag valve Mask
CO	Carbon monoxide
CP	Chest Pain
CPAP	Non-Invasive Pressure Support Ventilation
CPR	Cardiopulmonary Resuscitation
CRIC	Cricothyrotomy
CSHN	Children with Special Healthcare Needs
ECP	Emergency Communications Physician
ED	Emergency Department
EPI	Epinephrine
ET	Endotracheal Tube
ETOH	Alcohol
GCS	Glasgow Coma Scale
HR	Heart Rate
IM	Intramuscular
IN	Intranasal
IV	Intravenous
IVP	Intravenous Push
MAD	Mucosal Atomizer Device
NP	Nasopharyngeal
NRB	Non-rebreather Mask
NS	Normal Saline
NTG	Nitroglycerin
OB	Obstetrical
OP	Oropharyngeal
PGCS	Pediatric Glasgow Coma Scale
PO	By mouth
PPE	Personnel Protective Equipment
PR	Per Rectum
PRMC	Pediatric Routine Medical Care
PRTC	Pediatric Routine Trauma Care
PSC	Primary Stroke Center
RMC	Routine Medical Care
RR	Respiratory Rate
RTC	Routine Trauma Care
S/S	Signs and Symptoms
SBP	Systolic Blood Pressure
SL	Sublingual
SMO	Standing Medical Orders
SRC	STEMI Receiving Center
VS	Vital Signs

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