EMS REGION XI CHICAGO

PARAMEDIC

STANDING MEDICAL ORDERS

REGION XI - CHICAGO EMS SYSTEM
PARAMEDIC 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-P. 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.

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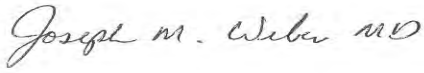

Joseph Weber, M.D.
EMS Medical Director
John H. Stroger, Jr. Hospital of Cook County
Chicago, IL

Written: 7/86
Reviewed: 8/92; 9/97; 10/97; 5/98; 6/02; 2/03; 3/09; 5/11; 5/12; 11/14; 2/15; 10/15
Revised: 8/92; 8/95; 9/97; 10/97; 6/98; 2/03; 3/09; 5/12; 11/14; 2/15; 10/15

REGION XI - CHICAGO EMS SYSTEM
PARAMEDIC STANDING MEDICAL ORDERS

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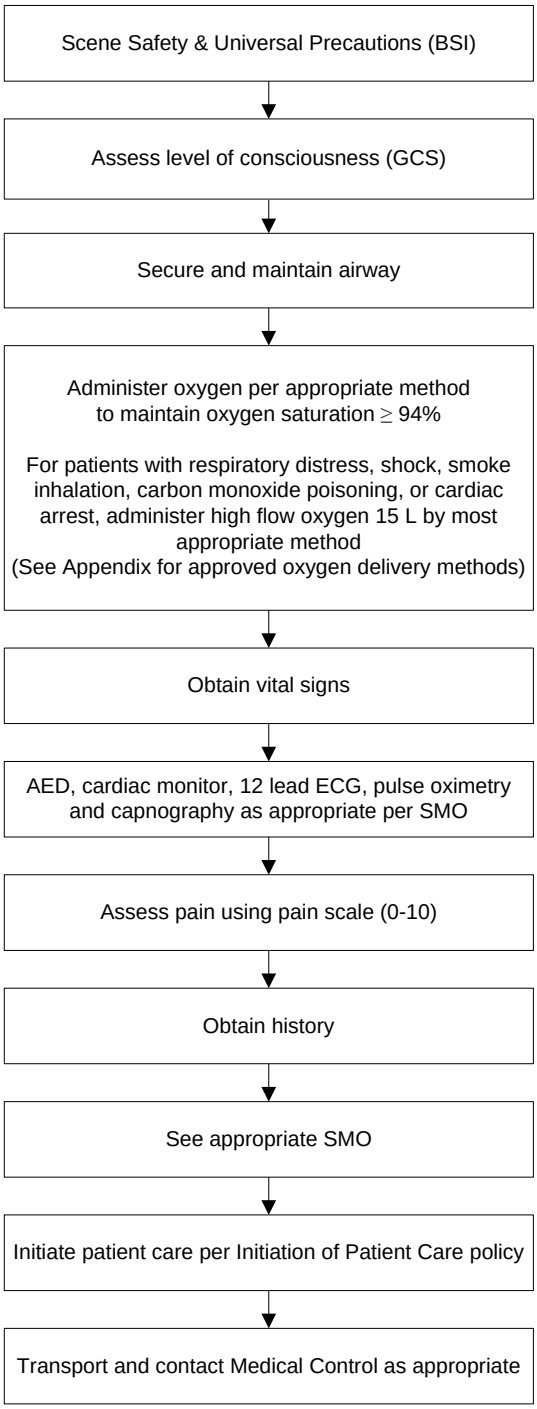
I. APPENDIX

GENERAL

Routine Medical Care (RMC) A-1

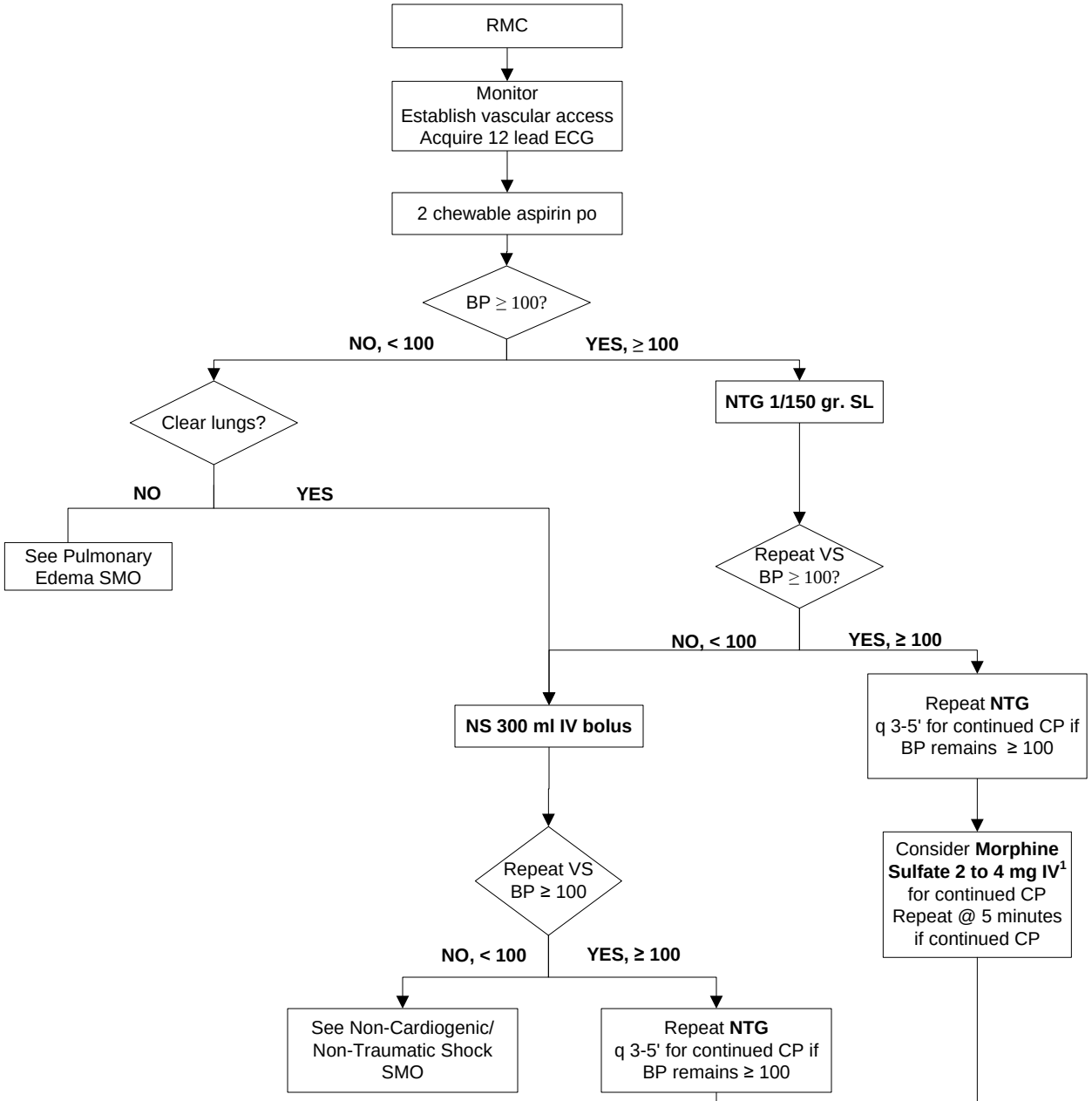
ROUTINE MEDICAL CARE (RMC) – ALS



Written: 7/86
Reviewed: 1/92; 10/95; 12/97; 1/01; 3/09; 5/11; 3/12; 10/15; 2/16
Revised: 11/91; 1/92; 10/95; 12/97; 1/01; 3/09; 6/11; 3/12; 10/15; 2/16
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 1/4/96; 12/97; 2/01; 4/7/09; 6/7/11; 3/6/12; 10/6/15
IDPH Approval: 8/86; 12/3/91; 11/16/92; 2/20/96; 1/99; 4/01; 7/9/09; 9/29/11; 5/4/12; 2/25/16
Implementation: 8/86; 1/1/92; 3/1/93; 5/1/96; 8/1/99; 5/1/01; 1/1/10; 4/1/12; 5/15/12; 3/1/16

CARDIAC

SUSPECTED ACUTE CORONARY SYNDROME - ALS



ST-ELEVATION MYOCARDIAL INFARCTION (STEMI) CRITERIA

A 12-lead EKG meets STEMI criteria if ANY of the below conditions are fulfilled:

1. Computer interpretation of the 12-lead EKG as a STEMI. This includes, but is not limited to, the following computer outputs:

   a. ***ACUTE MI***
   b. ***ACUTE MI SUSPECTED***
   c. ***MEETS ST ELEVATION MI CRITERIA***

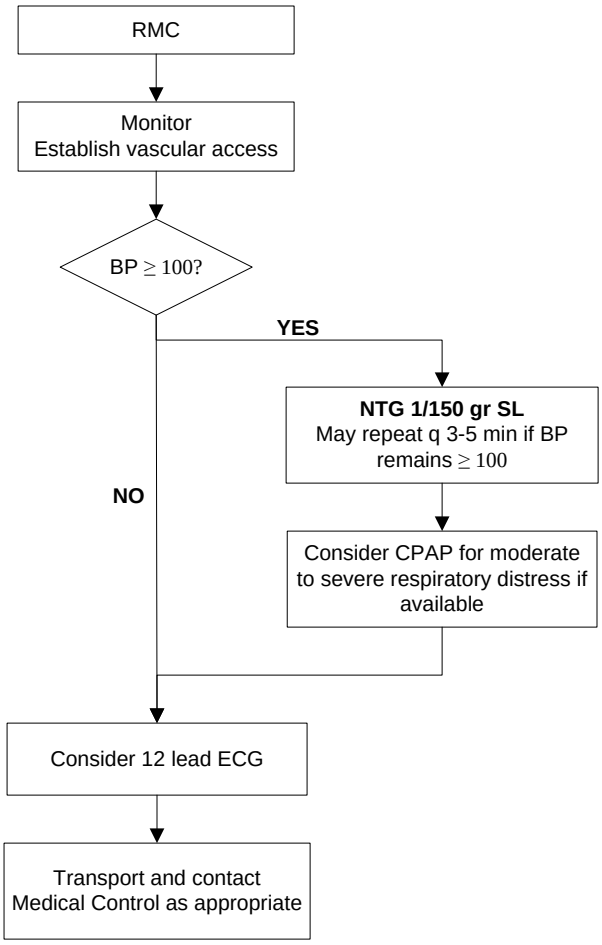
2. Paramedic interpretation of the 12-lead EKG as STEMI, which may include ST segment elevation of at least 1 mm in two or more contiguous leads.

3. Base station ECP interpretation of the transmitted 12-lead EKG as STEMI

1 – Contact Medical Control for administration of nitroglycerin in patients with concern for inferior wall myocardial infarctions or recent use of erectile dysfunction medications (e.g. Viagara)

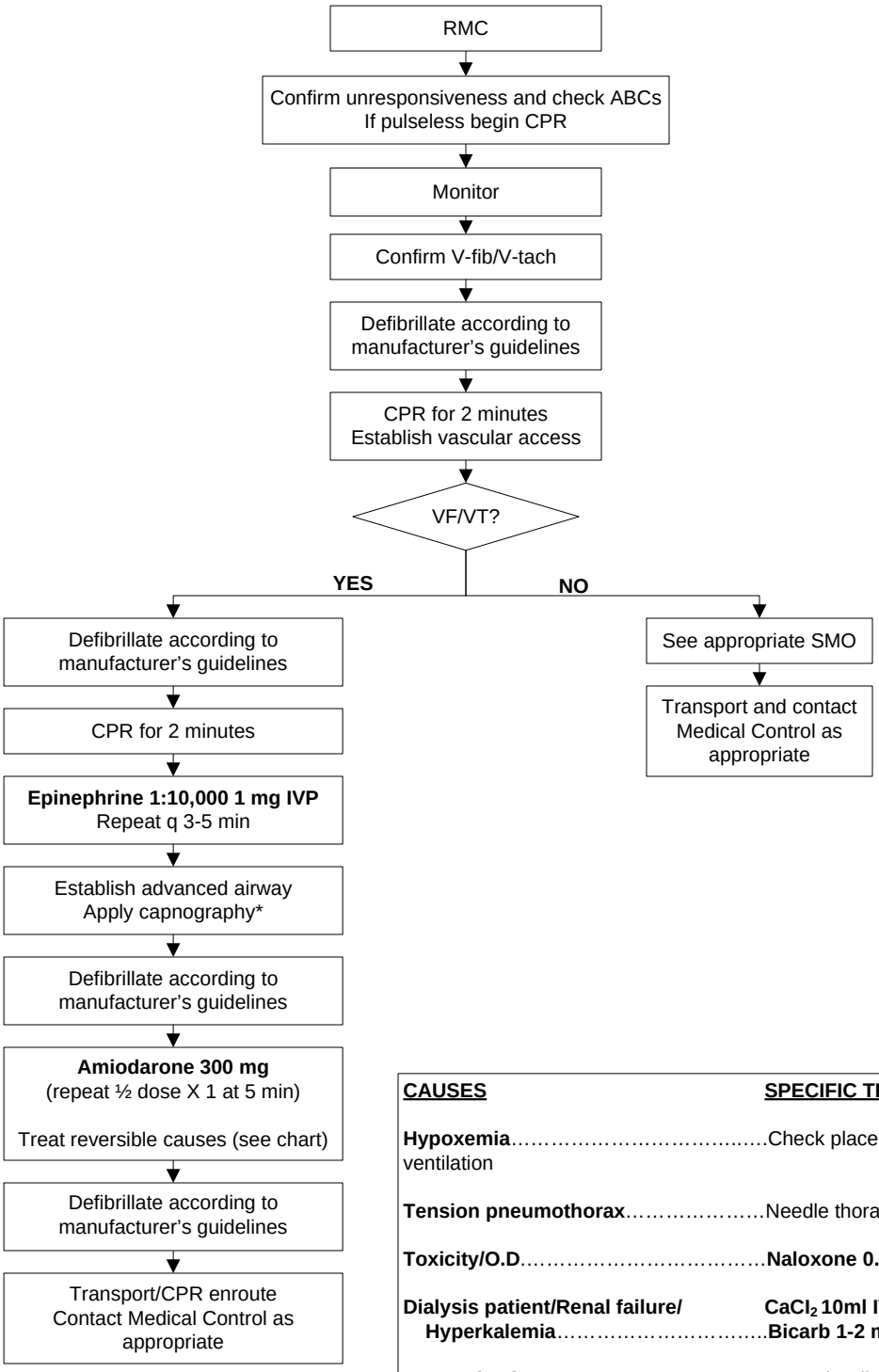
Written: 3/92
Reviewed: 3/92; 10/95; 4/98; 5/98; 6/04; 3/09; 5/11; 3/12; 10/14
Revised: 10/95; 4/98; 5/98; 6/04; 3/09; 3/12; 10/14
MDC Approval: 9/3/92; 1/4/96; 6/98; 6/04; 4/7/09; 3/6/12; 11/4/14
IDPH Approval: 11/16/92; 2/20/96; 1/99; 9/04; 7/9/09; 5/4/12; 5/20/15
Implementation: 3/1/93; 5/1/96; 8/1/99; 1/1/05; 1/1/10; 5/15/12; 6/1/15

PULMONARY EDEMA - ALS



Written: 3/92
Reviewed: 3/92; 10/95; 6/04; 3/09; 5/11; 3/12; 5/14
Revised: 10/95; 6/04; 11/08; 3/09; 3/12; 5/14
MDC Approval: 9/3/92; 1/4/96; 6/04; 4/7/09; 3/6/12; 5/19/14
IDPH Approval: 11/16/92; 2/20/96; 9/04; 7/9/09; 5/4/12; 6/9/14
Implementation: 3/1/93; 5/1/96; 1/1/05; 1/1/10; 5/15/12

VENTRICULAR FIBRILLATION & PULSELESS VENTRICULAR TACHYCARDIA – ALS



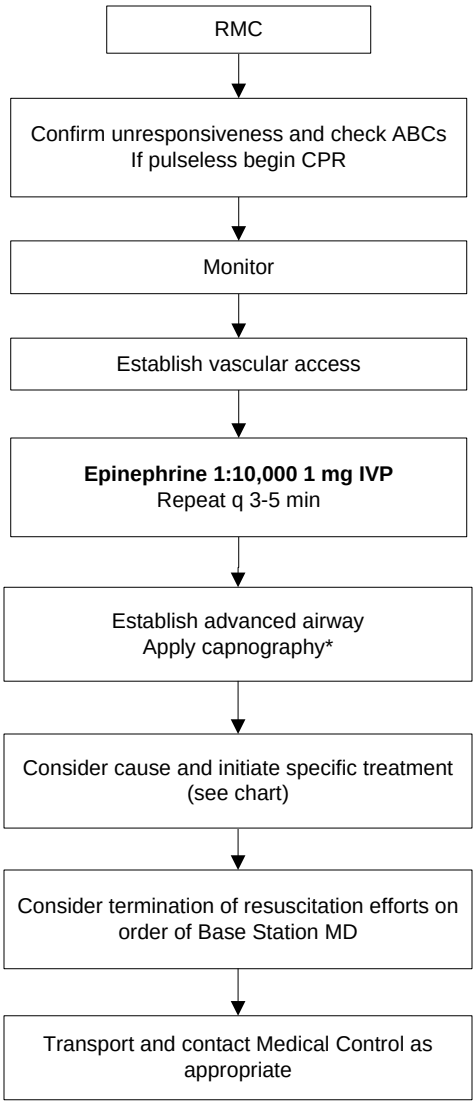
CAUSES	SPECIFIC TREATMENT
Hypoxemia	Check placement of advanced airway and ventilation
Tension pneumothorax	Needle thoracentesis
Toxicity/O.D	**Naloxone 0.8 – 2 mg IV or 2 mg nebulized**
Dialysis patient/Renal failure/ Hyperkalemia	**$CaCl_2$ 10ml IVP** **Bicarb 1-2 mEq/kg IVP**
Hypovolemia	Normal Saline bolus
Metabolic acidosis prolonged down time	**Consider Bicarb 1-2 mEq/kg IVP** at the discretion of Medical Control
Hypoglycemia	**Dextrose**

For patients with ROSC, see Adult Post-Cardiac Arrest Care & Therapuetic Hypothermia (ALS Appendix I-5.1 – I-5.2)

*** If PETCO < 10 mmHg, attempt to improve CPR quality**

Written: 3/92
Reviewed: 3/92; 10/95; 10/00; 5/04; 3/09; 5/11; 1/14; 3/15;11/15
Revised: 10/95; 10/00; 5/04; 3/09; 5/11; 1/14; 3/15; 11/15
MDC Approval: 9/3/92; 1/4/96; 11/00; 6/04; 4/7/09; 6/7/11; 1/13/14; 3/3/15; 11/17/15
IDPH Approval: 11/16/92; 2/20/96; 3/26/01; 9/04; 7/9/09; 9/29/11; 5/20/15; 2/25/16
Implementation: 3/1/93; 5/1/96; 5/1/01; 1/1/05; 1/1/10; 4/1/12; 6/1/15; 3/1/16

PULSELESS ELECTRICAL ACTIVITY / ASYSTOLE - ALS



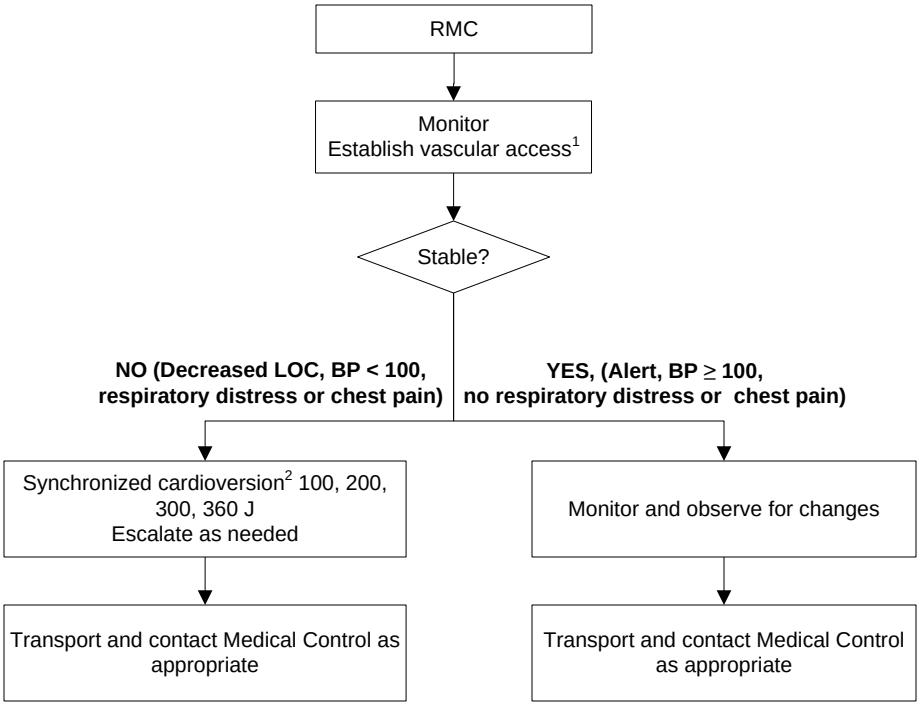
CAUSES	**SPECIFIC TREATMENT**
Hypoxemia	Check placement of advanced airway and ventilation
Tension pneumothorax	Needle thoracentesis
Toxicity/O.D	**Naloxone 0.8 – 2 mg IV or 2 mg nebulized**
Dialysis patient/Renal failure/ Hyperkalemia	**$CaCl_2$ 10ml IVP** **Bicarb 1-2 mEq/kg IVP**
Hypovolemia	Normal Saline bolus
Metabolic acidosis prolonged down time	**Consider Bicarb 1-2 mEq/kg IVP** at Base Station discretion
Hypoglycemia	**Dextrose**

*** If PETCO < 10 mmHg, attempt to improve CPR quality**

For patients with ROSC, see Adult Post-Cardiac Arrest Care & Therapuetic Hypothermia (ALS Appendix I-5.1 – I-5.2)

Written: 3/92
Reviewed: 3/92; 10/95; 1/01; 3/09; 5/11;3/15; 11/15
Revised: 10/95; 1/01; 3/09; 5/11; 3/15; 11/15
MDC Approval: 9/3/92; 1/4/96; 2/01; 4/7/09; 6/7/11; 3/3/15; 11/17/15
IDPH Approval: 11/16/92; 2/20/96; 4/01; 7/9/09; 9/29/11; 5/20/15; 2/25/16
Implementation: 3/1/93; 5/1/96; 5/1/01; 1/1/10; 4/1/12; 6/1/15; 3/1/16

WIDE COMPLEX TACHYCARDIA WITH PULSE - ALS



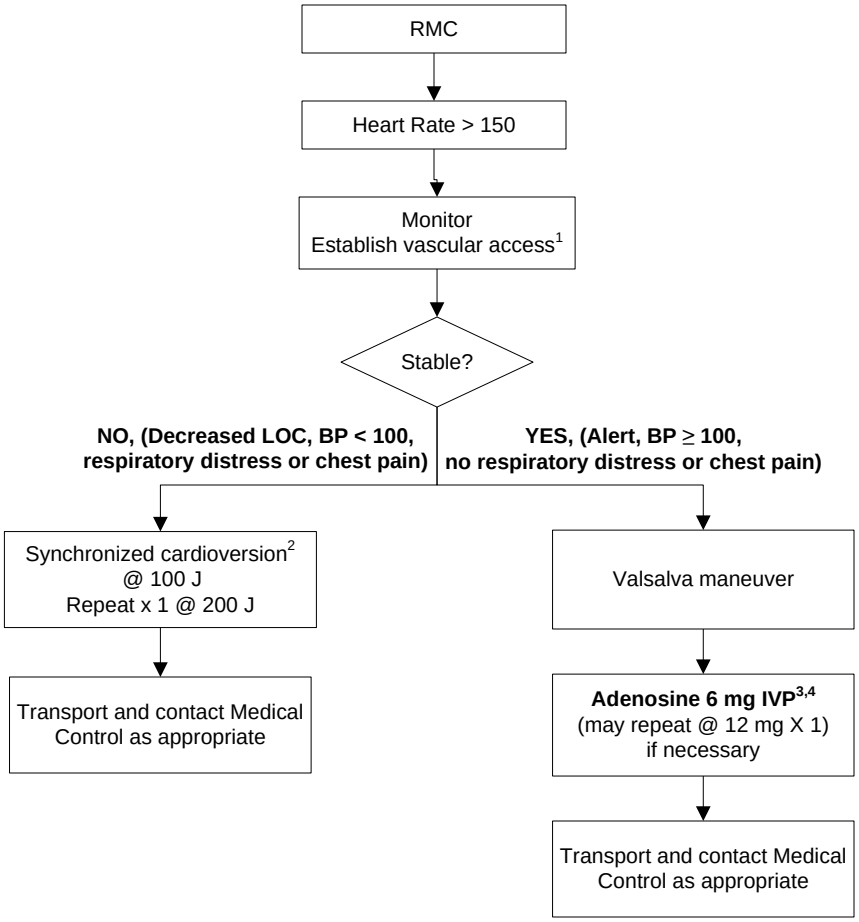
1 - If unconscious, defer vascular access until after cardioversion.

2 – If conscious, consider sedation and/or analgesia prior to cardioversion: Versed 1-2 mg IVP OR Morphine Sulfate 2-5 mg IVP

*** - For Renal Patients: Consider: 1 amp Calcium Chloride IVP**
1 amp Sodium Bicarbonate IVP

Written: 3/92
Reviewed: 3/92; 10/95; 5/04; 3/09; 5/11; 5/14; 11/15
Revised: 10/95; 5/04; 3/09; 5/11; 5/14; 11/15
MDC Approval: 9/3/92; 1/4/96; 6/04; 4/7/09; 6/7/11; 5/19/14; 11/17/15
IDPH Approval: 11/16/92; 2/20/96; 9/04; 7/9/09; 9/29/11; 6/9/14; 2/25/16
Implementation: 3/1/93; 5/1/96; 1/1/05; 1/1/10; 4/1/12; 3/1/16

NARROW QRS COMPLEX TACHYCARDIA - ALS
(Pulse >150)



1 – If unconscious, defer vascular access until after cardioversion.

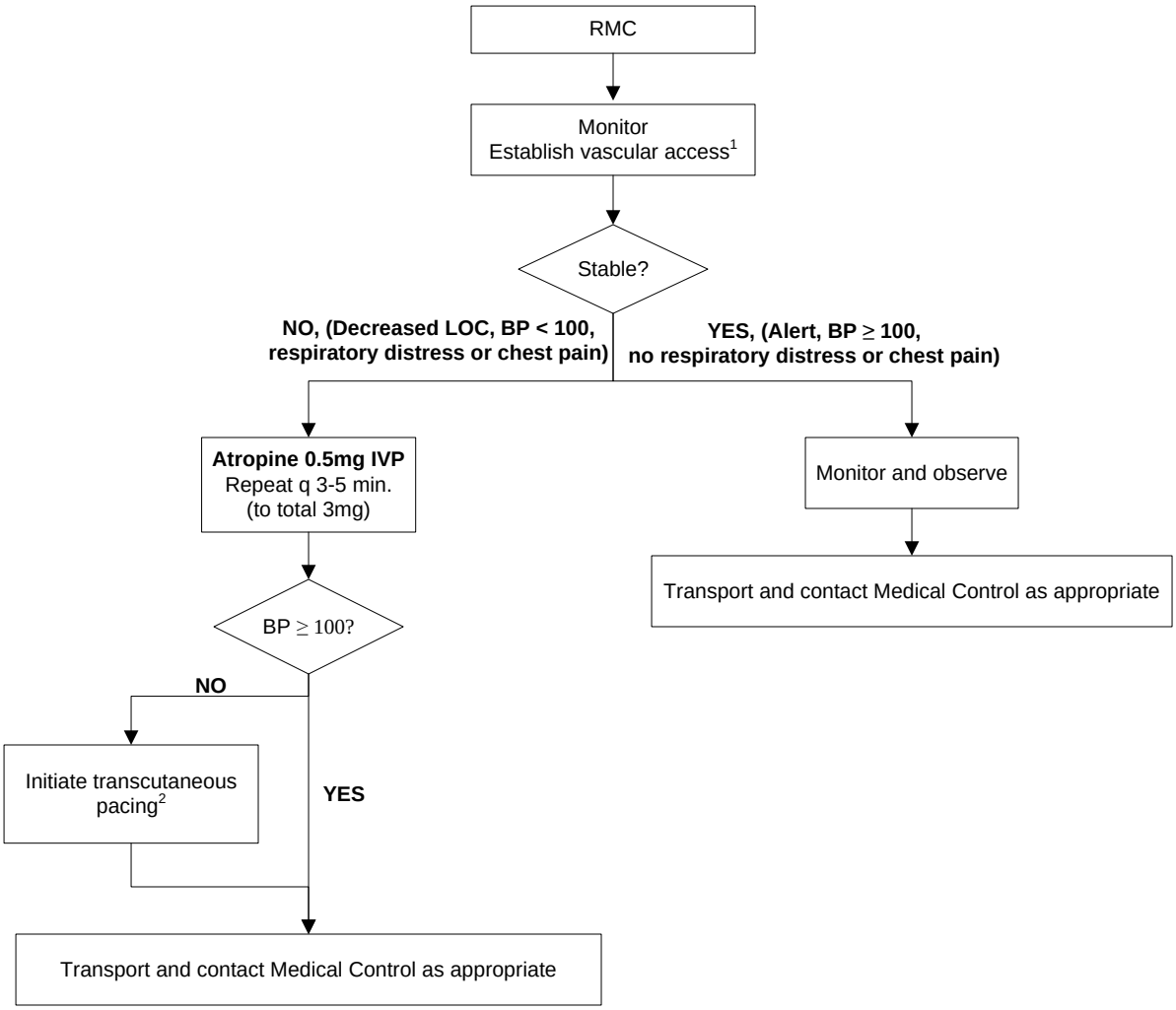
2 – If conscious, consider sedation and/or analgesia prior to cardioversion: Versed 1-2 mg IVP OR Morphine Sulfate 2-5 mg IVP.

3 - Use antecubital if possible. Also, follow injection with immediate 10 ml flush of NS.

4 - If history of reactive airway/asthma/COPD, contact Base Station ECP prior to use of adenosine.

Written: 1991
Reviewed: 3/92; 10/95; 2/99; 5/04; 3/08; 5/11; 5/14
Revised: 3/92; 10/95; 2/99; 5/04; 3/09; 5/11; 5/14
MDC Approval: 9/3/92; 3/99; 6/04; 4/7/09; 6/7/11; 5/19/14
IDPH Approval: 1991; 11/16/92; 2/20/96; Summer 99; 9/04; 7/9/09; 9/29/11; 6/9/14
Implementation: 2/12/91; 3/1/93; 5/1/96; 8/1/99; 1/1/05; 1/1/10; 4/1/12

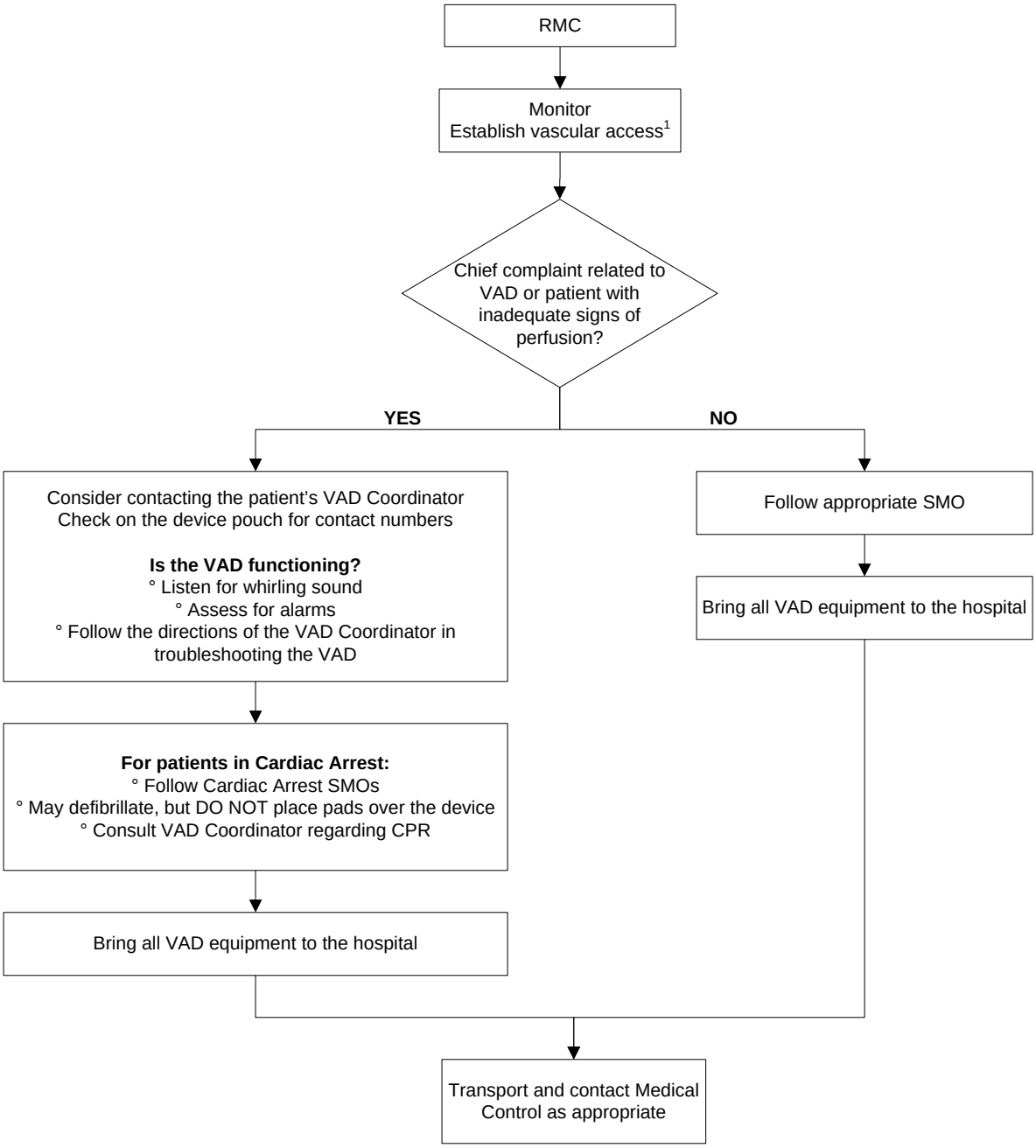
BRADYCARDIA WITH PULSE - ALS
(Pulse <50)



1 – If unconscious, defer vascular access until transthoracic pacemaker is placed.
2 – If conscious, consider sedation prior to transcutaneous pacing: Versed 1-2 mg IV

Written: 3/92
Reviewed: 3/92; 10/95; 1/01; 5/04; 3/09;5/11; 5/14
Revised: 10/95; 1/01; 5/04; 3/09; 5/11; 5/14
MDC Approval: 9/3/92; 1/4/96; 2/01; 6/04; 4/7/09; 6/7/11; 5/19/14
IDPH Approval: 11/16/92; 2/20/96; 4/01; 9/04; 7/9/09; 9/29/11; 6/9/14
Implementation: 3/1/93; 5/1/96; 5/1/01; 1/1/05; 1/1/10; 4/1/12

VENTRICULAR ASSIST DEVICE (VAD) - ALS

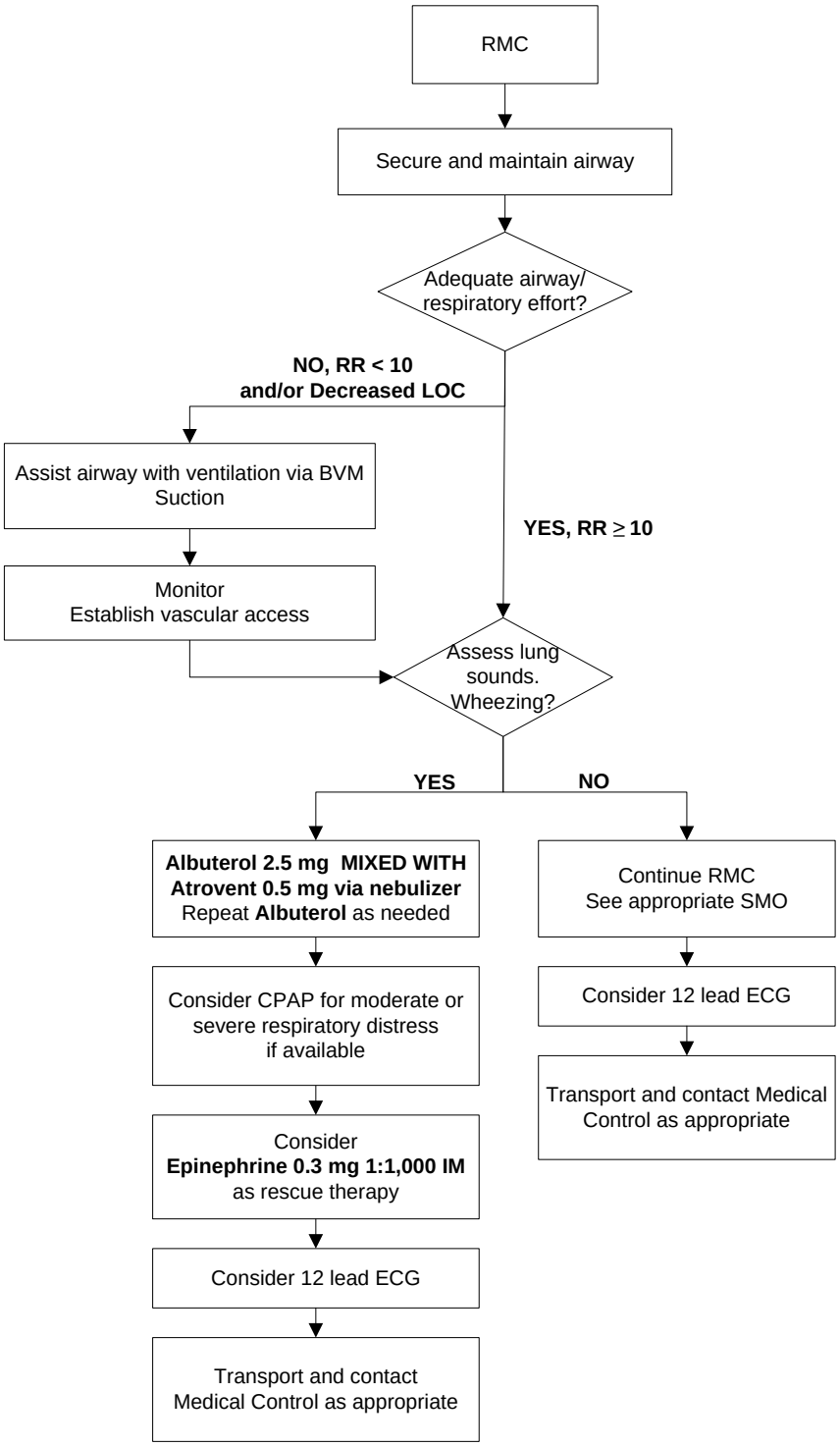


1 – Patients with a Ventricular Assist Device (VAD) often do not have a peripheral pulse, O2 saturation, or a palpable blood pressure. Use other indicators of adequate perfusion such as mental status, skin color and condition, and respiratory rate and effort.

Written: 10/13
Reviewed:
Revised:
MDC Approval: 11/5/13
IDPH Approval: 1/28/2014
Implementation: 6/1/15

RESPIRATORY

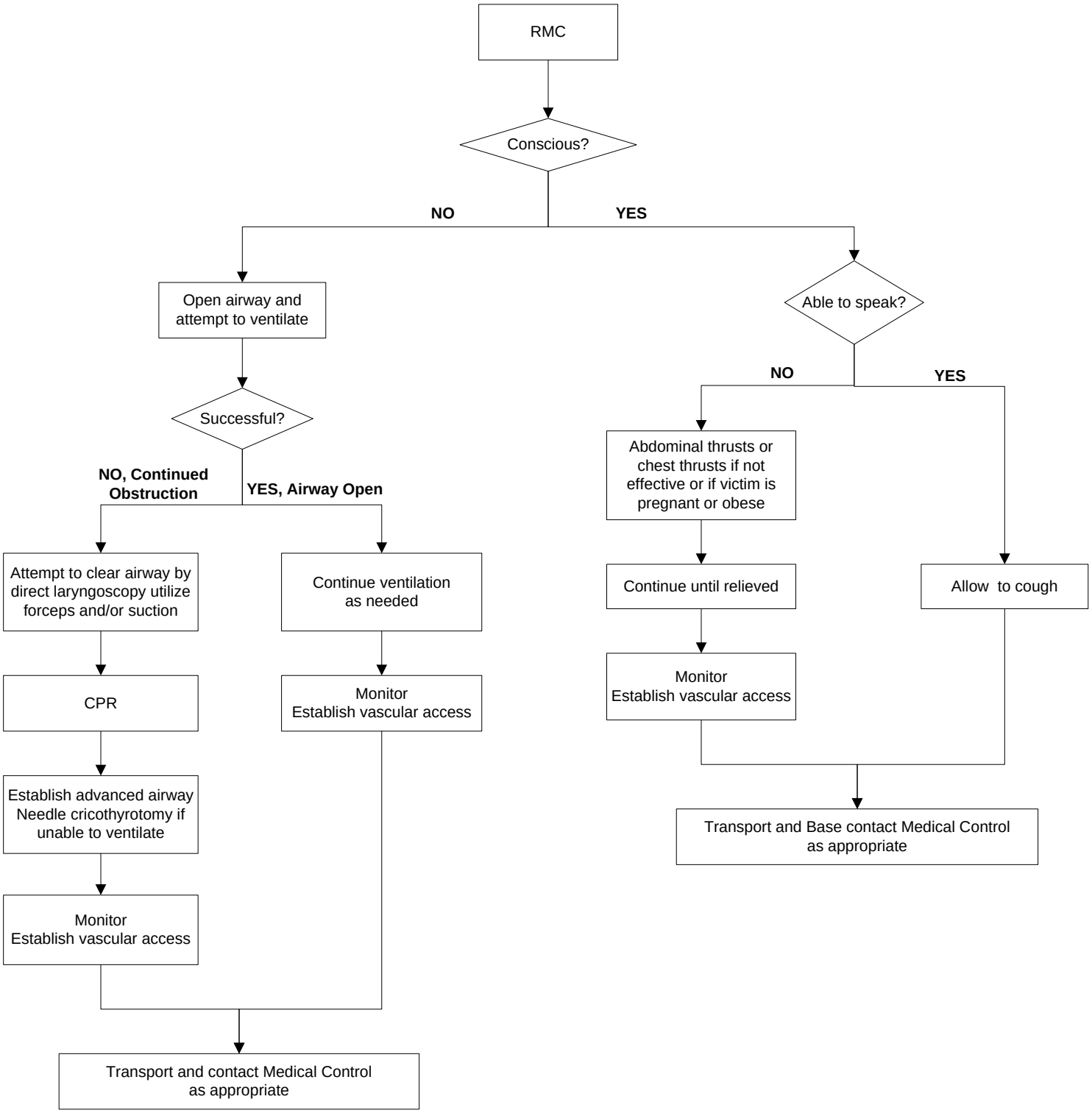
RESPIRATORY DISTRESS - ALS



NOTE: Complete lack of breath sounds may indicate severe bronchoconstriction

Written: 11/08
Reviewed: 3/09; 6/11; 3/12
Revised: 3/09; 6/11; 3/12
MDC Approval: 4/7/09; 6/7/11; 3/6/12
IDPH Approval: 7/9/09; 9/29/11; 5/4/12
Implementation: 1/1/10; 4/1/12; 5/15/12

RESPIRATORY OBSTRUCTION - ALS



Written: 7/86
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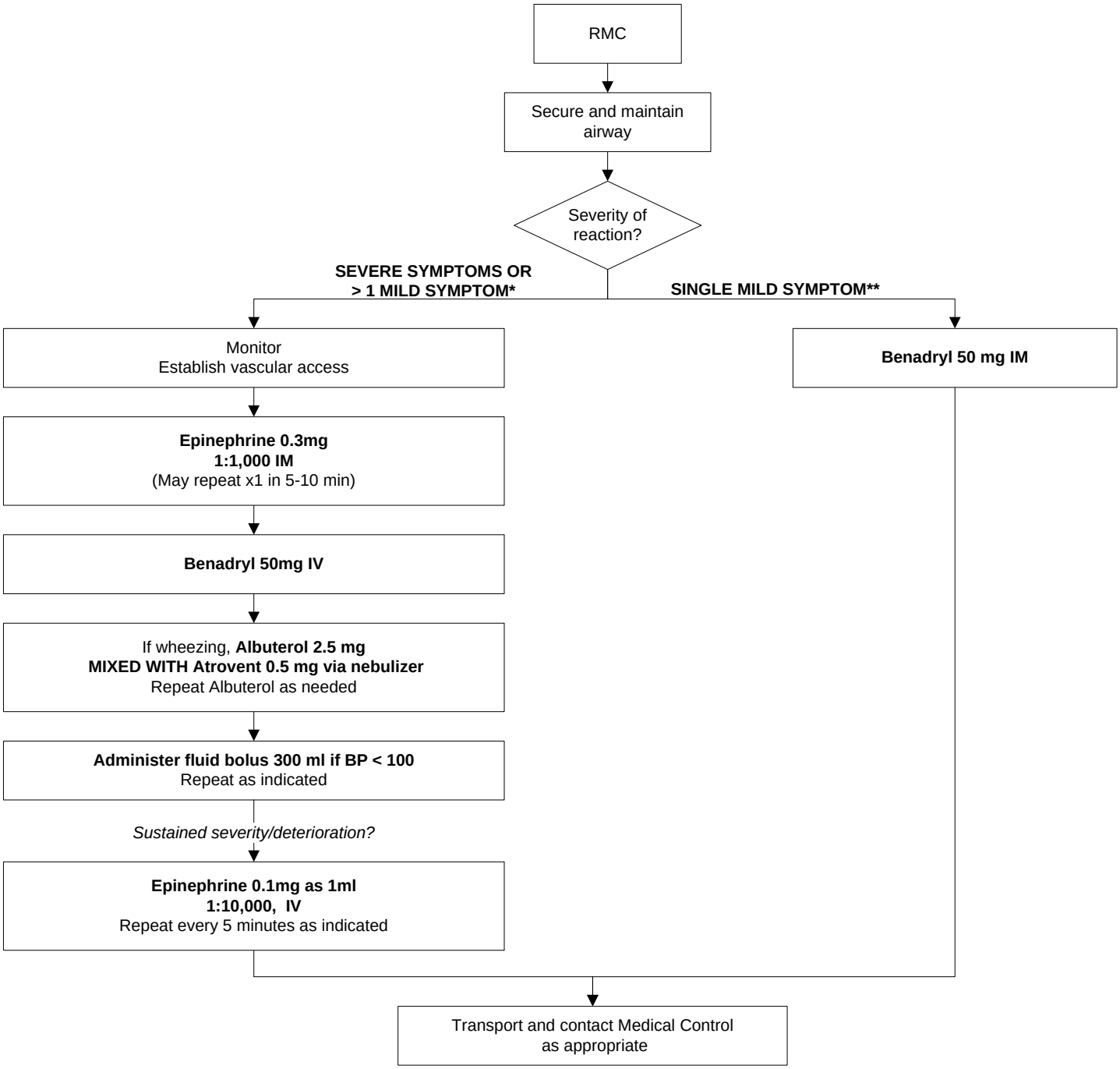
Revised: 1/92; 5/96; 5/99; 3/00; 3/09; 5/11; 10/15
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 6/13/96; 5/99; 3/00; 4/7/09; 6/7/11; 11/17/15
IDPH Approval: 8/86; 11/16/92; 2/20/96; 6/28/96; Summer 1999; 5/00; 7/9/09; 9/29/11; 2/2516
Implementation: 8/86; 3/1/93; 5/1/96; 8/1/99; 10/00; 1/1/10; 4/1/12; 3/1/16

ALLERGIC REACTION and/or ANAPHYLAXIS - ALS



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

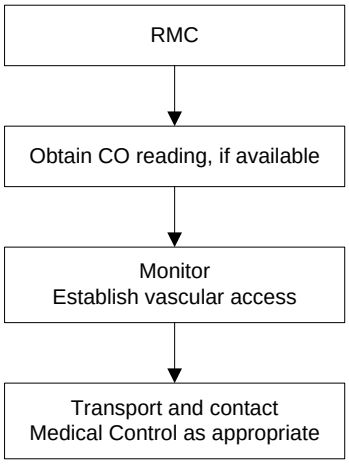
RESPIRATORY – Shortness of breath, wheezing, repetitive coughing
CARDIOVASCULAR – Pale, cyanotic, low blood pressure, dizzy
THROAT – Tightness, hoarse, trouble breathing/swallowing
MOUTH – Swelling of the tongue and/or lips
SKIN- Diffuse hives or redness
GI – Repetitive vomiting, severe diarrhea
NEURO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

Written: 7/86
Reviewed: 1/92; 6/15/95; 10/95; 4/99; 12/01; 6/04; 3/09; 5/11; 11/16
Revised: 11/91; 1/92; 6/15/95; 10/95; 5/99; 1/02; 6/04; 3/09; 5/11; 11/16
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 7/13/95; 1/4/96; 5/99; 1/02; 6/04; 4/7/09; 6/7/11; 12/6/16
IDPH Approval: 8/86; 12/3/91; 11/16/92; 2/20/96; Summer 99; 5/02; 9/04; 7/9/09; 9/29/11; 1/12/17
Implementation: 8/86; 1/1/92; 3/1/93; 5/1/96; 8/1/99; 1/1/03; 1/1/05; 1/1/10; 4/1/12; 4/1/17

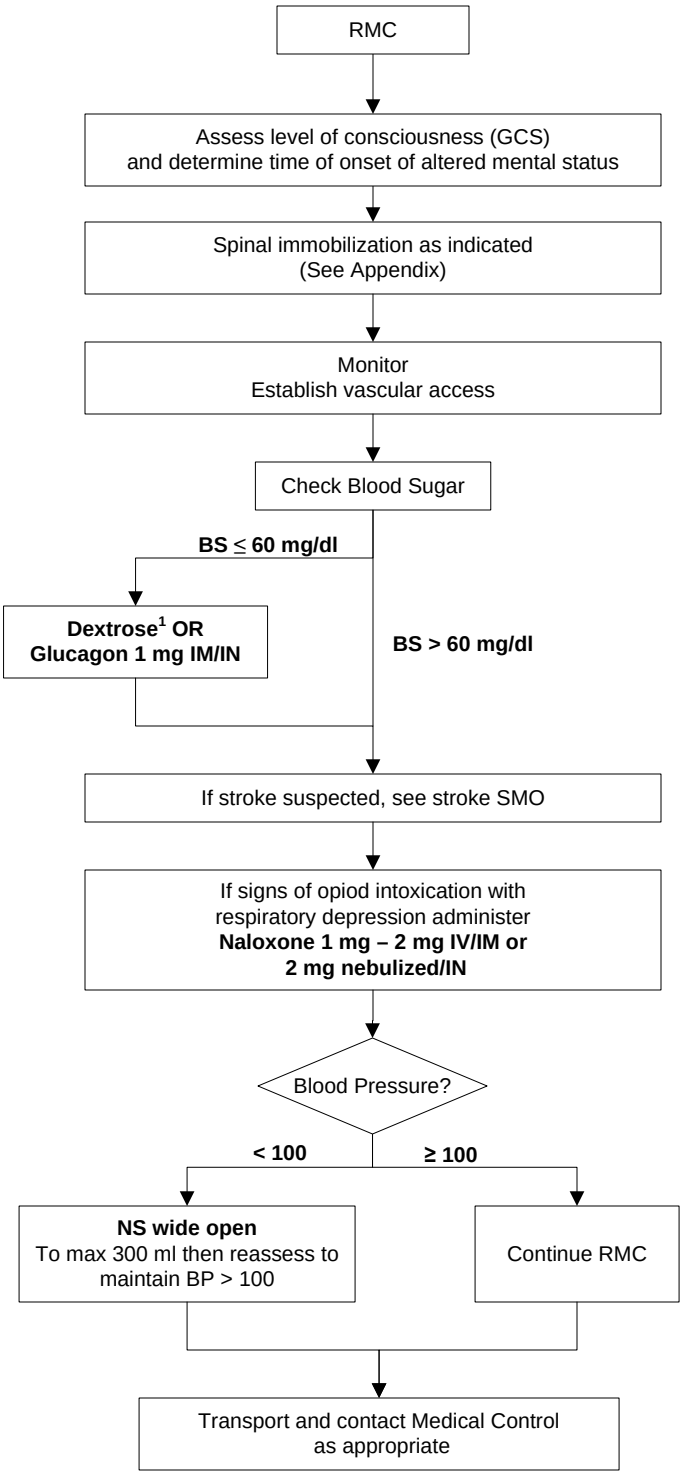
SUSPECTED CARBON MONOXIDE POISONING - ALS



Written: 7/86
Reviewed: 2/92; 10/95; 3/09; 5/11; 10/15
Revised: 2/92; 3/09; 5/11; 10/15
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 4/7/09; 6/7/11; 10/6/15
IDPH Approval: 8/86; 11/16/92; 2/20/96; 7/9/09; 9/29/11; 2/25/16
Implementation: 8/86; 3/1/93; 5/1/96; 1/1/10; 4/1/12; 3/1/16

MEDICAL

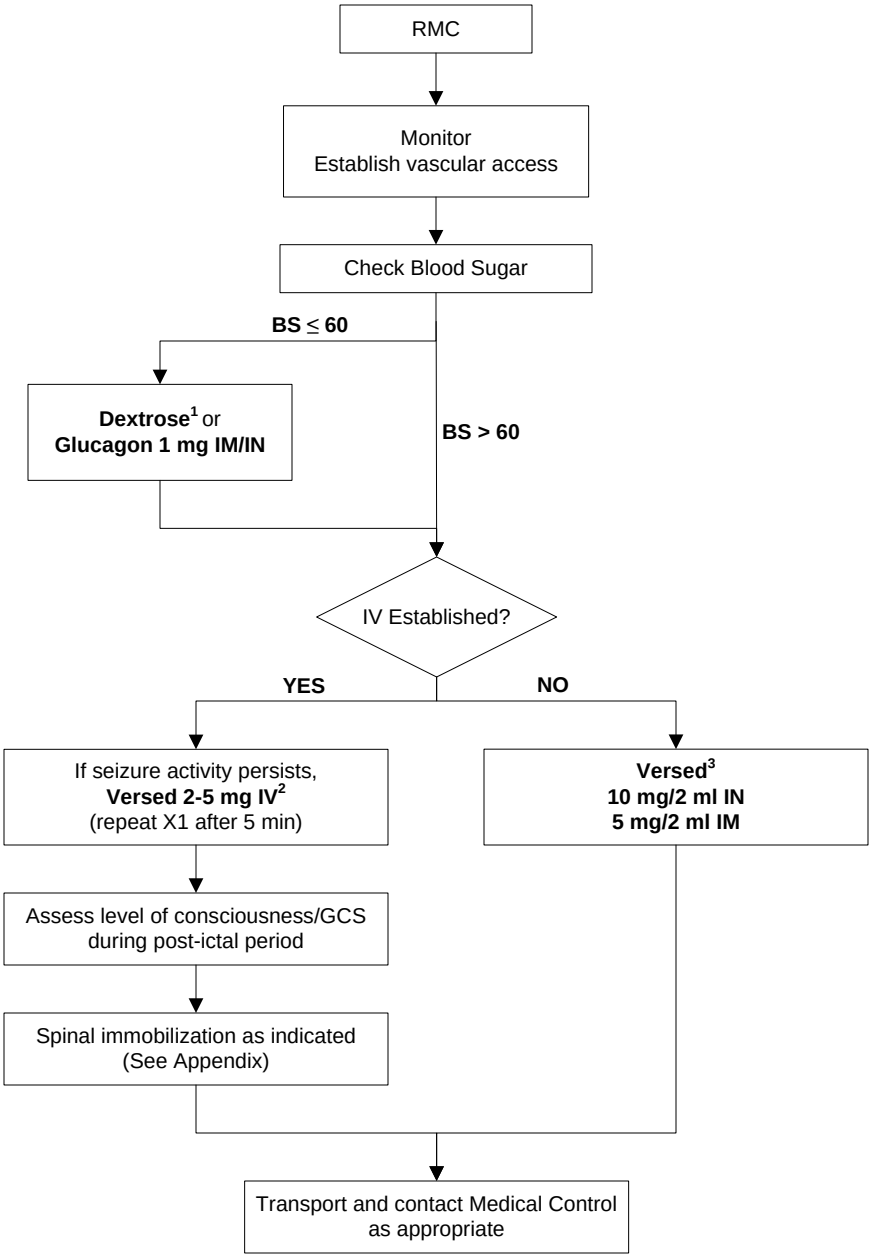
ALTERED MENTAL STATUS - ALS



1 - Dextrose 50% 50ml IV <u>OR</u>
Dextrose 10% as 100ml boluses until mental status improves or BS > 60 to a maximum of 500ml

Written: 7/86
Reviewed: 12/95; 4/99; 5/04; 3/09; 1/10; 7/10; 5/11; 5/14; 11/15; 5/16
Revised: 11/91; 1/92; 12/95; 5/99; 5/04; 3/09; 6/10; 7/10; 5/14; 11/15; 5/16
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 1/4/96; 5/99; 06/04; 4/7/09; 6/1/10; 9/7/10; 5/19/14; 11/17/15; 6/7/16
IDPH Approval: 8/86; 12/3/91; 11/16/92; 2/20/96; Summer 99; 9/04; 7/9/09; 11/24/10; 6/9/14; 2/25/16; 8/11/16
Implementation: 8/86; 1/1/92; 3/1/93; 5/1/96; 8/1/99; 1/1/05; 1/1/10; 3/1/11; 6/1/15; 3/1/16; 10/17/16

SEIZURES - ALS

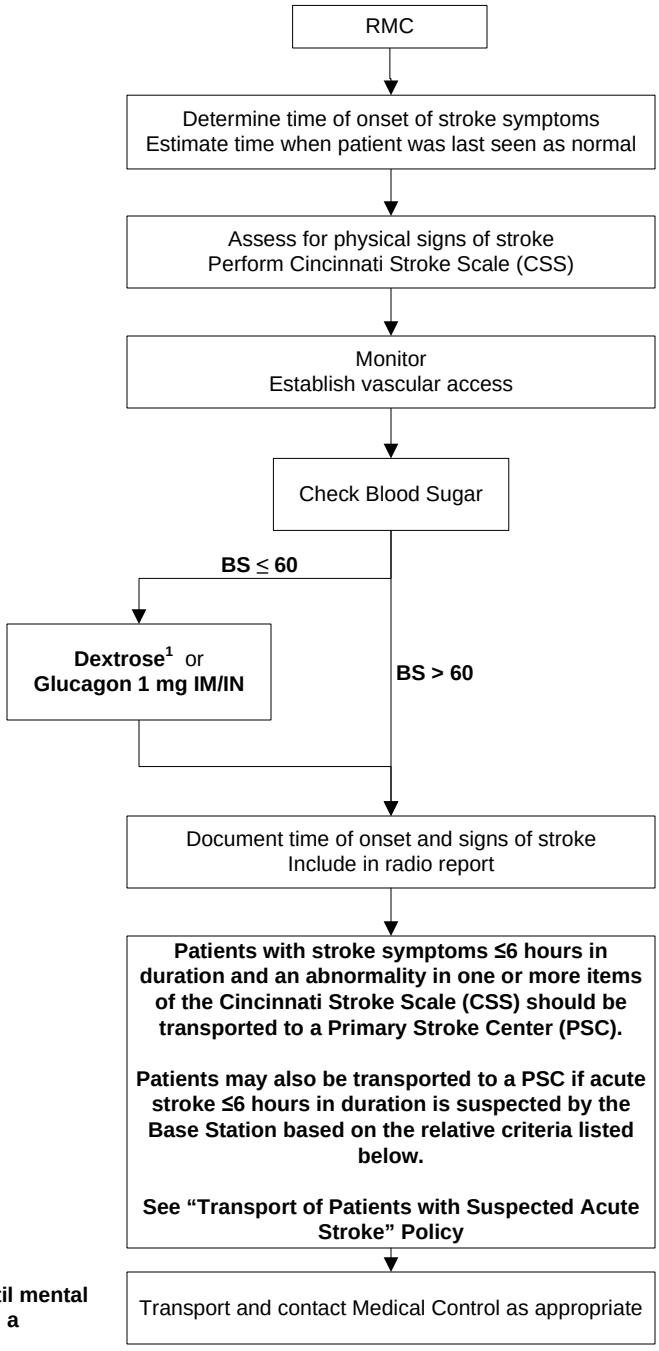


1 - Dextrose 50% 50ml IV <u>OR</u>
Dextrose 10% as 100ml boluses until mental status improves or BS > 60 to a maximum of 500ml

2 – Alternative to Versed: Valium 2-5 mg IV OR Ativan 2 mg IV slow
3 – Alternative to Versed: Ativan 2 mg IM

Written: 7/86
Reviewed: 1/92; 12/95; 4/98; 4/99; 3/09; 6/10; 6/11; 3/12; 5/14; 11/15
Revised: 1/92; 6/16/94; 4/98; 5/99; 3/09; 7/10; 6/11; 3/12; 5/14; 11/15
MDC Approval: 7/3/86; 9/3/92; 6/16/94; 1/4/96; 4/98; 5/99; 4/7/09; 9/7/10; 6/7/11; 5/30/12; 5/19/14; 11/17/15
IDPH Approval: 8/86; 11/16/92; 6/28/94; 2/20/96; 1/99; Summer 99; 7/9/09; 11/24/10; 9/29/11; 1/31/13; 6/9/14; 2/25/16
Implementation: 8/86; 3/1/93; 6/28/94; 5/1/96; 8/1/99; 1/1/10; 6/1/11; 4/1/12; 2/1/13; 6/1/15; 3/1/16

SUSPECTED ACUTE STROKE - ALS



1 - Dextrose 50% 50ml IV <u>OR</u>
Dextrose 10% as 100ml boluses until mental status improves or BS > 60 to a maximum of 500ml

<u>Relative Criteria</u>

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

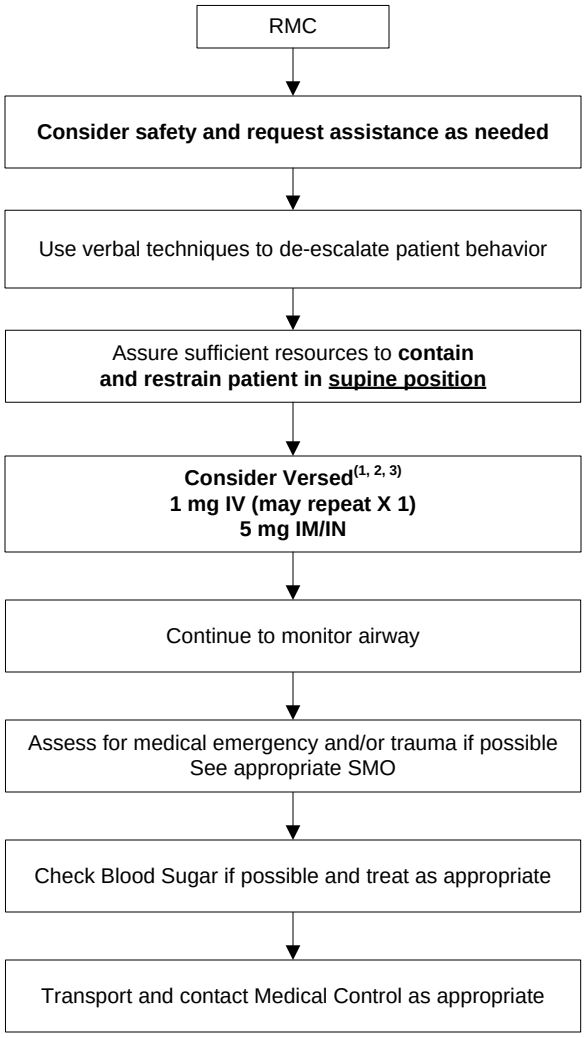
<u>Cincinnati Stroke Scale (CSS)</u> <u>(for responsive patient):</u>

1. **<u>Facial droop</u>** – have patient show teeth or smile
   Abnormal = one side does not move as the other
2. **<u>Arm Drift</u>** – have patient close eyes and hold arms out for 10 seconds with palms up
   Abnormal = one arm does not move or drifts down
3. **<u>Abnormal speech</u>** – 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

Written: 3/02
Reviewed: 3/09; 1/10; 6/10; 11/15
Revised: 3/09; 6/10; 7/10; 11/15
MDC Approval: 4/02; 4/7/09; 6/1/10; 9/7/10; 11/17/15
IDPH Approval: 5/02; 7/9/09; 11/24/10; 2/25/16
Implementation: 1/1/03; 1/1/10; 3/1/11; 3/1/16

BEHAVIORAL EMERGENCY - ALS

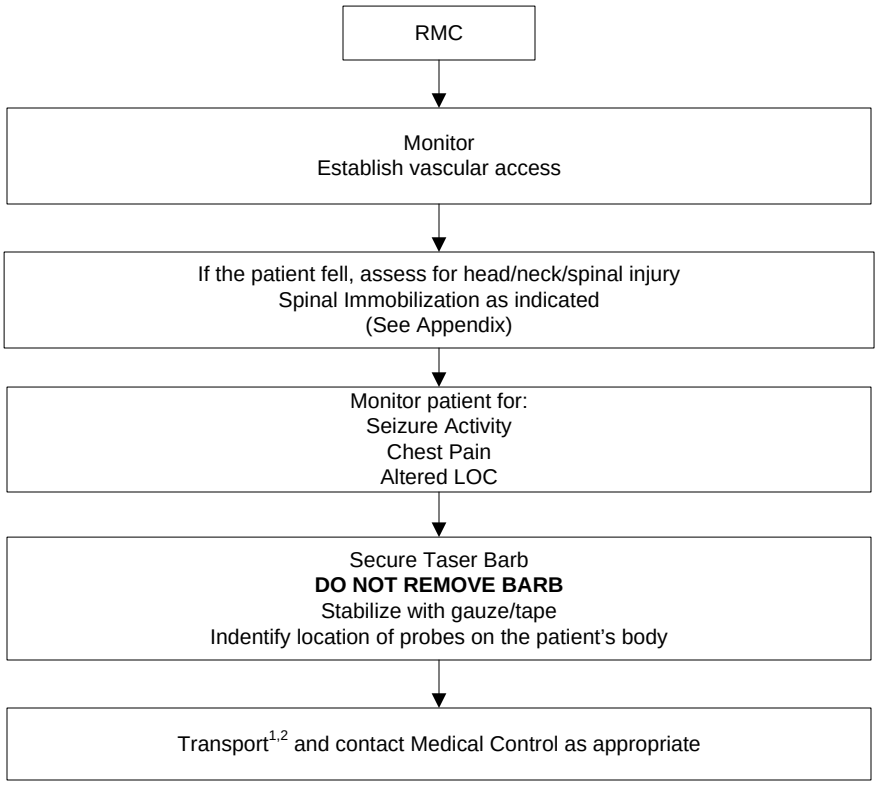


1 – Despite the use of de-escalation techniques and physical restraints in which the patient remains extremely combative and physically dangerous to themselves and others and patient is < 60 years of age.
2 – If patient is > 60 years of age, contact Base Station for approval.
3 – Alternative to Versed: Ativan 2 mg IM

Written: 11/08;
Reviewed: 3/09; 3/12; 5/14; 11/15
Revised: 3/09; 11/10; 3/12; 5/14; 11/15
MDC Approval: 4/7/09; 11/2/10; 5/30/12; 5/19/14
IDPH Approval: 7/9/09; 1/27/11; 1/31/13; 6/9/14
Implementation:1/1/10; 6/1/11; 2/1/13; 6/1/15

TASER / ELECTRICAL WEAPON DEVICE EXPOSURE – ALS

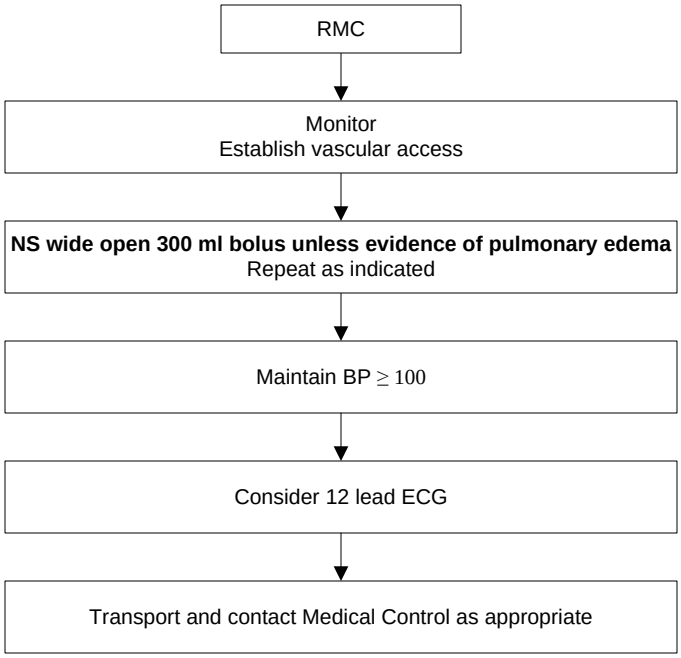
Note: This protocol is to be used for patients who have been subdued by the use of any conductive electrical weapon device (e.g. TASER)



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.

Written: 2/09
Reviewed: 3/09; 5/11; 10/15
Revised: 3/09; 10/15
MDC Approval: 4/7/09; 10/6/15
IDPH Approval: 7/9/09; 2/25/16
Implementation: 1/1/10; 3/1/16

NON-TRAUMATIC SHOCK - ALS

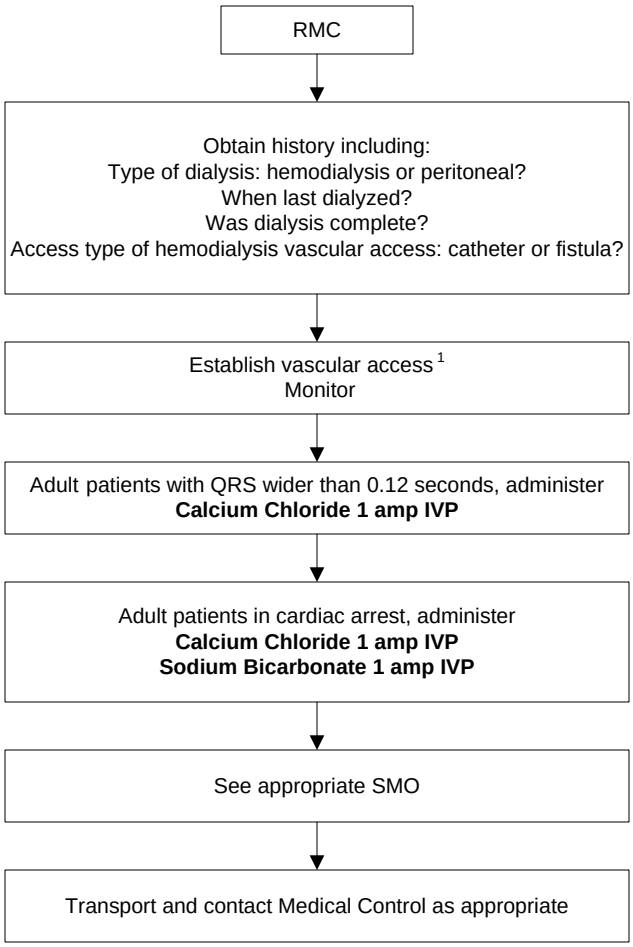


1 – At Base Station discretion

Written: 7/86
Reviewed: 1/92; 12/95; 6/97; 12/97; 5/04; 3/09; 5/11; 3/12; 5/14; 10/15
Revised: 1/92; 12/95; 6/97; 12/97; 5/04; 3/09; 3/12; 5/14; 10/15
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 7/97; 12/97; 6/04; 4/7/09; 3/6/12; 5/19/14; 10/6/15
IDPH Approval: 8/86; 11/16/92; 2/20/96; 1/99; 9/04; 7/9/09; 5/4/12; 6/9/14; 2/25/16
Implementation: 8/86; 3/1/93; 5/1/96; 8/1/99; 1/1/05; 1/1/10; 5/15/12; 6/1/15; 3/1/16

RENAL PATIENTS - ALS

Patients with Chronic Renal Failure and Receiving Hemodialysis or Peritoneal Dialysis

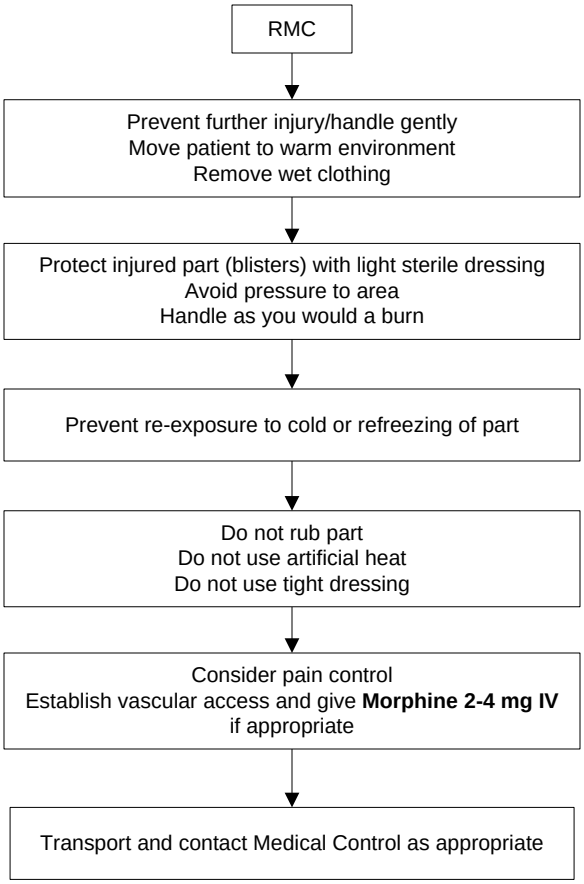


1 - Vascular access should not be attempted in same extremity having a functioning fistula. Fluids should be administered cautiously. If vascular access is needed emergently and a peripheral IV cannot be obtained, a functioning dialysis catheter can be used when in place by attaching IV tubing to the port

Written: 1/09
Reviewed: 3/09; 5/11; 11/15
Revised: 3/09; 11/15
MDC Approval: 4/7/09; 11/17/15
IDPH Approval: 7/9/09; 2/25/16
Implementation: 1/1/10; 3/1/16

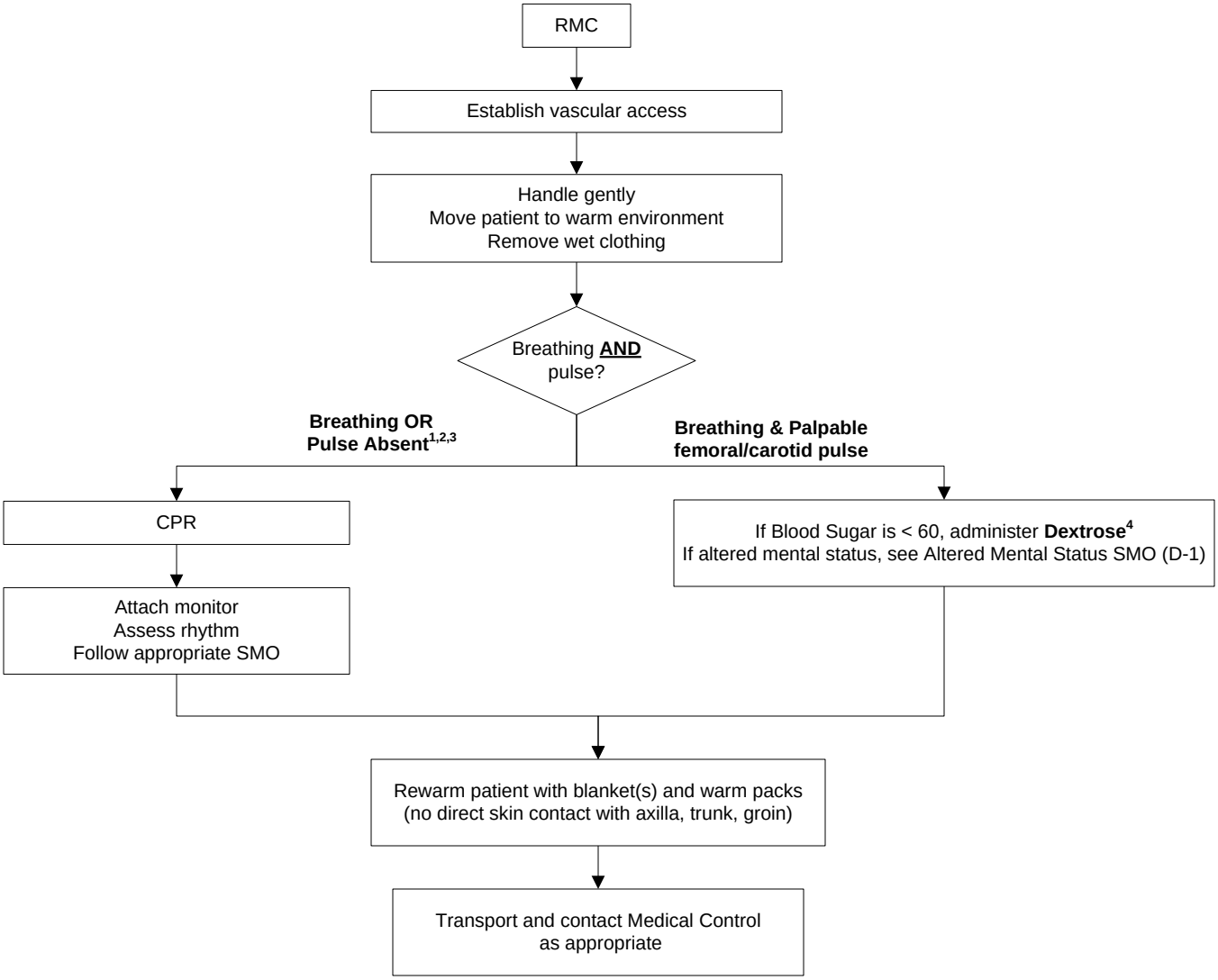
ENVIRONMENTAL

FROSTBITE - ALS



Written: 7/86
Reviewed: 8/92; 10/95; 3/00; 3/09; 5/11
Revised: 8/92; 10/95; 3/00; 3/09
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 3/00; 4/7/09
IDPH Approval: 8/86; 11/16/92; 2/20/96; 5/00; 7/9/09
Implementation: 8/86; 3/1/93; 5/1/96; 10/00; 1/1/10

HYPOTHERMIA - ALS



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.

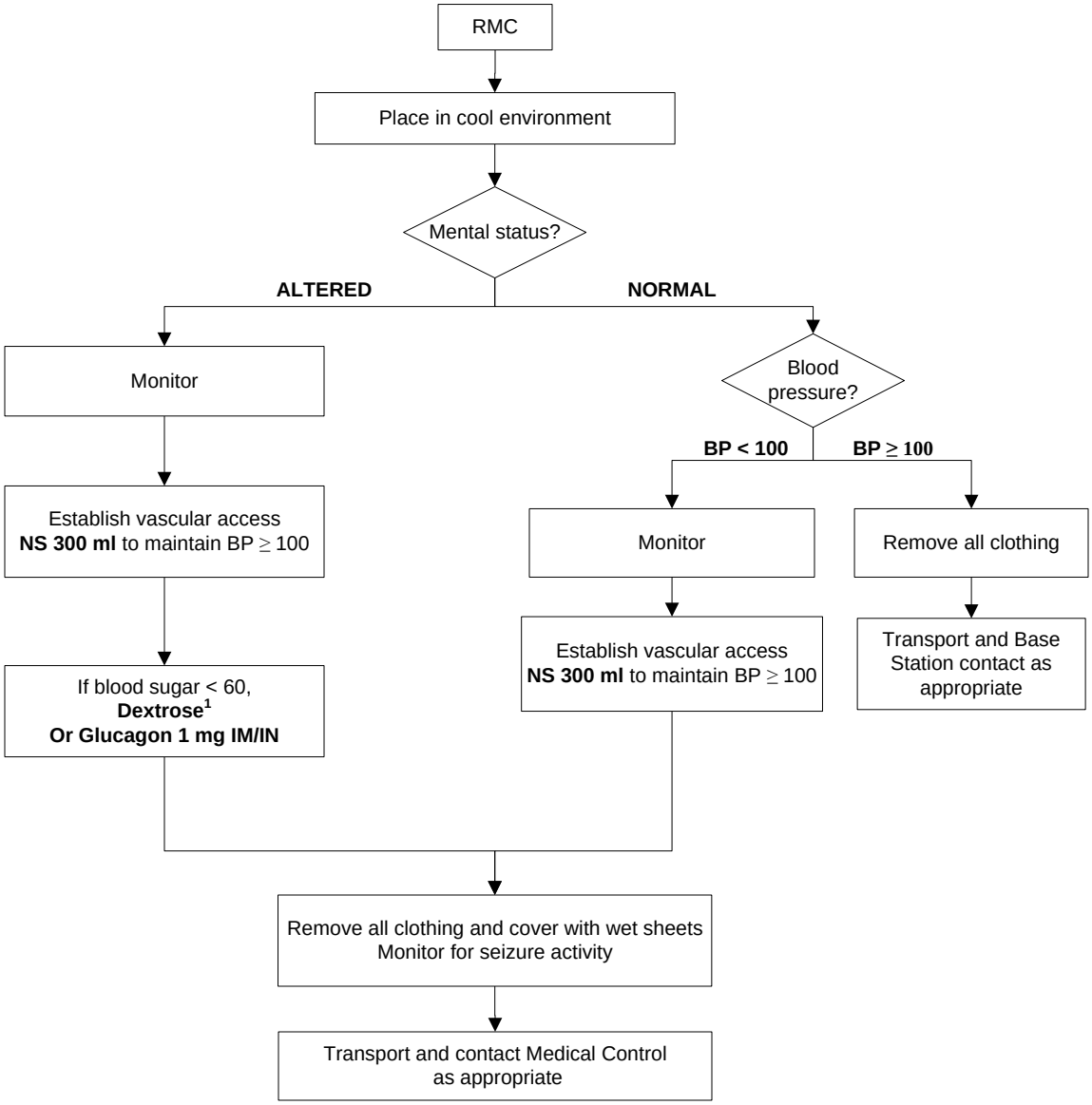
2 – An individual in a frozen state is not considered salvageable.

3 – The suspected hypothermic patient shall never be declared dead in the field.

4 - Dextrose 50% 50ml IV OR
Dextrose 10% as 100ml boluses until mental status improves or BS > 60 to a maximum of 500ml

Written: 7/86
Reviewed: 8/92; 10/95; 3/00; 12/01; 3/09; 6/10; 5/11; 11/15; 5/16
Revised: 8/92; 10/95; 3/00; 1/02; 3/09; 7/10; 5/11; 11/15; 5/16
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 3/00; 1/02; 4/7/09; 9/7/10; 6/7/11; 11/17/15; 6/7/16
IDPH Approval: 8/86; 11/16/92; 2/20/96; 5/00; 5/02; 11/24/10; 9/29/11; 2/25/16; 8/11/16
Implementation: 8/86; 3/1/93; 5/1/96; 10/00; 1/1/03; 3/1/11; 4/1/12; 3/1/16; 10/17/16

HEAT ILLNESS - ALS



1 - Dextrose 50% 50ml IV <u>OR</u>
Dextrose 10% as 100ml boluses until mental status improves or BS > 60 to a maximum of 500ml

Written: 7/86
Reviewed: 1/92; 10/95; 3/00; 3/09; 6/10; 5/11; 11/15
Revised: 1/92; 10/95; 3/00; 3/09; 7/10; 11/15
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 3/00; 4/7/09; 9/7/10; 11/17/15
IDPH Approval: 8/86; 11/16/92; 2/20/96; 5/00; 11/24/10; 2/25/16
Implementation: 8/86; 3/1/93; 5/1/96; 10/00; 3/1/11; 3/1/16

BURNS - ALS

RMC

Assess singed facial hair, hoarseness, wheezing, cough or stridor

Airway compromise?

YES

Consider intubation early if signs of distress

Monitor
Establish vascular access

Consider CPAP for moderate or severe respiratory distress if available

Albuterol 2.5 mg mixed with Atrovent 0.5 mg via nebulizer if indicated

NO

Remove clothing
Clothing should be cut, not pulled off
Smoldering clothing should be extinguished with water
Remove all accessories and jewelry
Do not attempt to cool patient

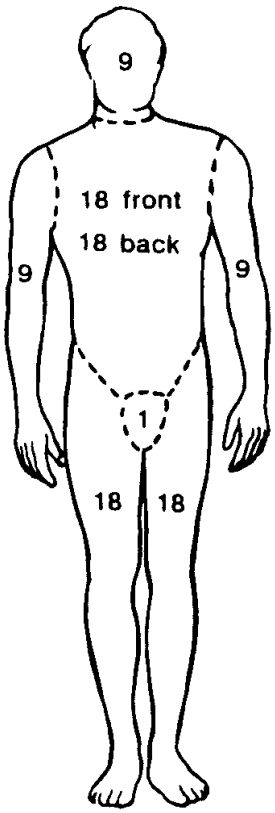
Estimate BSA

Cover with dry dressings or sheet

Establish vascular access
Fluid as per ABA Guidelines[1]

Consider **Morphine Sulfate 2 to 5 mg IVP**
(May repeat up to 10 mg and notify Base Station)

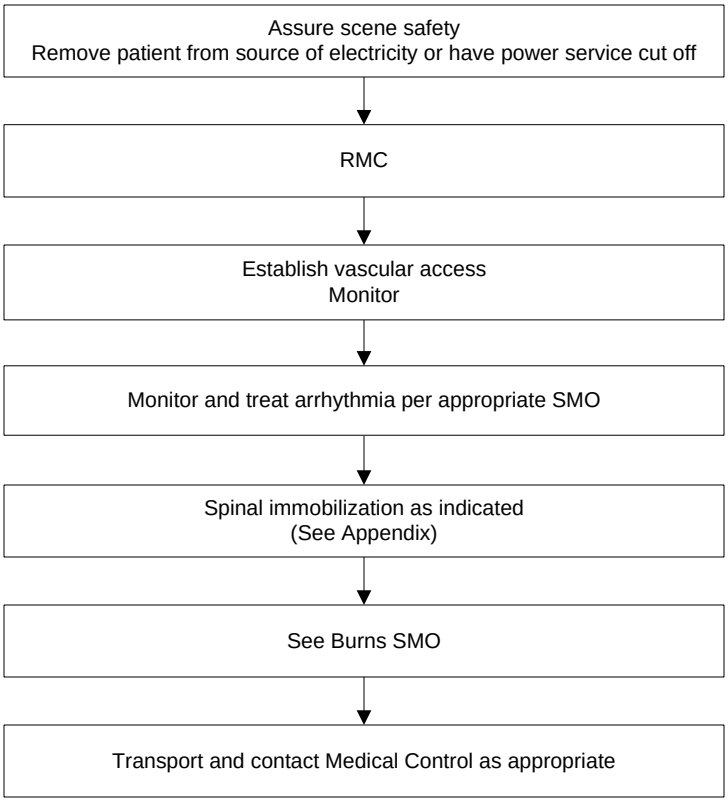
Transport and contact Medical Control as appropriate



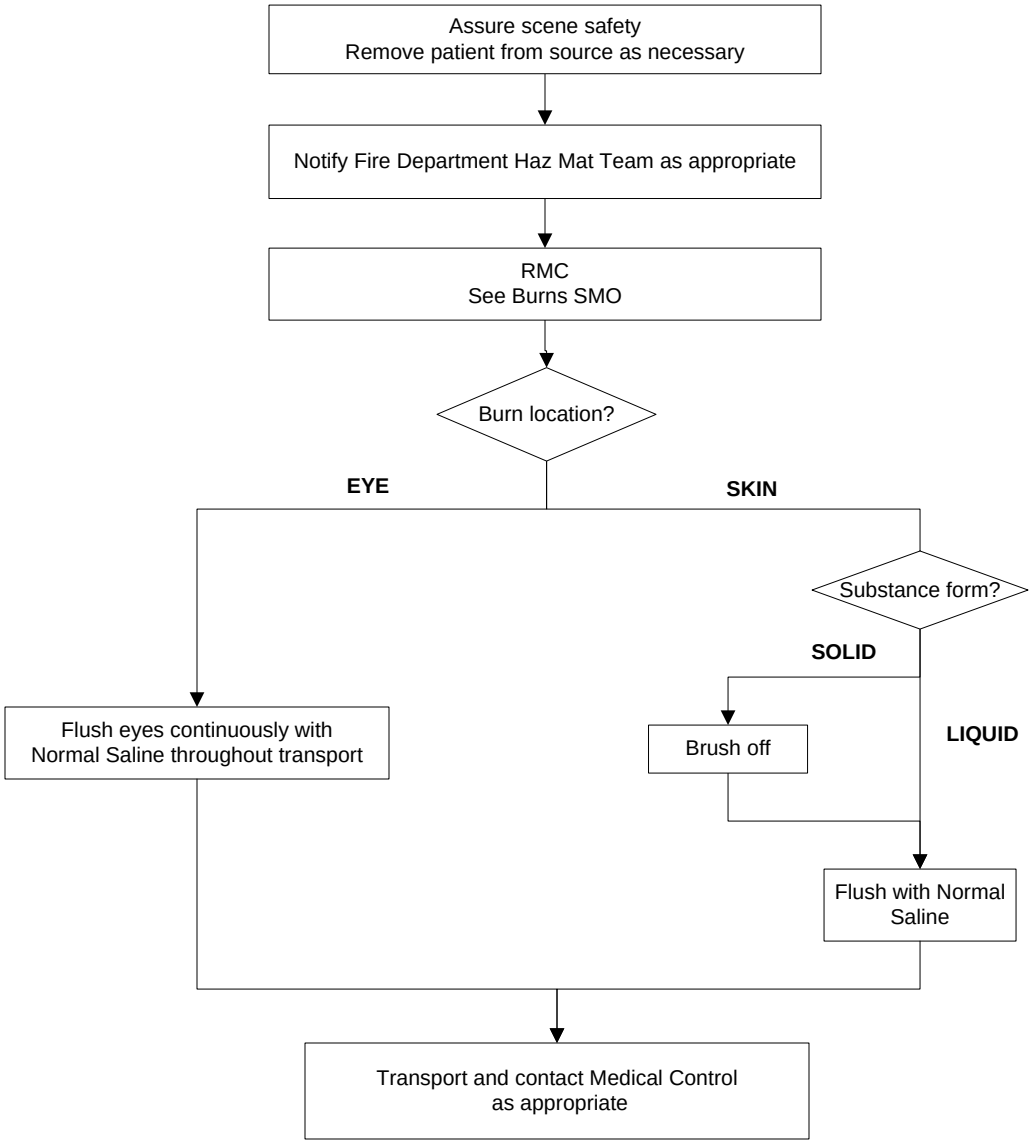
[1]American Burn Association (ABA) Pre-hospital Fluid Management Guidelines

≤ 5 years	125 ml NS / hour
6-13 years	250 ml NS / hour
≥ 14 years	500 ml NS / hour

ELECTRICAL BURNS - ALS



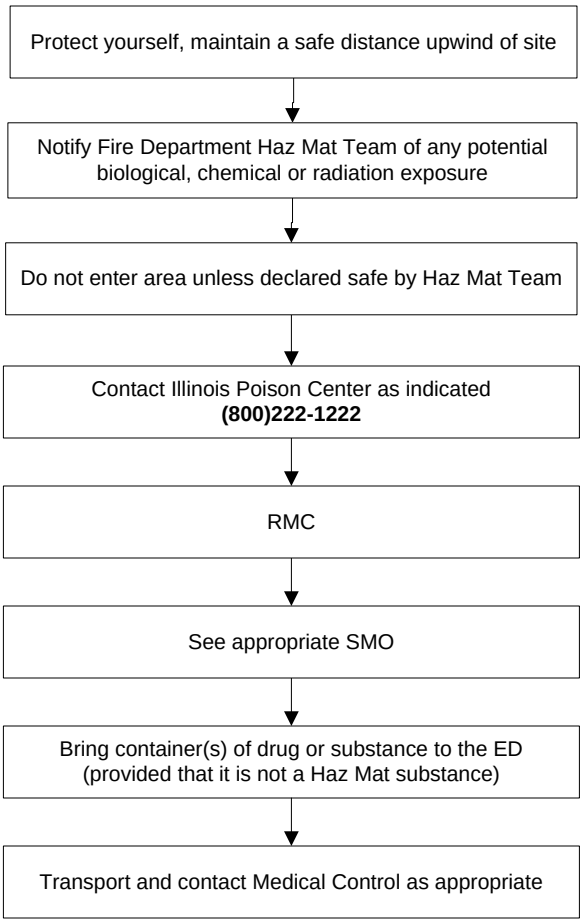
CHEMICAL BURNS - ALS



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

Written: 7/86
Reviewed: 1/92; 10/95; 4/99; 3/00; 5/04; 3/09; 5/11; 7/14
Revised: 11/91; 1/92; 10/93; 10/95; 5/99; 3/00; 5/04; 3/09; 5/11; 7/14
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 11/4/93; 1/4/96; 5/99; 3/00; 6/04; 4/7/09; 6/7/11; 8/5/14
IDPH Approval: 8/86; 12/3/91; 11/16/92; 11/29/93; 2/20/96; Summer 99; 5/00; 9/04; 7/9/09; 9/29/11; 5/20/15; 2/25/16
Implementation: 8/86; 1/1/92; 3/1/93; 4/1/94; 5/1/96; 8/1/99; 10/00; 1/1/04; 1/1/10; 4/1/12; 6/1/15; 3/1/16

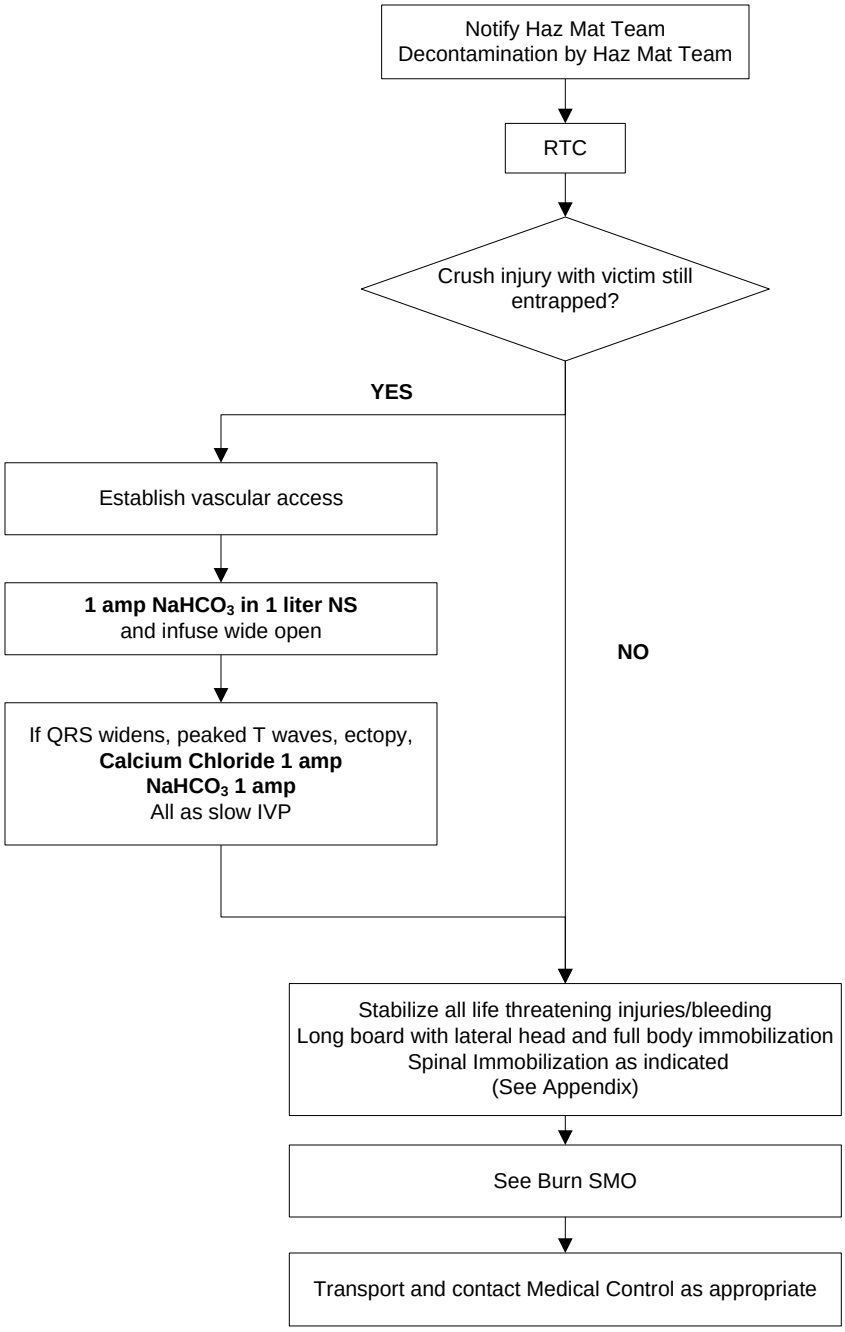
HAZ MAT / TOXIC EXPOSURE - ALS



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

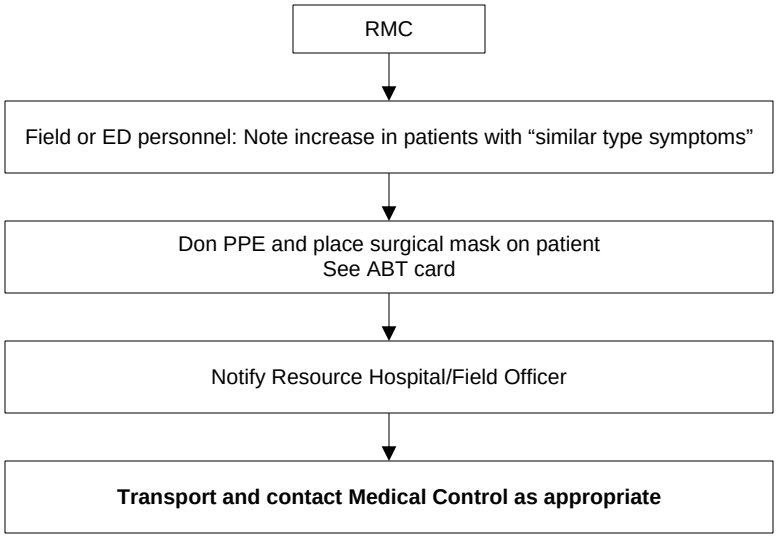
Written: 7/95
Reviewed: 7/20/95; 10/95; 6/97; 3/09; 5/11
Revised: 10/95; 6/97; 3/09; 5/11
MDC Approval: 8/3/95; 7/97; 4/7/09; 6/7/11
IDPH Approval: 2/20/96; 1/99; 7/9/09; 9/29/11
Implementation: 5/1/96; 8/1/99; 1/1/10; 4/1/12

HAZARDOUS EVENTS / NUCLEAR/BLAST INJURIES - ALS



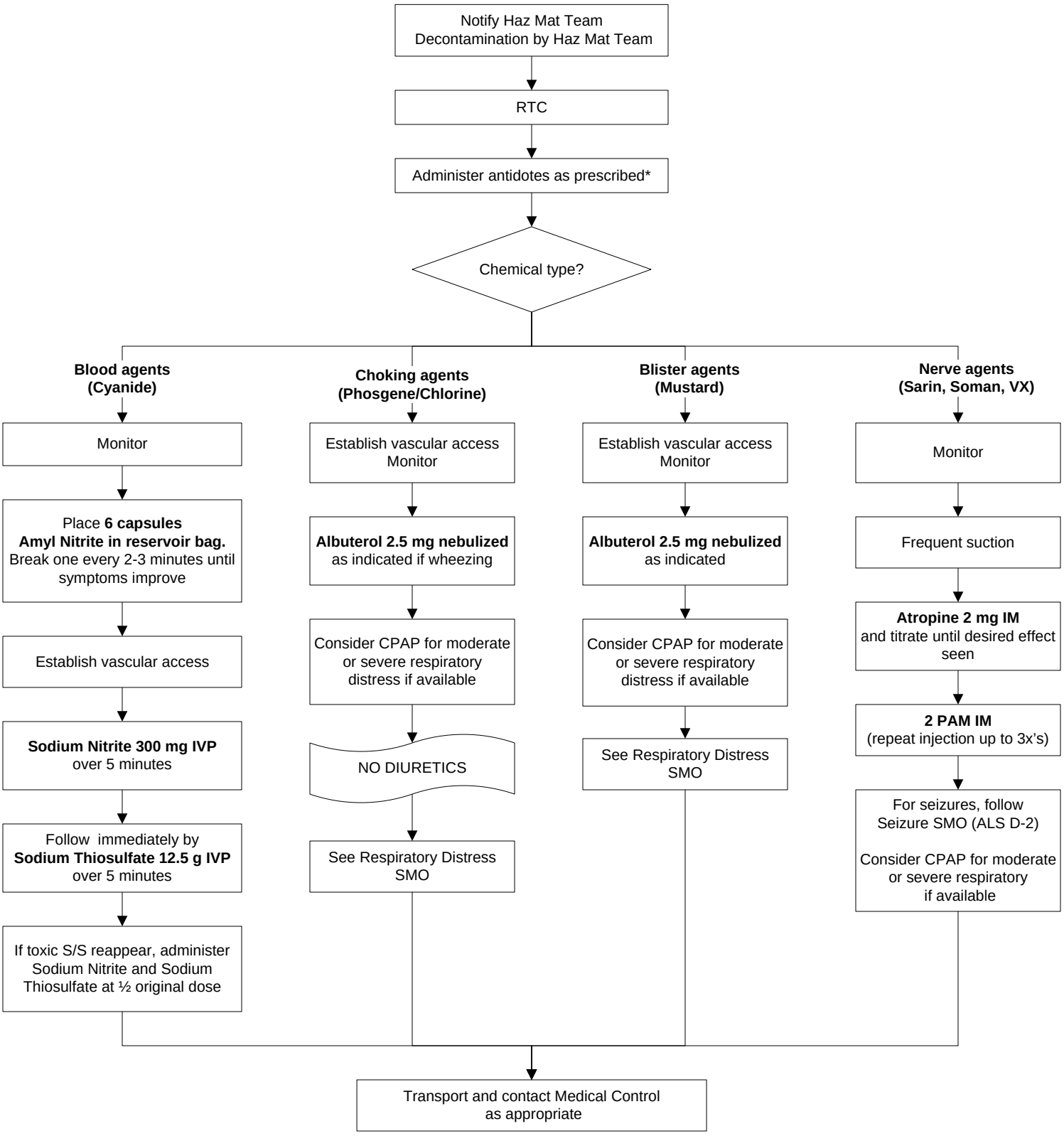
*** All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.**

HAZARDOUS EVENTS / SUSPECTED BIOLOGICAL - ALS



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

HAZARDOUS EVENTS / CHEMICAL - ALS



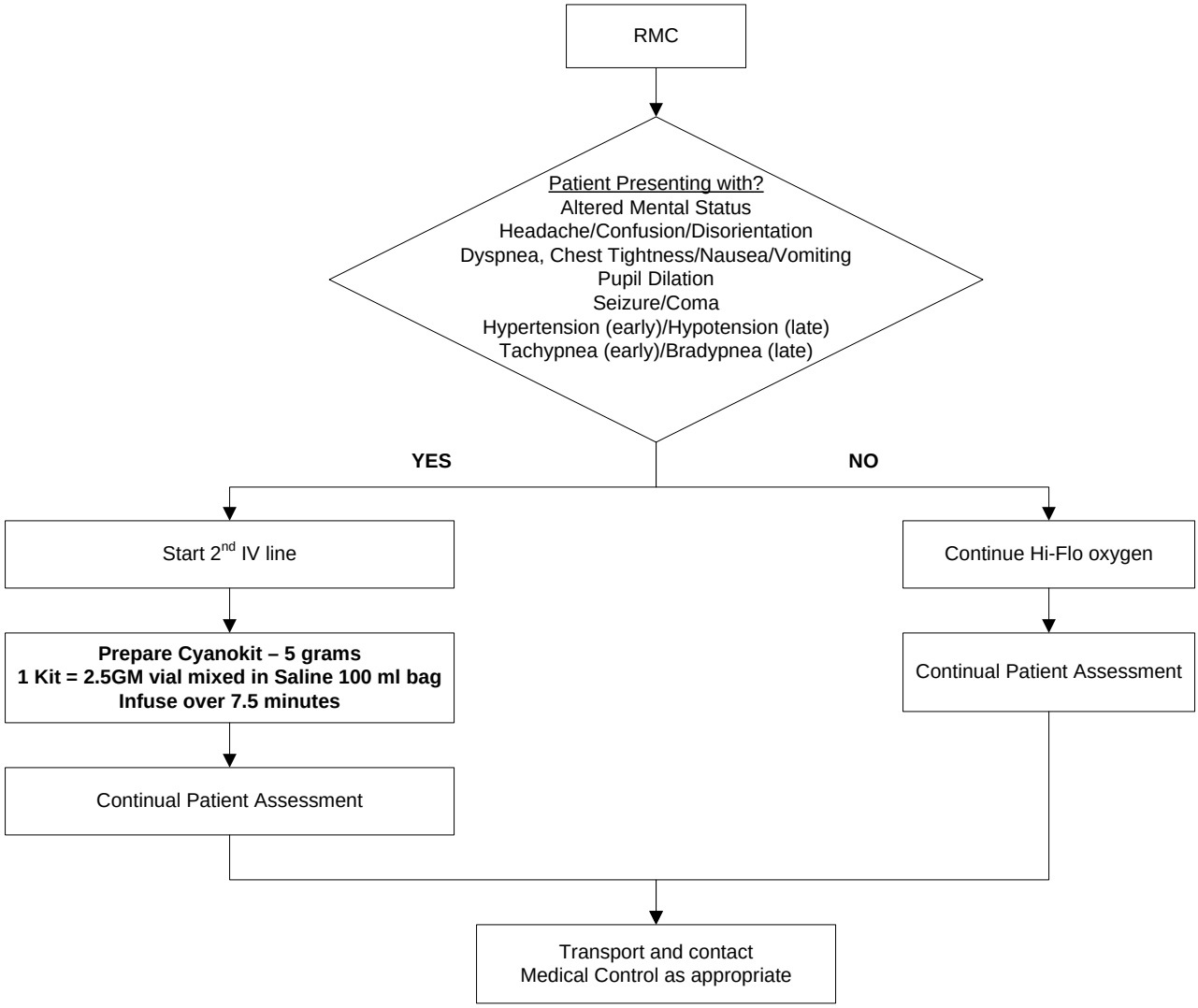
*** Drugs to be supplied through Field Officer**

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

Written: 1/00
Reviewed: 3/00; 3/09; 5/11; 5/14
Revised: 3/00; 3/09; 5/11; 5/14
MDC Approval: 2/00; 3/00; 4/7/09; 6/7/11; 5/19/14
IDPH Approval: 3/00; 5/00; 7/9/09; 9/29/11; 6/9/14
Implementation: 10/00; 1/1/10; 4/1/12; 6/1/15

HAZARDOUS EVENTS / CYANOKIT ANTIDOTE ADMINISTRATION - ALS

Known/Suspected Cyanide Poisoning
(Patient exposure to fire/smoke in enclosed area OR suspected intentional release)



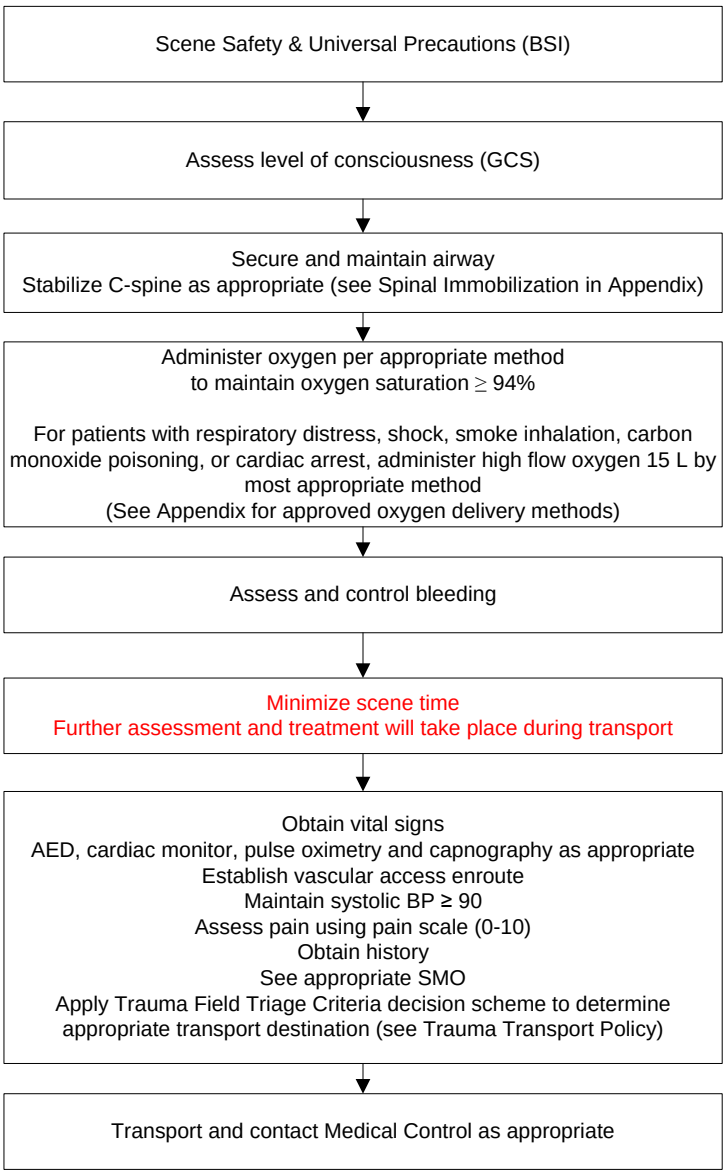
NOTES: - The Cyanokit will be stored on Mass Casualty Vehicles and will be utilized, as available, for mass casualty events when Cyanide poisoning is suspected
- If prolonged scene time, contact Base Station for possible administration of a 2nd Cyanokit – 5 grams
- In the event of an allergic/adverse reaction (anaphylaxis, chest tightness, dyspnea, edema, rash) contact Base Station

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

Written: 3/09
Reviewed: 6/09; 5/11; 5/14
Revised: 6/09; 5/11; 5/14
MDC Approval: 4/09; 6/7/11; 5/19/14
IDPH Approval: 7/9/09; 9/29/11; 6/9/14
Implementation: 1/1/10; 4/1/12; 6/1/15

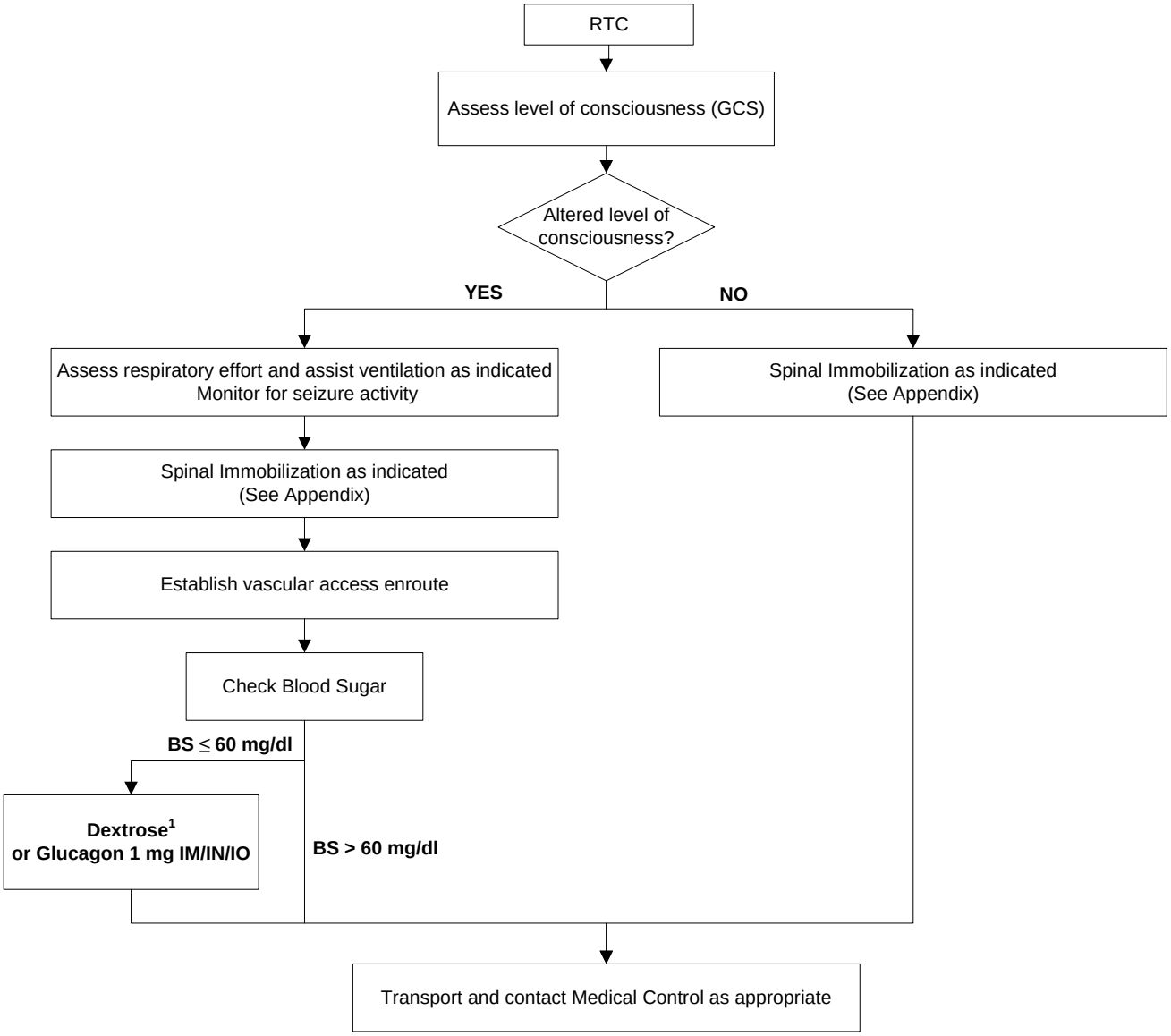
TRAUMA

ROUTINE TRAUMA CARE (RTC) - ALS



Written: 7/86
Reviewed: 3/92; 11/95; 6/97; 3/09; 6/11; 10/15; 8/16
Revised: 7/91; 12/91; 11/95; 6/97; 3/09; 6/11; 10/15; 8/16
MDC Approval: 7/86; 9/91; 10/3/91; 9/3/92; 1/4/96; 7/97; 6/7/11; 10/6/15
IDPH Approval: 9/23/91; 12/3/91; 11/16/92; 2/20/96; 1/99; 7/9/09; 9/29/11; 2/25/16
Implementation: 1/1/92; 3/1/93; 5/1/96; 8/1/99; 1/1/10; 4/1/12; 3/1/16

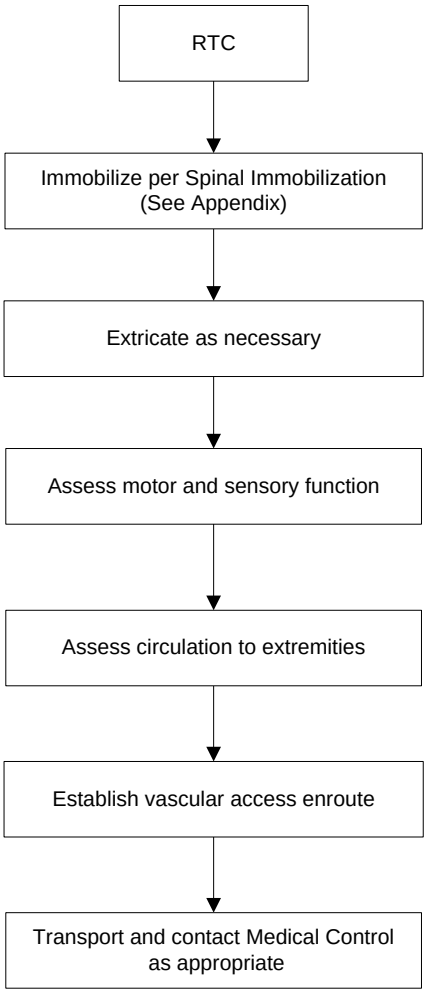
HEAD TRAUMA - ALS



1 - Dextrose 50% 50ml IV <u>OR</u>
Dextrose 10% as 100ml boluses until mental status improves or BS > 60 to a maximum of 500ml

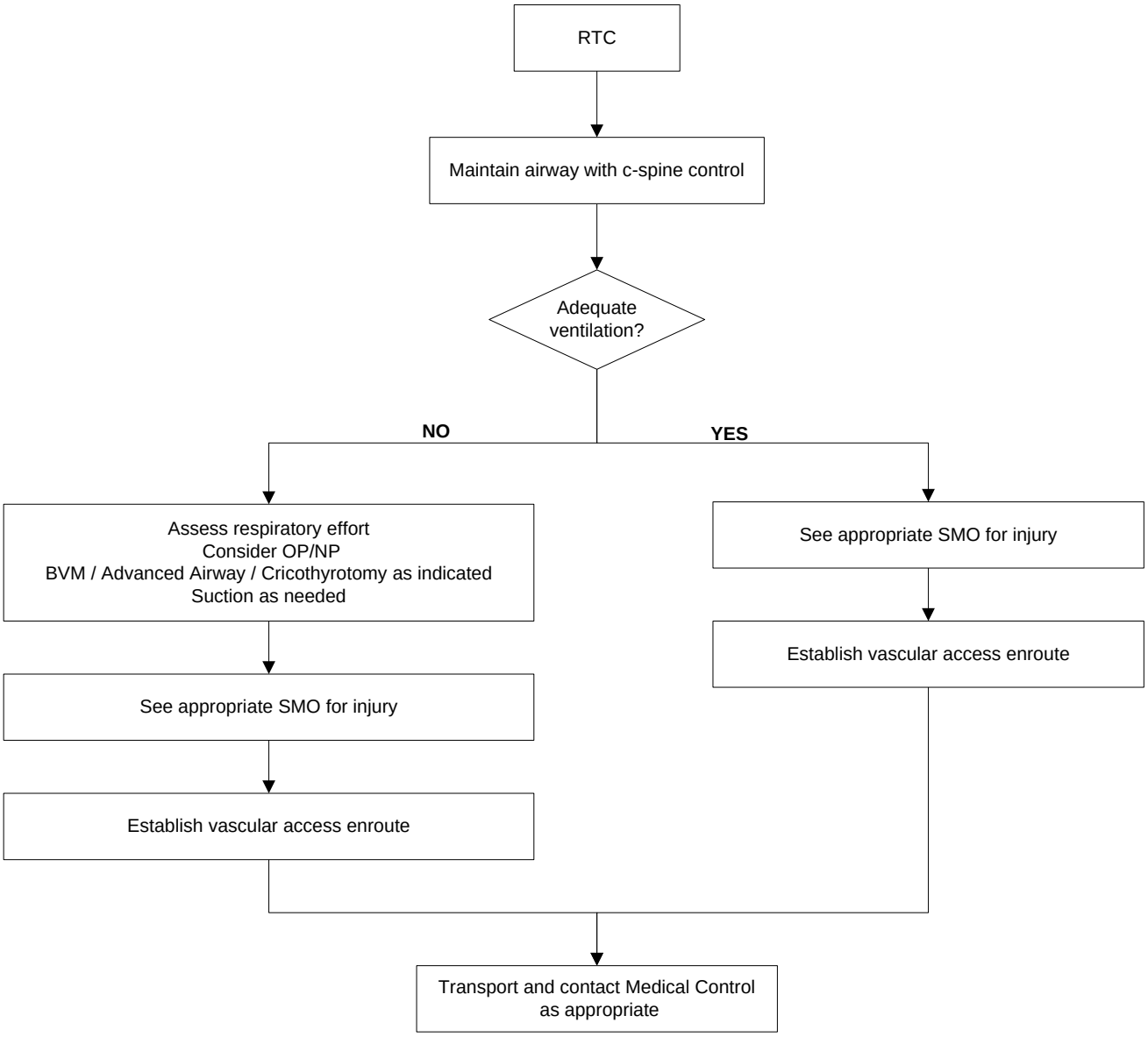
Written: 7/86
Reviewed: 3/92; 11/95; 3/09; 6/10; 5/11; 11/15; 5/16
Revised: 7/91; 12/91; 11/95; 3/09; 7/10; 5/11; 11/15; 5/16
MDC Approval: 9/91; 10/3/91; 9/3/92; 1/4/96; 4/7/09; 9/7/10; 6/7/11; 11/17/15; 6/7/16
IDPH Approval: 9/23/91; 12/3/91; 11/16/92; 2/20/96; 7/9/09; 11/24/10; 9/29/11; 2/25/16; 8/11/16
Implementation: 1/1/92; 3/1/93; 5/1/96; 1/1/10; 3/1/11; 4/1/12; 3/1/16; 10/17/16

SPINAL TRAUMA - ALS



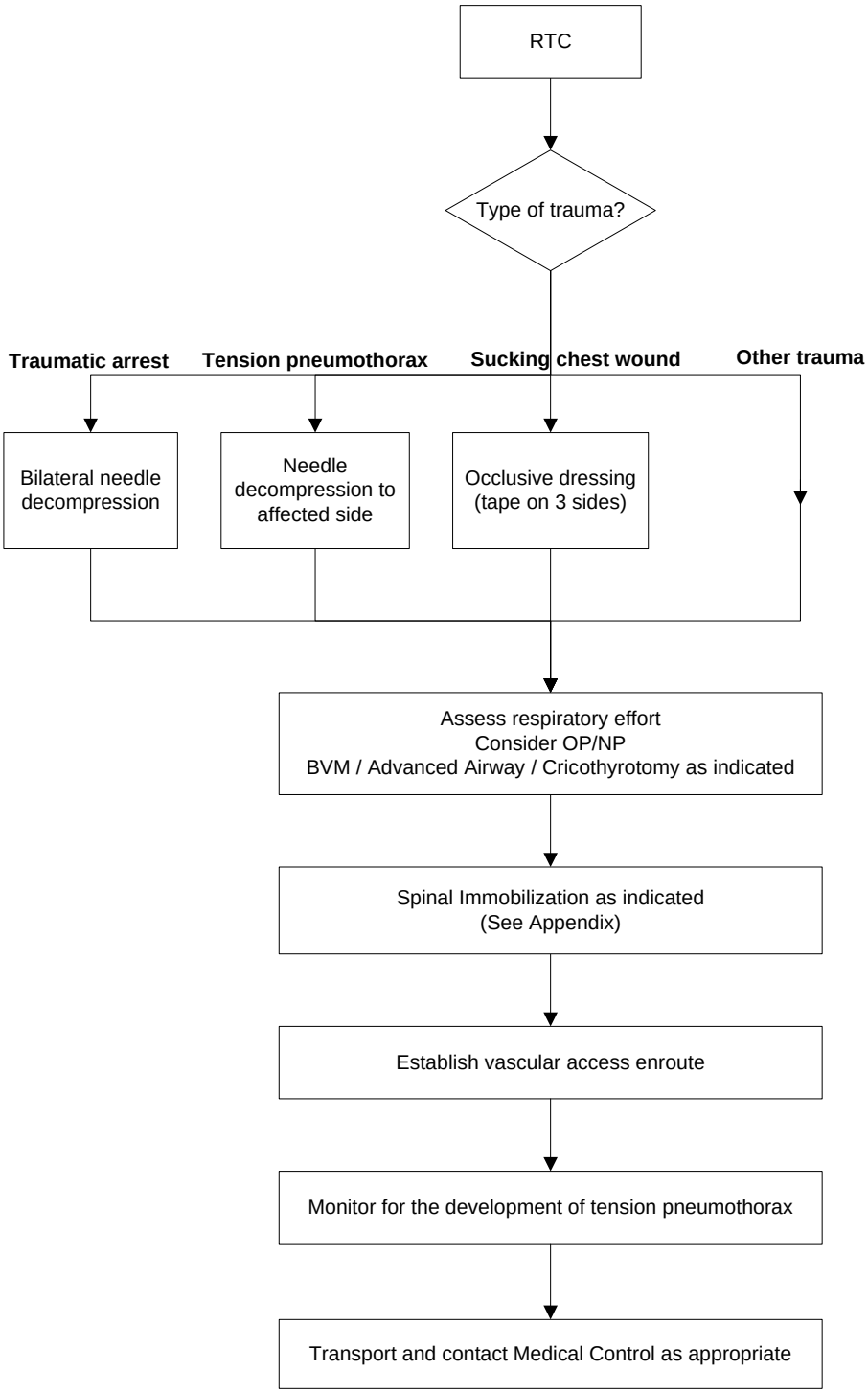
Written: 7/86
Reviewed: 3/92; 11/95; 3/09; 5/11
Revised: 7/91; 12/91; 11/95; 3/09; 5/11
MDC Approval: 9/91; 10/3/91; 9/3/92; 1/4/96; 4/7/09; 6/7/11
IDPH Approval: 9/23/91; 12/3/91; 11/16/92; 2/20/96; 7/9/09; 9/29/11
Implementation: 1/1/92; 3/1/93; 5/1/96; 1/1/10; 4/1/12

TRAUMA AIRWAY - ALS



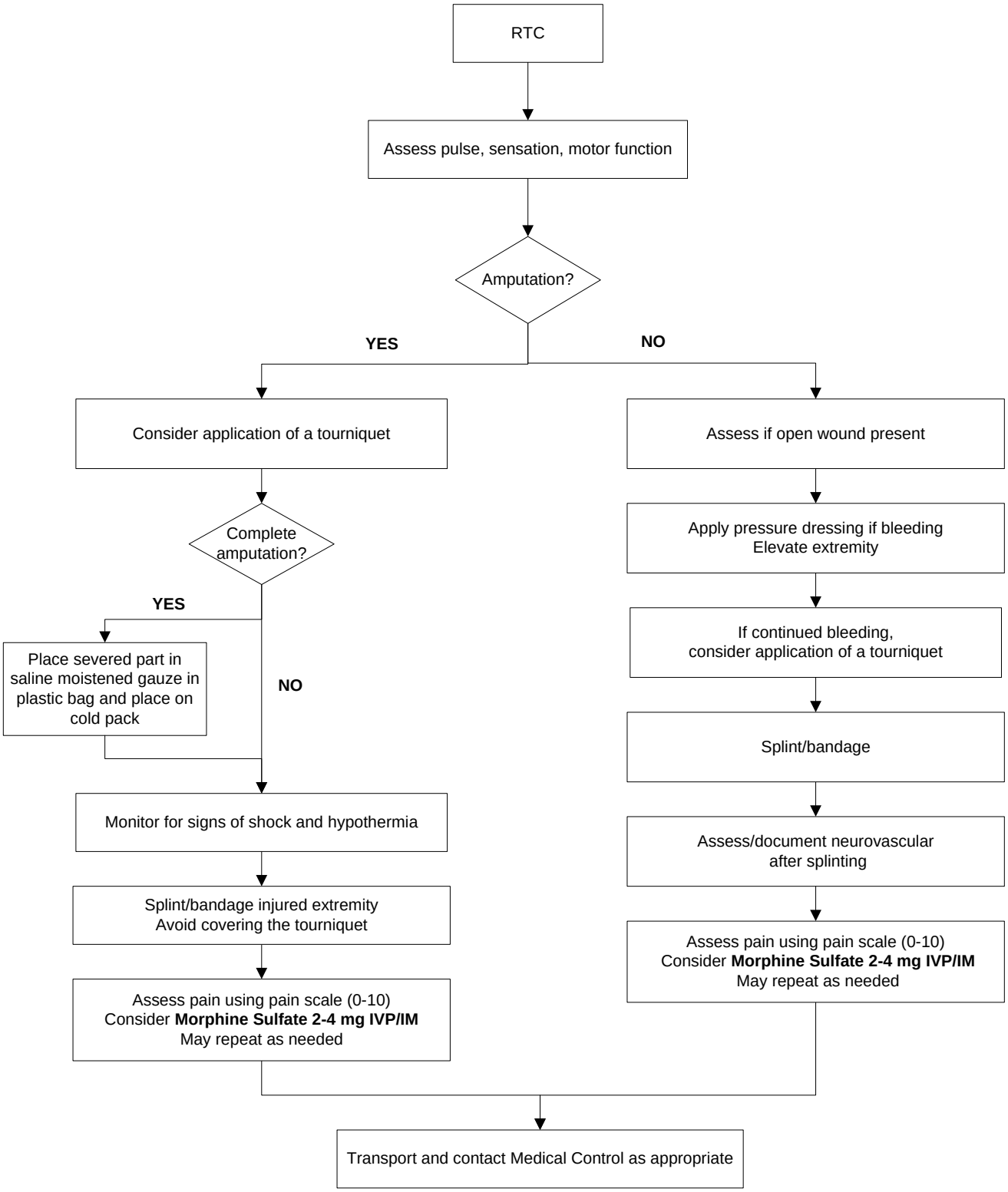
Written: 7/86
Reviewed: 3/92; 11/95; 3/09; 5/11
Revised: 7/91; 12/91; 11/95; 3/09; 5/11
MDC Approval: 9/91; 10/3/91; 9/3/92; 1/4/96; 4/7/09; 6/7/11
IDPH Approval: 9/23/91; 12/3/91; 11/16/92; 2/20/96; 7/9/09; 6/29/11
Implementation: 1/1/92; 3/1/93; 5/1/96; 1/1/10; 4/1/12

CHEST TRAUMA - ALS



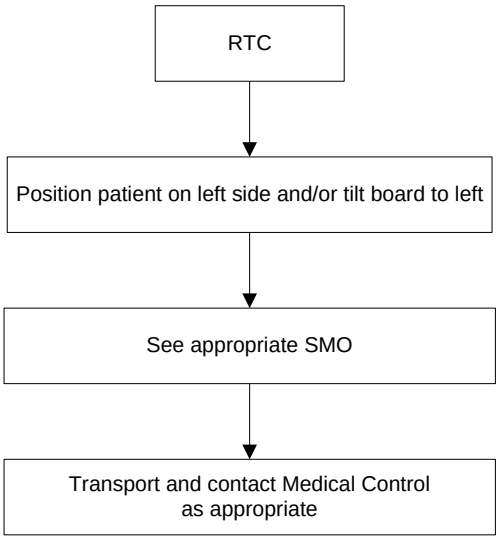
Written: 7/86
Reviewed: 3/92; 11/95; 3/09; 5/11
Revised: 7/91; 12/91; 11/95; 3/09; 5/11
MDC Approval: 9/91; 10/3/91; 9/3/92; 1/4/96; 4/7/09; 6/7/11
IDPH Approval: 9/23/91; 12/3/91; 11/16/92; 2/20/96; 7/9/09; 9/29/11
Implementation: 1/1/92; 3/1/93; 5/1/96; 1/1/10; 4/1/12

EXTREMITY TRAUMA - ALS



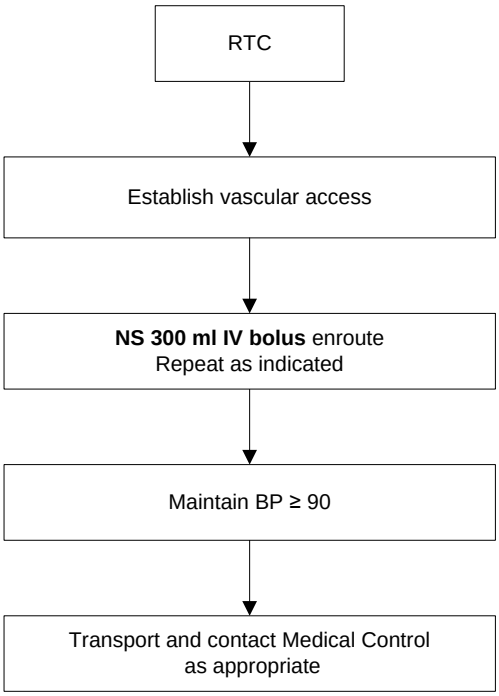
Written : 7/86
Reviewed: 3/92; 11/95; 5/04; 3/09; 5/11; 8/13
Revised: 7/91; 12/91; 11/95; 5/04; 3/09; 5/11; 8/13
MDC Approval: 9/91; 10/3/91; 9/3/92; 1/4/96; 6/04; 4/7/09; 6/7/11; 9/3/13
IDPH Approval: 9/23/91; 12/3/91; 11/16/92; 2/20/96; 9/04; 7/9/09; 9/29/11; 9/30/13
Implementation: 1/1/92; 3/1/93; 5/1/96; 1/1/05; 1/1/10; 4/1/12; 10/1/13

TRAUMA IN PREGNANCY - ALS



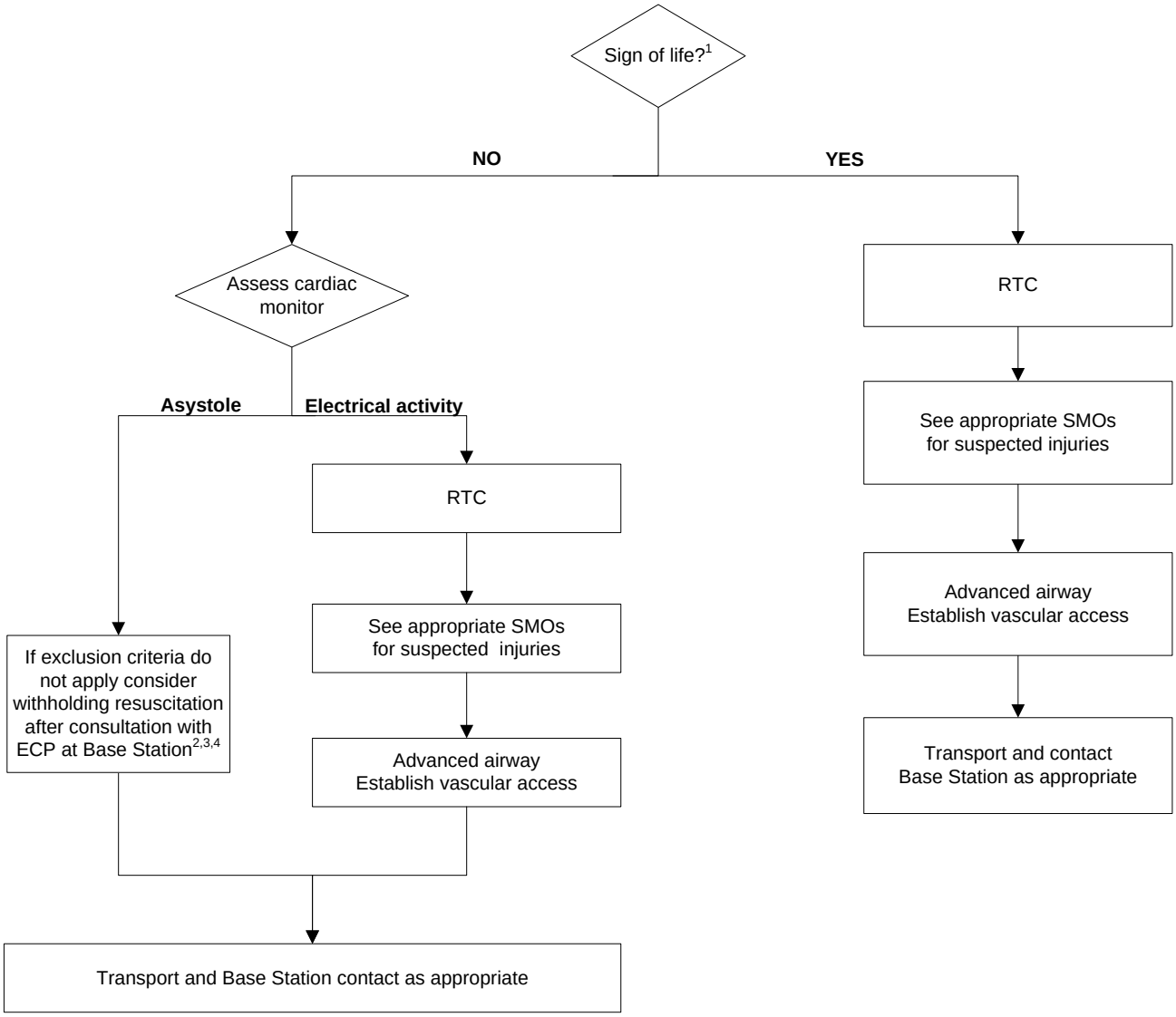
Written: 7/86
Reviewed: 3/92; 11/95; 3/09; 5/11
Revised: 7/91; 12/91; 11/95; 3/09
MDC Approval: 9/91; 10/3/91; 9/3/92; 1/4/96; 4/7/09
IDPH Approval: 9/23/91; 12/3/91; 11/16/92; 2/20/96; 7/9/09
Implementation: 1/1/92; 3/1/93; 5/1/96; 1/1/10

TRAUMATIC HEMORRHAGIC SHOCK – ALS



Written: 11/95
Reviewed: 4/99; 3/09; 5/11; 10/15
Revised: 5/99; 3/09; 5/11; 10/15
MDC Approval: 1/4/96; 5/99; 4/7/09; 6/7/11; 10/5/15
IDPH Approval: 2/20/96; Summer 99; 7/9/09; 9/29/11; 2/25/16
Implementation: 5/1/96; 9/1/99; 1/1/10; 4/1/12; 3/1/16

TRAUMATIC ARREST - ALS



1 - "Sign of life" is any respiration, a palpable pulse, a pupillary response, or spontaneous movement.

2 - Exclusion criteria: drowning or strangulation, lightening strike or electrocution, situations involving hypothermia, patients with visible pregnancy, medical conditions as the likely cause of cardiac arrest

3 - If EMS provider decides to continue resuscitation, the patient should be transported to the closest Level 1 trauma center.

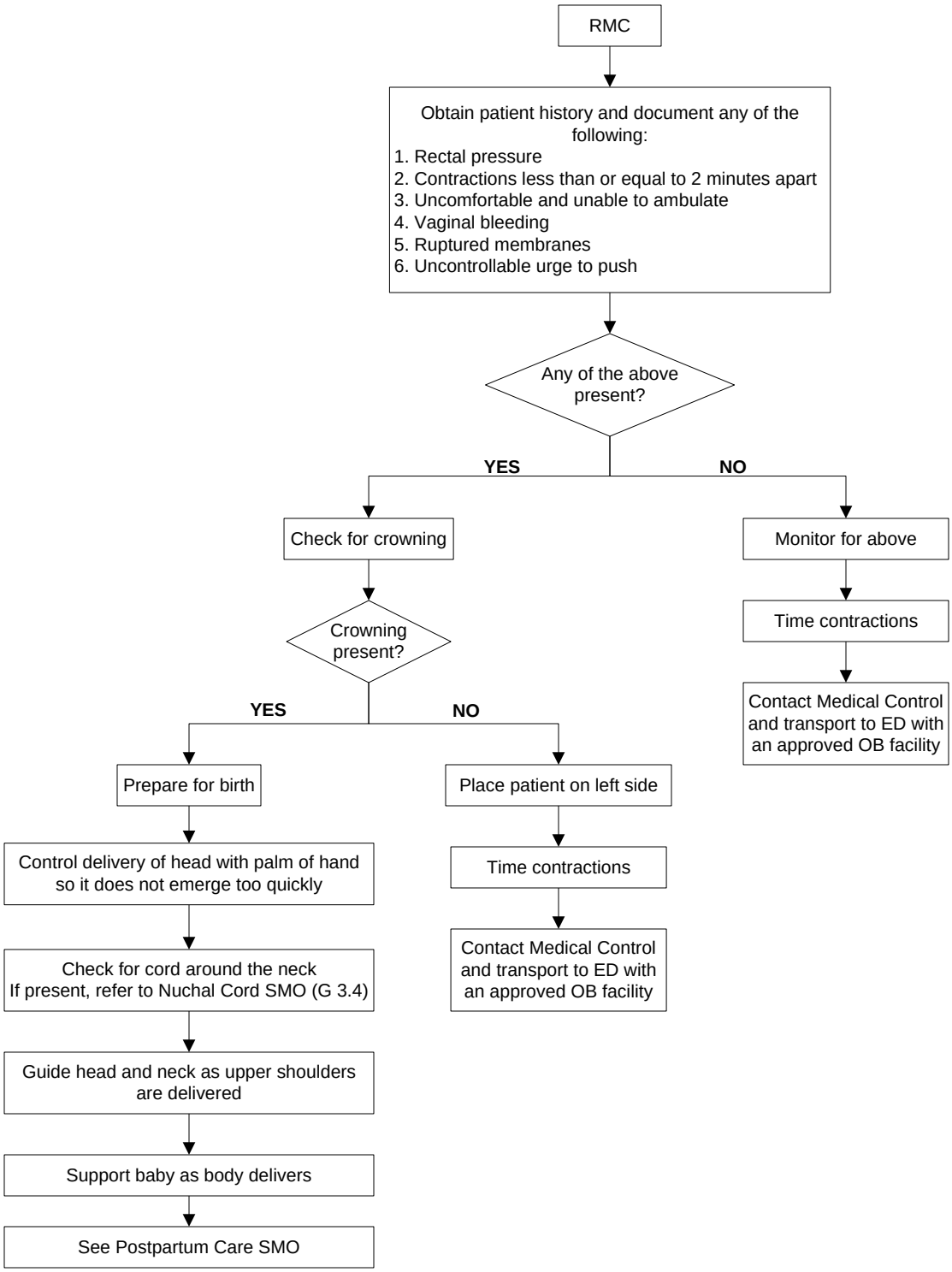
4 - If the EMS provider decides to withhold resuscitation, they may choose to transport to the closest comprehensive ED for various reasons, including scene safety, unless the police declare a crime scene.

Written: 11/08
Reviewed: 3/09; 6/11; 10/15
Revised: 3/09; 6/11; 10/15
MDC Approval: 4/7/09; 6/7/11; 10/5/15
IDPH Approval: 7/9/09; 9/29/11; 2/25/16
Implementation: 1/1/10; 4/1/12; 3/1/16

OBSTETRICS

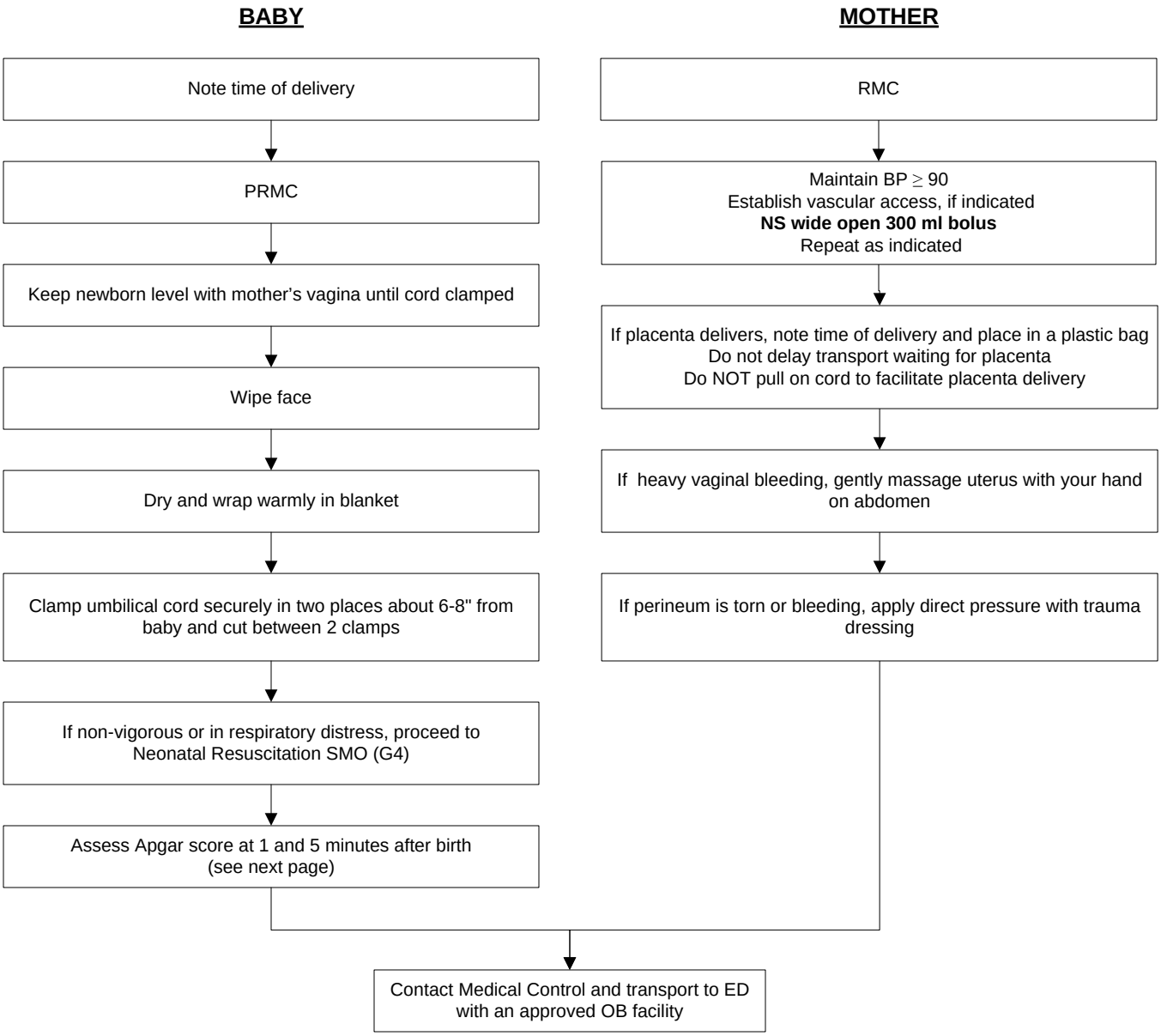
Emergency Childbirth G-1
Postpartum Care G-2.1 to G-2.2
Obstetrical Complications G-3.1 to G-3.5
Neonatal Resuscitation G4

EMERGENCY CHILDBIRTH - ALS



Written: 7/86
Reviewed: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
Revised: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 12/1/94; 1/4/96; 7/97; 12/97; 4/98; 10/98; 2/99; 3/00; 4/7/09; 6/7/11; 10/6/15
IDPH Approval: 8/86; 12/3/91; 11/16/92; 12/19/94; 2/20/96; Summer 99; 5/00; 7/9/09; 9/29/11; 2/25/16
Implementation: 8/86; 1/1/92; 3/1/93; 3/1/95; 5/1/96; 8/1/99; 10/00; 1/1/10; 4/1/12; 3/1/16

POSTPARTUM CARE - ALS



Written: 7/86
Reviewed: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
Revised: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 12/1/94; 1/4/96; 7/97; 12/97; 4/98; 10/98; 2/99; 3/00; 4/7/09; 6/7/11; 10/6/15
IDPH Approval: 8/86; 12/3/91; 11/16/92; 12/19/94; 2/20/96; Summer 99; 5/00; 7/9/09; 6/29/11; 2/25/16
Implementation: 8/86; 1/1/92; 3/1/93; 3/1/95; 5/1/96; 8/1/99; 10/00; 1/1/10; 4/1/12; 3/1/16

POSTPARTUM CARE – ALS

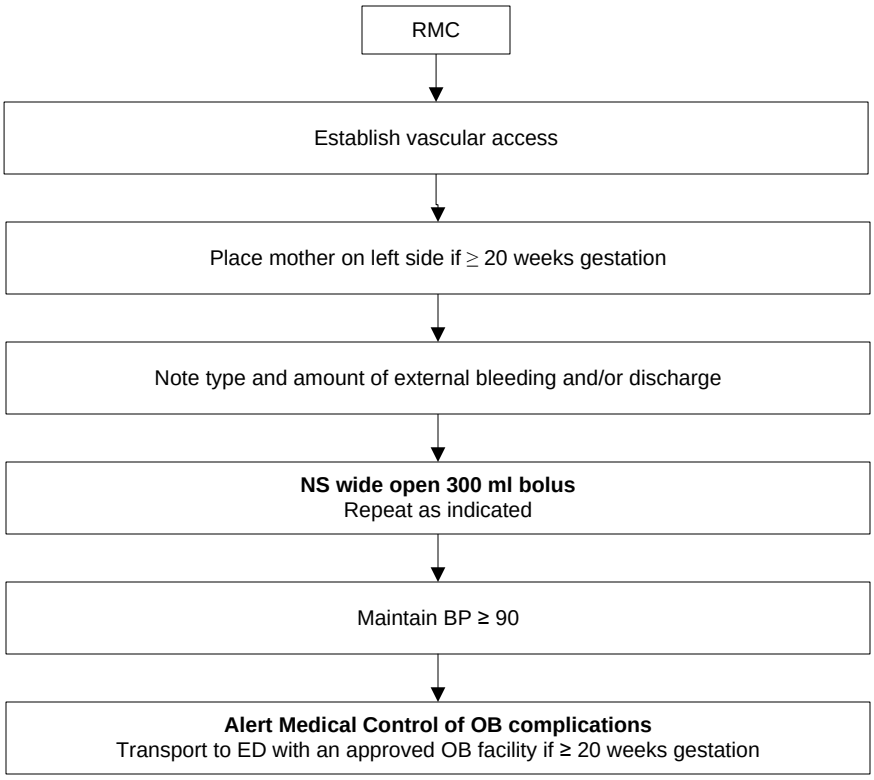
APGAR SCORING

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

Written: 7/86
Reviewed: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 10/15
Revised: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 12/1/94; 1/4/96; 7/97; 12/97; 4/98; 10/98; 2/99; 3/00; 4/7/09
IDPH Approval: 8/86; 12/3/91; 11/16/92; 12/19/94; 2/20/96; Summer 99; 5/00; 7/9/09
Implementation: 8/86; 1/1/92; 3/1/93; 3/1/95; 5/1/96; 8/1/99; 10/00; 1/1/10

OBSTETRICAL COMPLICATIONS - ALS

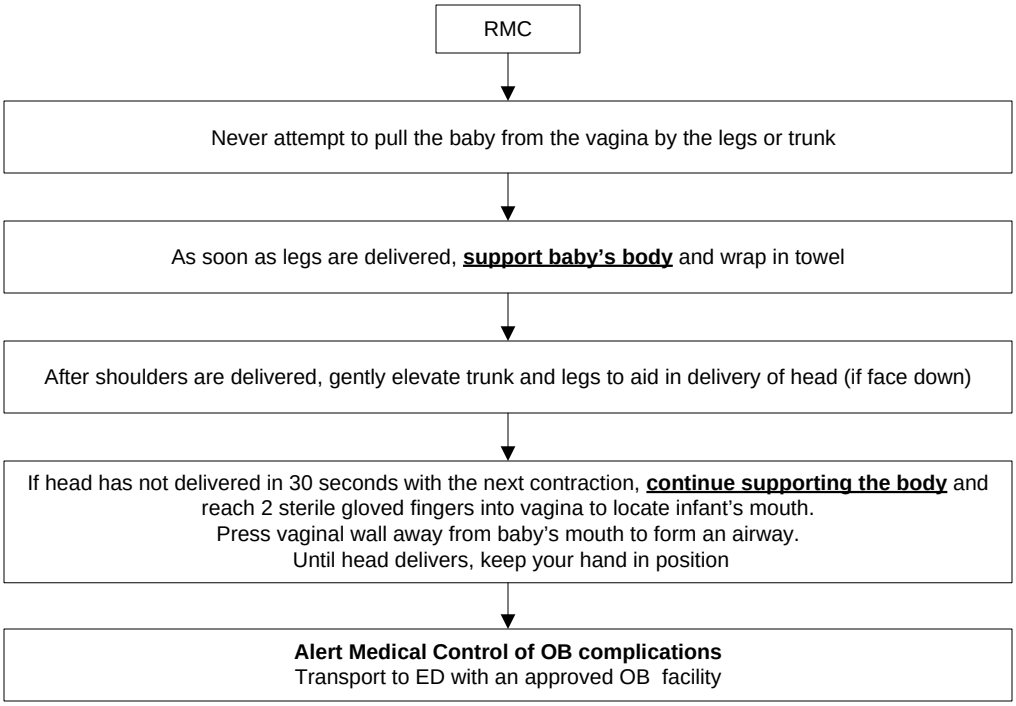
BLEEDING IN PREGNANCY



Written: 7/86
Reviewed: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
Revised: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 10/15
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 12/1/94; 1/4/96; 7/97; 12/97; 4/98; 10/98; 2/99; 3/00; 4/7/09; 11/17/15
IDPH Approval: 8/86; 12/3/91; 11/16/92; 12/19/94; 2/20/96; Summer 99; 5/00;7/9/09; 2/25/16
Implementation: 8/86; 1/1/92; 3/1/93; 3/1/95; 5/1/96; 8/1/99; 10/00; 1/1/10; 3/1/16

OBSTETRICAL COMPLICATIONS - ALS

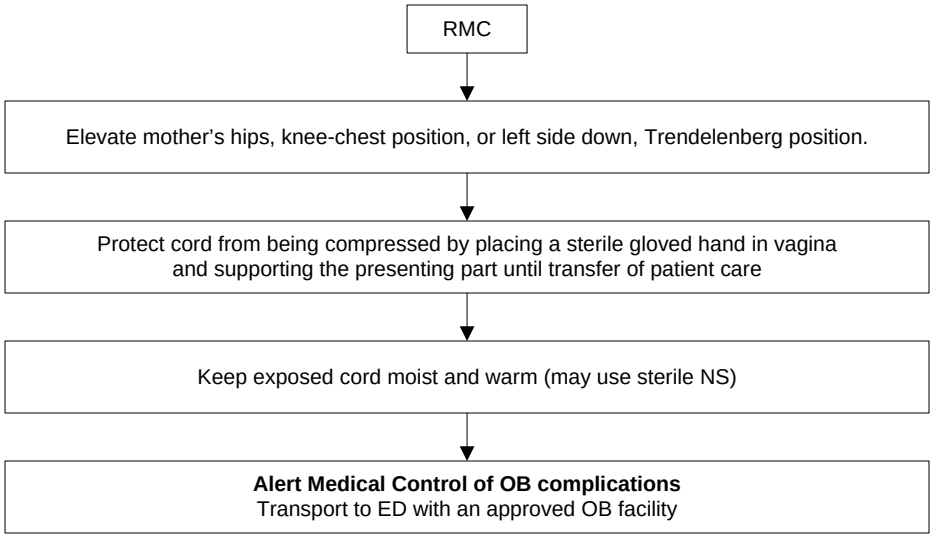
BREECH BIRTH



Written: 7/86
Reviewed: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
Revised: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 10/15
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 12/1/94; 1/4/96; 7/97; 12/97; 4/98; 10/98; 2/99; 3/00; 4/7/09; 10/6/15
IDPH Approval: 8/86; 12/3/91; 11/16/92; 12/19/94; 2/20/96; Summer 99; 5/00; 7/9/09; 2/25/16
Implementation: 8/86; 1/1/92; 3/1/93; 3/1/95; 5/1/96; 8/1/99; 10/00; 1/1/10; 3/1/16

OBSTETRICAL COMPLICATIONS - ALS

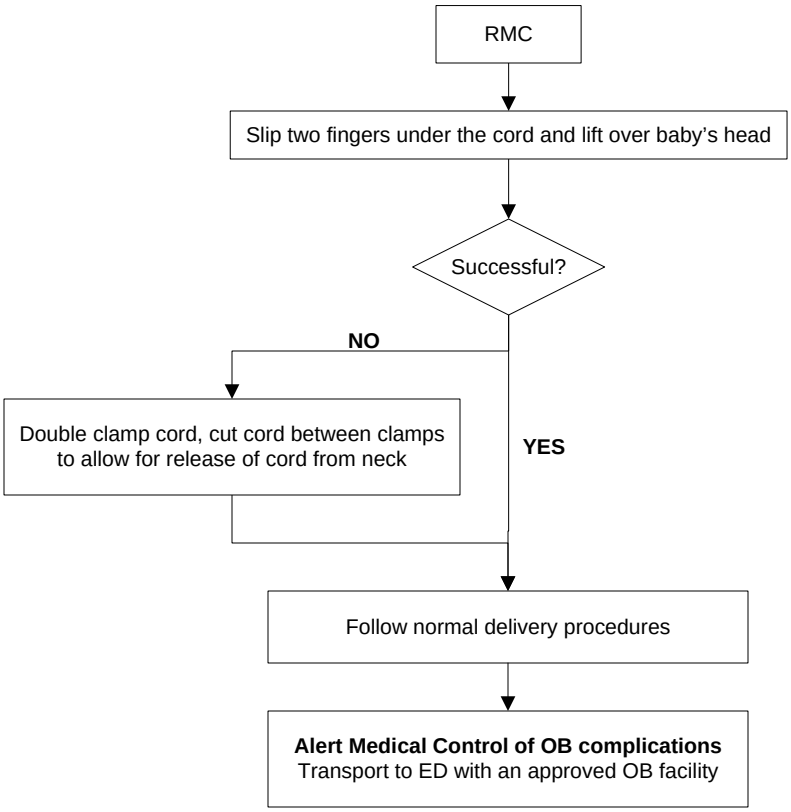
PROLAPSED CORD



Written: 7/86
Reviewed: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
Revised: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 12/1/94; 1/4/96; 7/97; 12/97; 4/98; 10/98; 2/99; 3/00; 4/7/09; 6/7/11; 10/6/15
IDPH Approval: 8/86; 12/3/91; 11/16/92; 12/19/94; 2/20/96; Summer 99; 5/00; 7/9/09; 9/29/11; 2/26/16
Implementation: 8/86; 1/1/92; 3/1/93; 3/1/95; 5/1/96; 8/1/99; 10/00; 1/1/10; 4/1/12; 3/1/16

OBSTETRICAL COMPLICATIONS - ALS

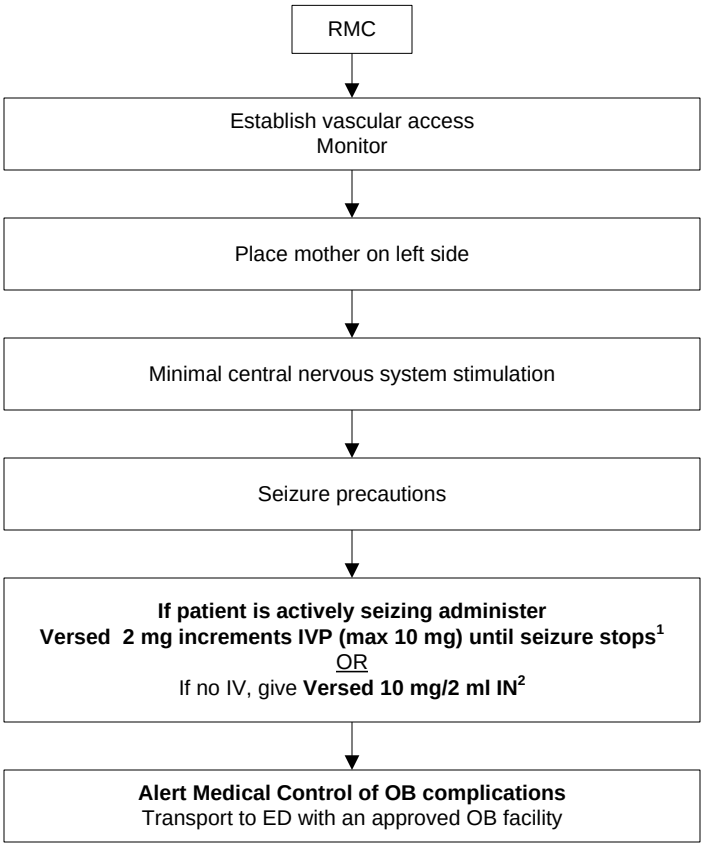
NUCHAL CORD



Written: 7/86
Reviewed: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 5/11; 10/15
Revised: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 10/15
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 12/1/94; 1/4/96; 7/97; 12/97; 4/98; 10/98; 2/99; 3/00; 4/7/09; 10/6/15
IDPH Approval: 8/86; 12/3/91; 11/16/92; 12/19/94; 2/20/96; Summer 99; 5/00; 7/9/09; 2/25/16
Implementation: 8/86; 1/1/92; 3/1/93; 3/1/95; 5/1/96; 8/1/99; 10/00; 1/1/10; 3/1/16

OBSTETRICAL COMPLICATIONS - ALS

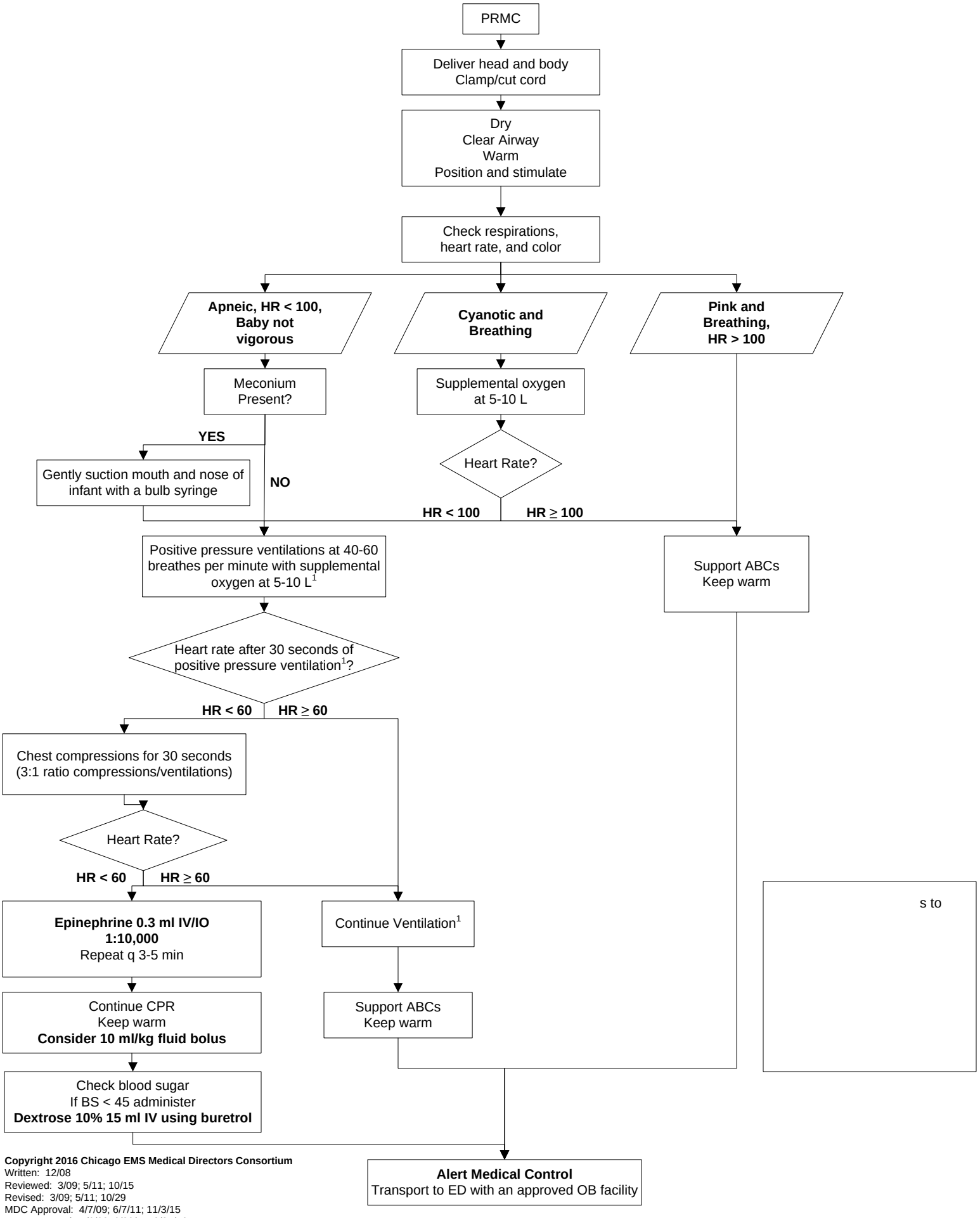
PRE-ECLAMPSIA OR TOXEMIA (ECLAMPSIA)



1 – Alternative to Versed: Valium 2 mg increments IV (max 10 mg) until seizure stops OR Ativan 2 mg increments IV (max 4 mg) until seizure stops
2 – Alternative to Versed: Ativan 2 mg IM

Written: 7/86
Reviewed: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 6/10; 5/11; 5/12; 5/14; 10/15
Revised: 8/92; 11/94; 12/95; 6/97; 12/97; 3/98; 9/98; 1/99; 3/00; 3/09; 7/10; 5/12; 5/14
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 12/1/94; 1/4/96; 7/97; 12/97; 4/98; 10/98; 2/99; 3/00; 4/7/09; 9/7/10; 3/6/12; 5/19/14
IDPH Approval: 8/86; 12/3/91; 11/16/92; 12/19/94; 2/20/96; Summer 99; 5/00; 7/9/09; 11/24/10; 1/31/13; 6/9/14
Implementation: 8/86; 1/1/92; 3/1/93; 3/1/95; 5/1/96; 8/1/99; 10/00; 1/1/10; 6/1/11; 2/1/13; 6/1/15

NEONATAL RESUSCITATION - ALS



Written: 12/08
Reviewed: 3/09; 5/11; 10/15
Revised: 3/09; 5/11; 10/29
MDC Approval: 4/7/09; 6/7/11; 11/3/15
IDPH Approval: 7/9/09; 9/29/11; 2/25/16
Implementation: 1/1/10; 4/1/12; 3/1/16

PEDIATRICS

PEDIATRIC INITIAL ASSESSMENT - ALS

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. Refer to Broselow tape if needed.

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

Age	**Pulse**	**Systolic Blood Pressure**	**Respiratory Rate**
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 for central 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.

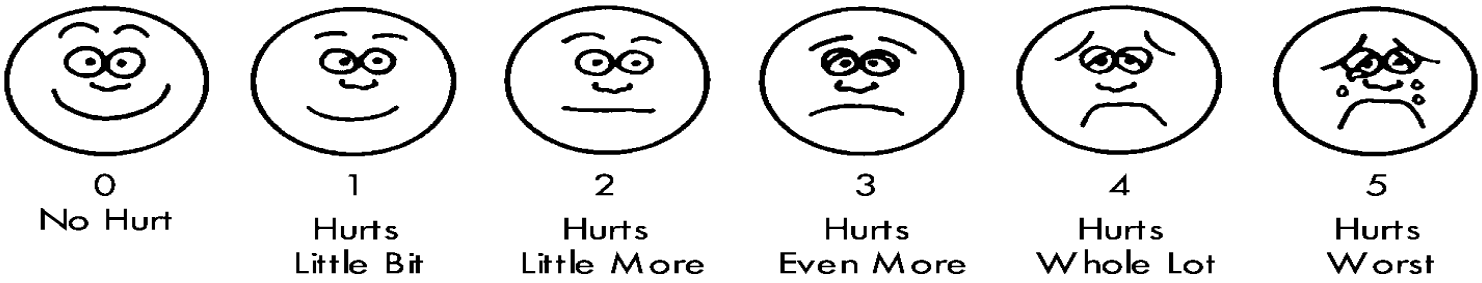
H. Initiate measures to prevent heat loss to keep the child from becoming hypothermic.

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.)

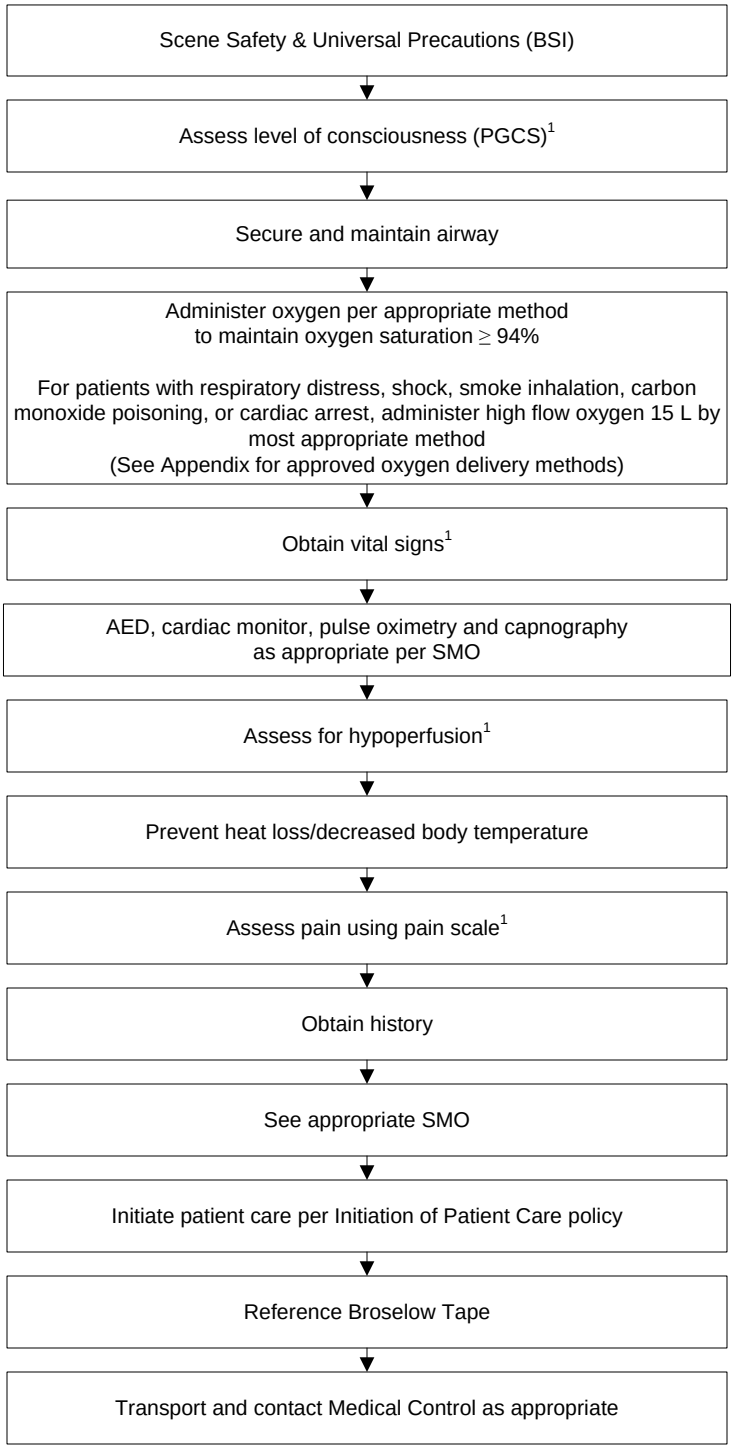
PEDIATRIC GLASGOW COMA SCALE (PGCS)				
	> 1 Year		**< 1 Year**	**Score**
EYE OPENING	Spontaneously		Spontaneously	4
	To verbal command		To shout	3
	To pain		To pain	2
	No response		No response	1
MOTOR RESPONSE	Obeys		Spontaneous	6
	Localizes pain		Localizes pain	5
	Flexion-withdrawal		Flexion-withdrawal	4
	Flexion-abnormal (decorticate rigidity)		Flexion-abnormal (decorticate rigidity)	3
	Extension (decerebrate rigidity)		Extension (decerebrate rigidity)	2
	No response		No response	1
	> 5 years	**2-5 Years**	**0-23 Months**	
VERBAL RESPONSE	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
TOTAL PEDIATRIC GLASGOW COMA SCORE:				**(3-15)**

PEDIATRIC PAIN SCALE



Written: 6/95
Reviewed: 3/98; 12/98; 4/99; 3/00; 5/00; 1/01; 3/09; 10/15
Revised: 3/98; 12/98; 5/99; 3/00; 5/00; 1/01; 3/09' 10/15
MDC Approval: 7/97; 5/98; 5/99; 3/00; 5/00; 2/01; 4/7/09; 10/6/15
IDPH Approval: 1/99; Summer 99; 8/00; 4/01; 7/9/09; 2/25/16
Implementation: 8/1/99; 10/00; 5/1/01; 1/1/10; 3/1/16

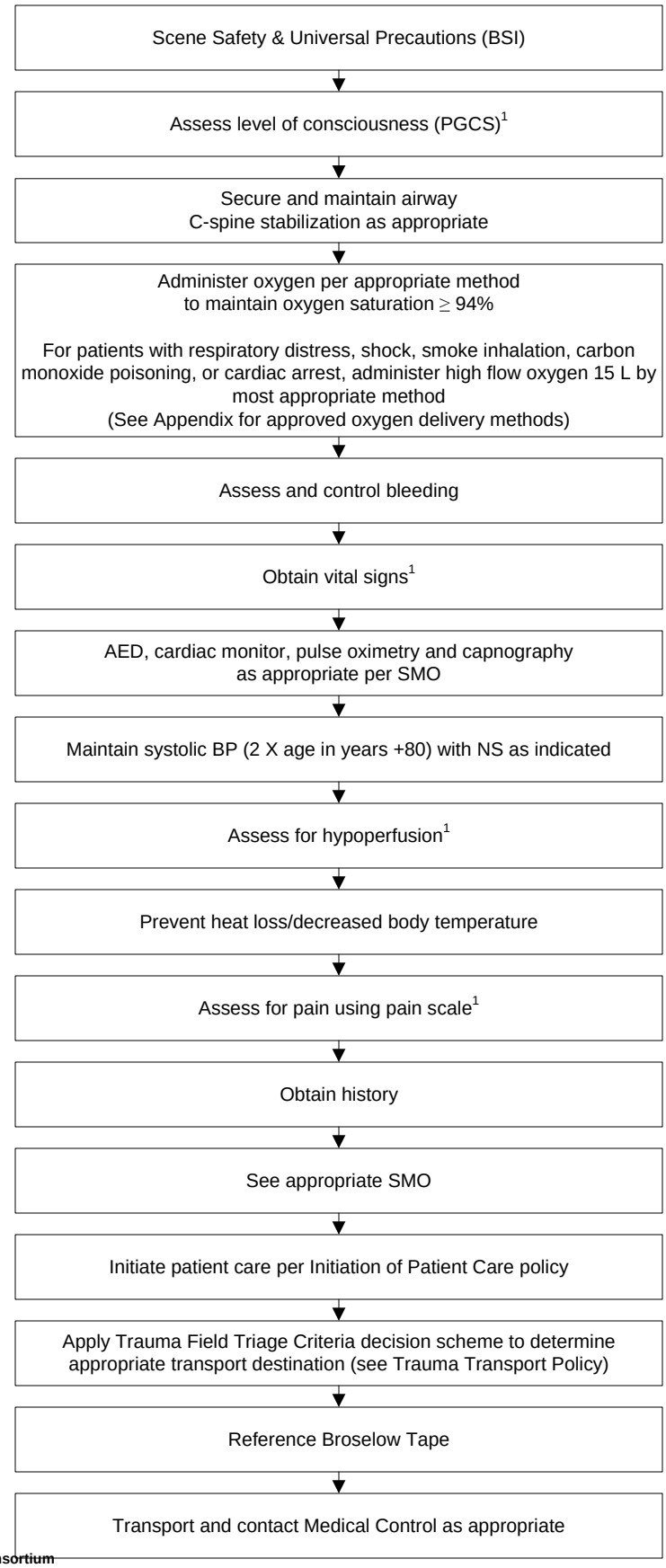
PEDIATRIC ROUTINE MEDICAL CARE (PRMC) - PEDIATRIC - ALS
(Age Newborn – 15 yrs.)



1 – See Pediatric Initial Assessment

Written: 11/08
Reviewed: 3/09; 6/11; 2/16
Revised: 3/09; 6/1; 2/16
MDC Approval: 4/7/09; 6/7/11; 2/16/16
IDPH Approval: 7/9/09; 9/29/11; 2/25/16
Implementation: 1/1/10; 4/1/12; 3/1/16

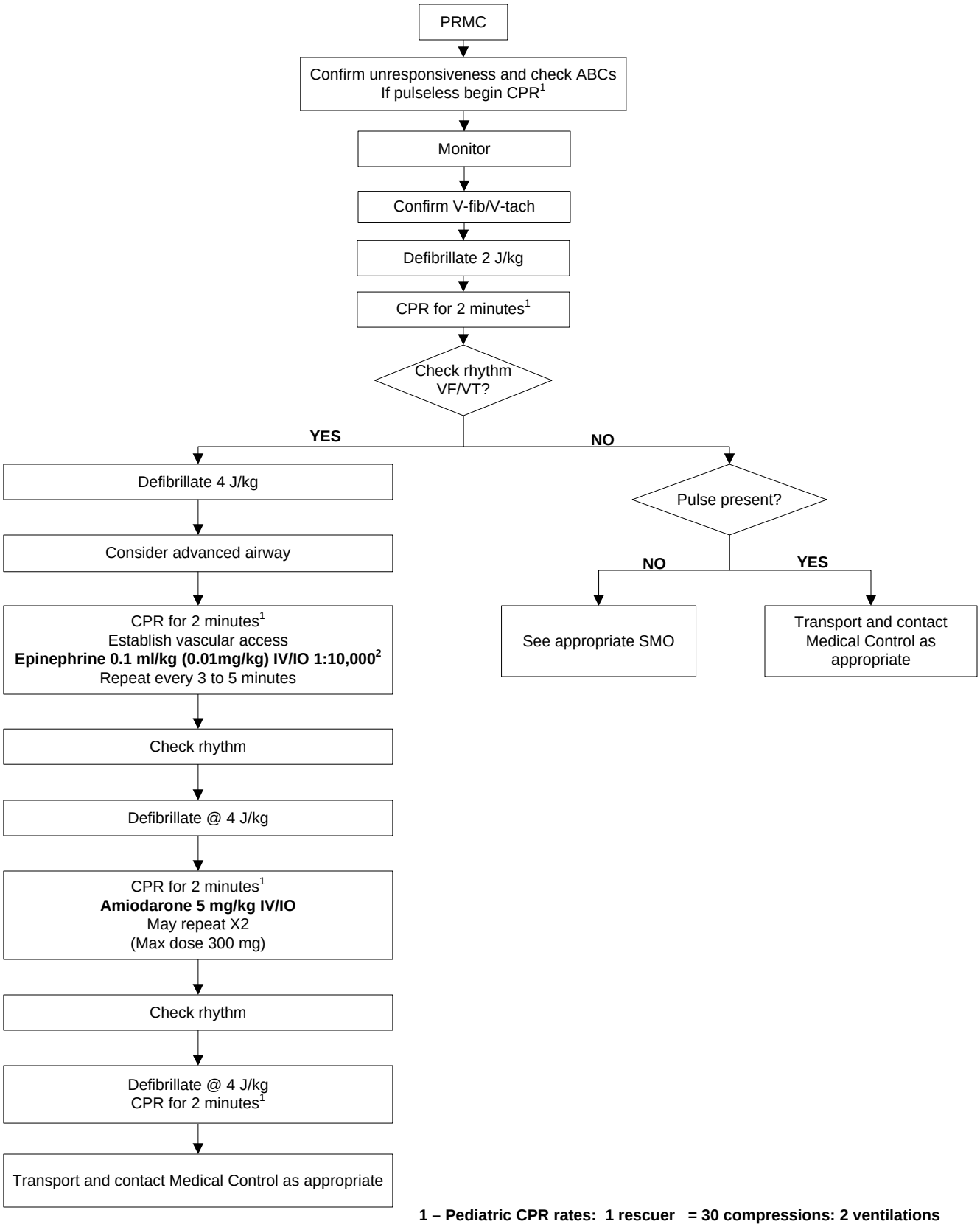
PEDIATRIC ROUTINE TRAUMA CARE (PRTC) - PEDIATRIC - ALS
(Age Newborn – 15 yrs.)



1 – See Pediatric Initial Assessment

Written: Taken from adult SMOs 4/98
Reviewed: 3/09; 6/11; 10/15
Revised: 3/09; 6/11; 10/15
MDC Approval: 4/98; 4/7/09; 6/7/11; 10/5/15
IDPH Approval: 1/99; 7/9/09; 9/29/11; 2/25/16
Implementation: 8/1/99; 1/1/10; 4/1/12; 3/1/16

VENTRICULAR FIBRILLATION & PULSELESS VENTRICULAR TACHYCARDIA - PEDIATRIC - ALS

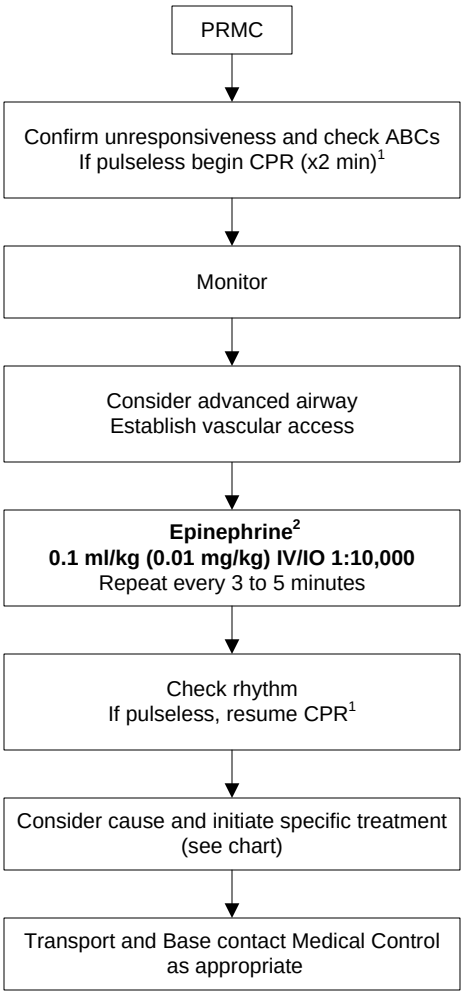


1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations
2 rescuers = 15 compressions: 2 ventilations

2 – Consider endotracheal drug administration, if vascular access unavailable
Epinephrine 0.1 ml/kg (0.1 mg/kg) ET 1:1,000

Written: 3/98
Reviewed: 6/00; 12/01; 3/09; 6/11; 3/12; 10/15
Revised: 6/00; 1/02; 3/09; 6/11; 3/12; 10/15
MDC Approval: 4/98; 6/00; 1/02; 4/7/09; 6/7/11; 3/6/12; 10/5/15
IDPH Approval: 1/99; 8/00; 5/02; 7/9/09; 9/29/11; 1/31/13; 2/25/16
Implementation: 8/1/99; 10/00; 1/1/03; 1/1/10; 4/1/12; 2/1/13; 3/1/16

PULSELESS ELECTRICAL ACTIVITY / ASYSTOLE - PEDIATRIC - ALS



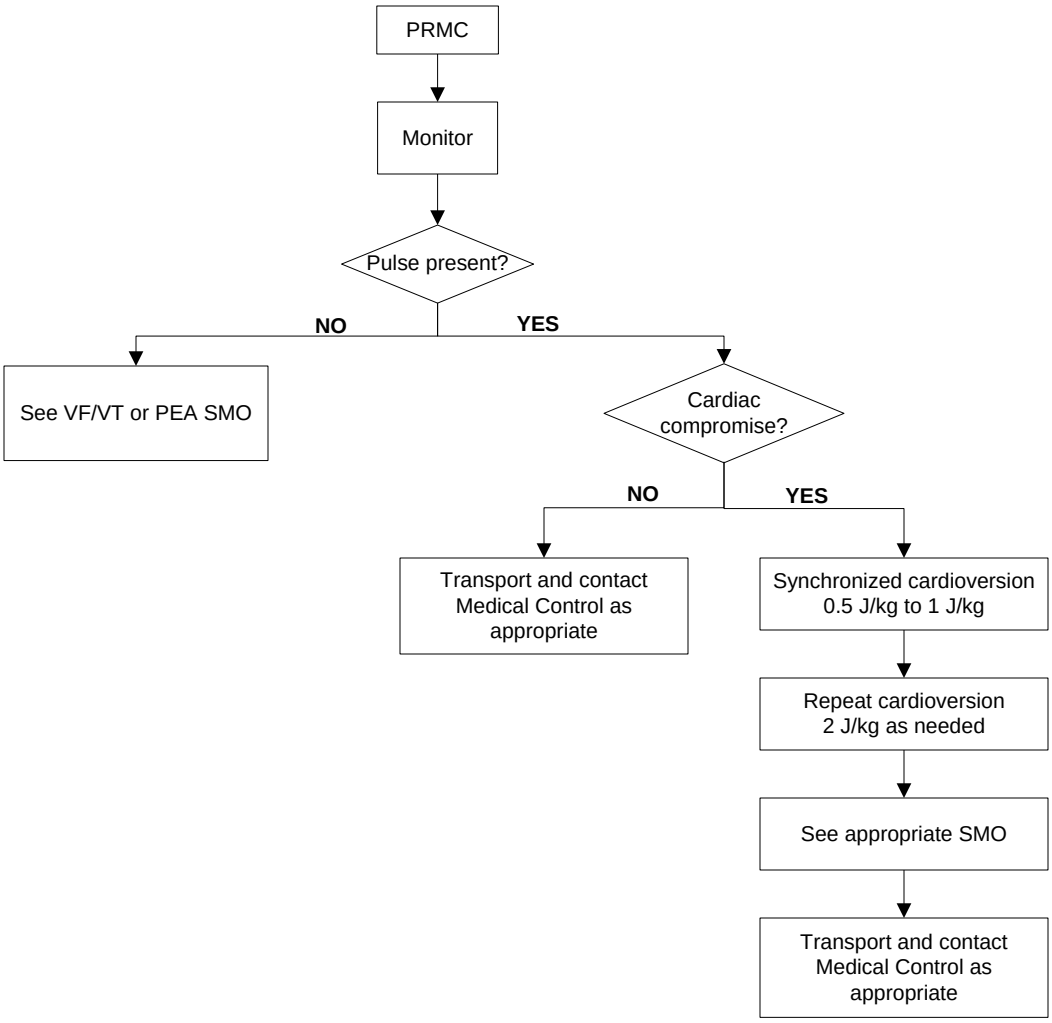
1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations
2 rescuers = 15 compressions: 2 ventilations

2 – Consider endotracheal drug administration, if vascular access unavailable
Epinephrine 0.1 ml/kg (0.1 mg/kg) ET 1:1,000

CAUSES	**SPECIFIC TREATMENT**
Hypoxemia	Check ET and ventilation
Tension pneumothorax	Needle thoracentesis
Toxicity/O.D	**Naloxone** **≤ 20 kg: 0.1 mg/kg, IV/IO** **> 20 kg: 2.0 mg/dose, IV/IO**
Dialysis patient/Renal failure/ Hyperkalemia…	Contact Base Station
Hypovolemia	Normal Saline bolus 20 ml/kg
Metabolic acidosis prolonged down time	Contact Base Station
Hypoglycemia	**Dextrose 10% 5ml/kg using buretrol**

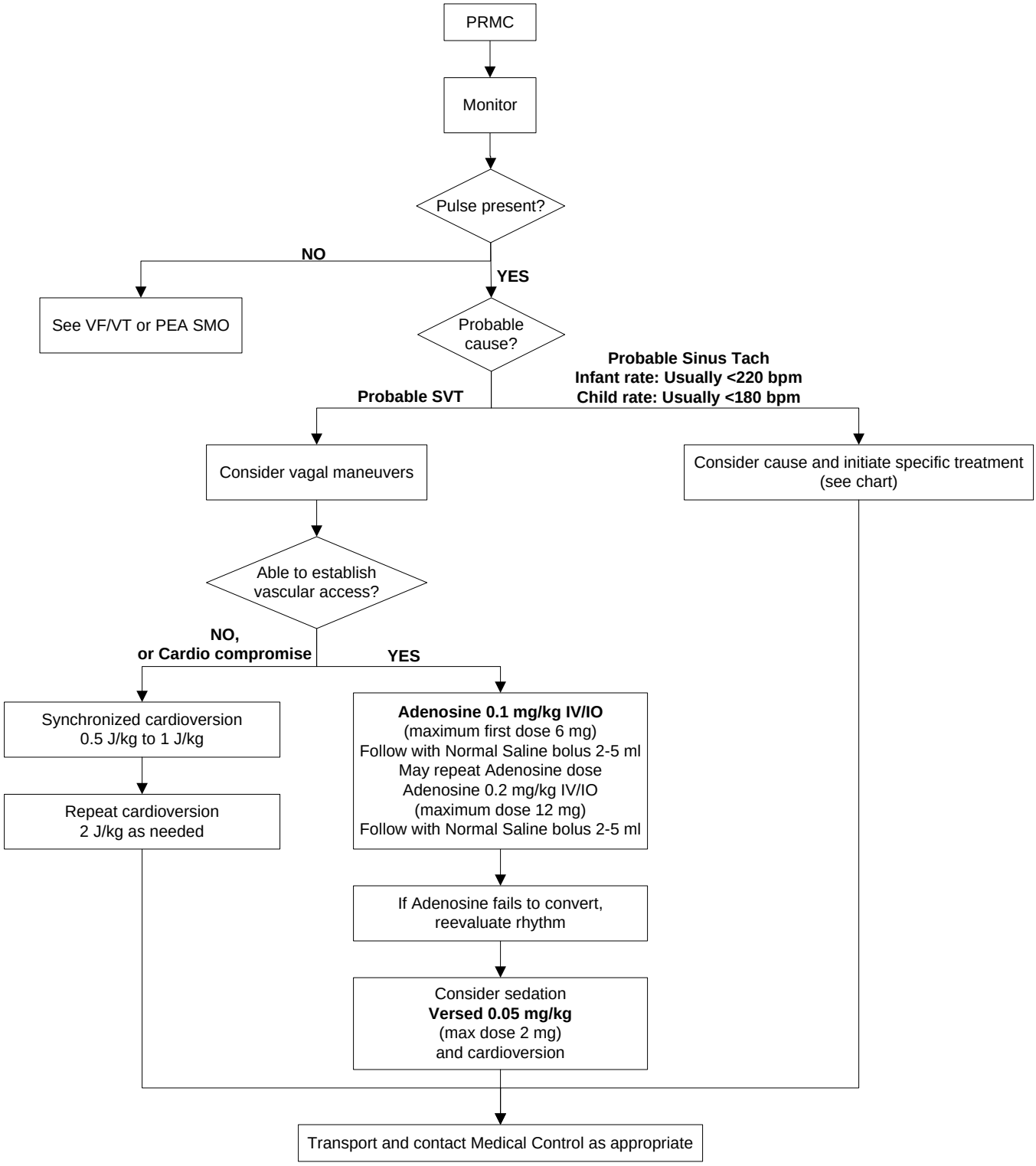
Written: 3/98
Reviewed: 3/09; 6/11; 10/15; 5/16
Revised: 3/09; 6/11; 10/15; 5/16
MDC Approval: 4/98; 4/7/09; 6/7/11; 10/5/15; 6/7/16
IDPH Approval: 1/99; 7/9/09; 9/29/11; 2/25/16; 8/11/16
Implementation: 8/1/99; 1/1/10; 4/1/12; 3/1/16; 10/17/16

WIDE COMPLEX TACHYCARDIA - PEDIATRIC - ALS



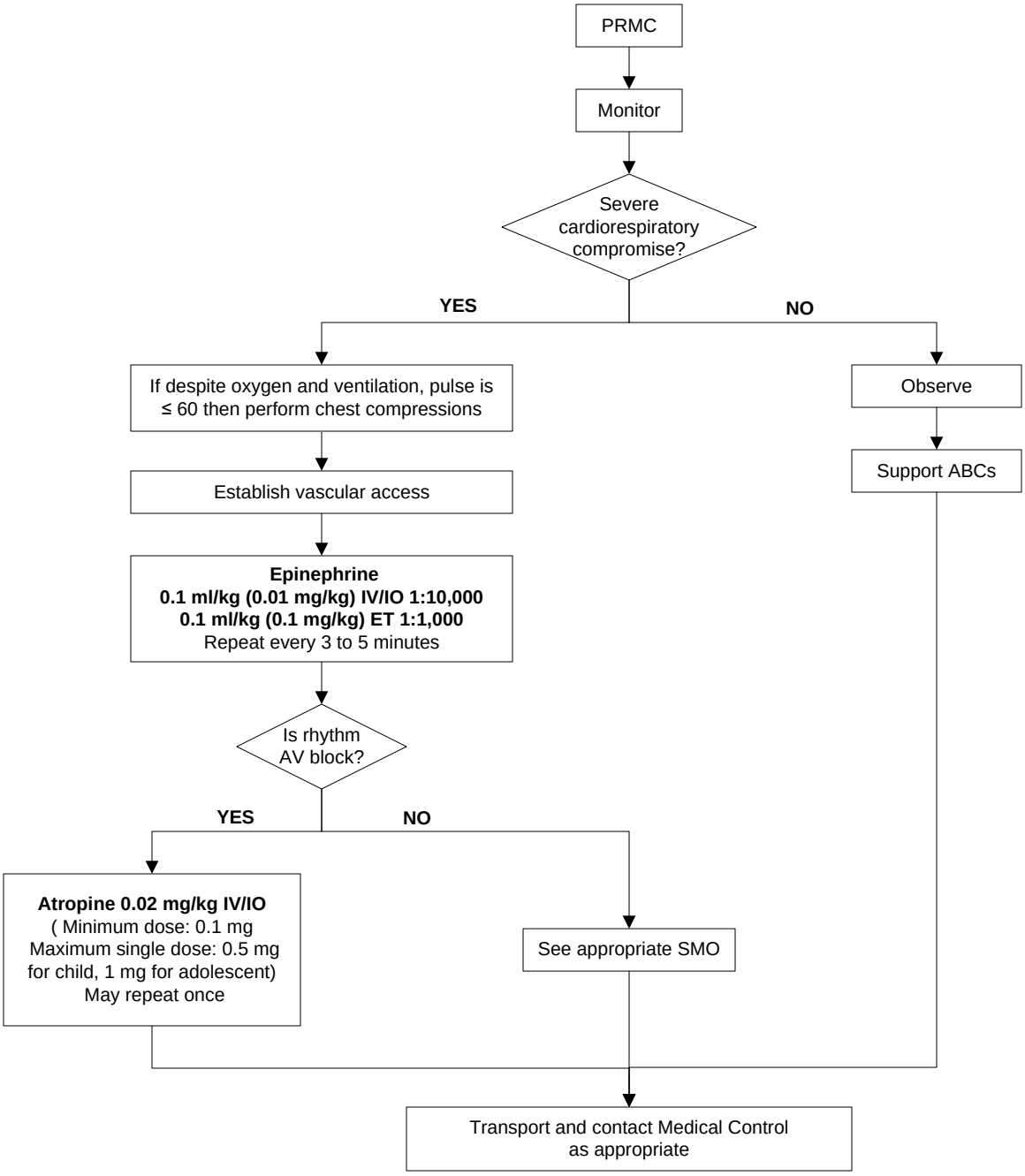
Written: 3/98
Reviewed: 2/99; 6/00; 3/09; 7/10; 5/11; 10/15
Revised: 2/99; 6/00; 3/09; 7/10; 10/15
MDC Approval: 4/98; 2/99; 6/00; 4/7/09; 9/7/10; 10/5/15
IDPH Approval: 1/99; Summer 99; 8/00; 7/9/09; 11/24/10; 2/25/16
Implementation: 8/1/99; 10/00; 1/1/10; 3/1/11; 3/1/16

NARROW QRS COMPLEX TACHYCARDIA - PEDIATRIC - ALS



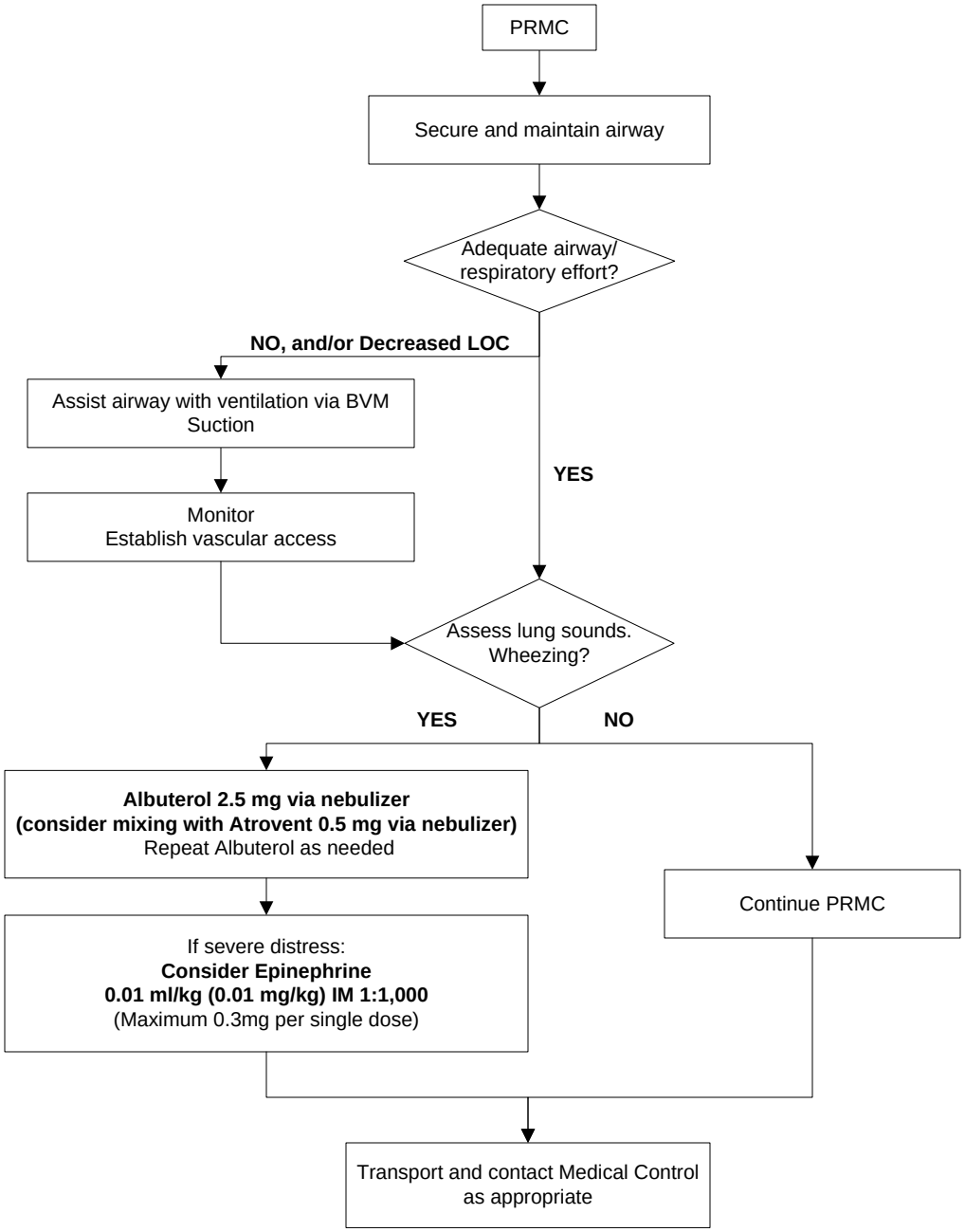
Written: 3/98
Reviewed: 2/99; 6/00; 3/09; 5/11; 5/14; 10/15; 5/16
Revised: 2/99; 6/00; 3/09; 5/14; 10/15; 5/16
MDC Approval: 4/98; 2/99; 6/00; 4/7/09; 5/19/14; 10/5/15; 6/7/16
IDPH Approval: 1/99; Summer 99; 8/00; 7/9/09; 6/9/14; 2/25/16; 8/11/16
Implementation: 8/1/99; 10/00; 1/1/10; 6/1/15; 3/1/16; 10/17/16

BRADYCARDIA - PEDIATRIC - ALS
(Pulse < 60)



Written: 3/98
Reviewed: 3/09; 5/11; 10/15
Revised: 3/09; 10/15
MDC Approval: 4/7/09; 10/5/15
IDPH Approval: 7/9/09; 2/25/16
Implementation: 1/1/10; 3/1/16

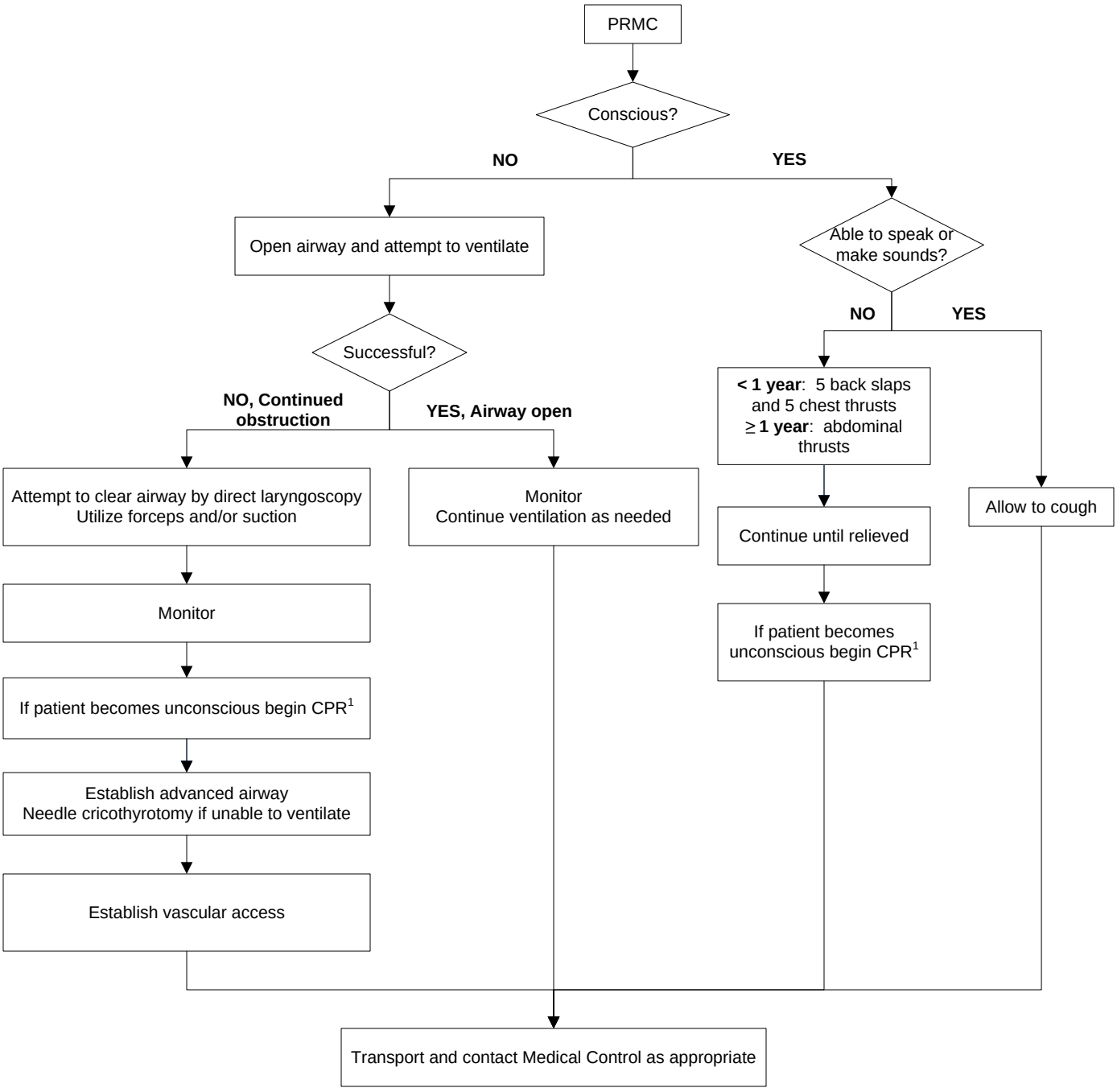
RESPIRATORY DISTRESS - PEDIATRIC - ALS



NOTE: If patient has an established tracheostomy, see Tracheostomy with Respiratory Distress SMO
NOTE: Complete lack of breath sounds may indicate severe bronchoconstriction

Written: 3/98
Reviewed: 4/99; 3/09; 6/11; 2/15; 10/15
Revised: 5/99; 3/09; 6/11; 2/15; 10/15
MDC Approval: 4/98; 5/99; 4/7/09; 6/7/11; 2/17/15; 10/5/15
IDPH Approval: 1/99; Summer 99; 7/9/09; 9/29/11; 5/12/15; 2/25/16
Implementation: 8/1/99; 1/1/10; 4/1/12; 6/1/15; 3/1/16

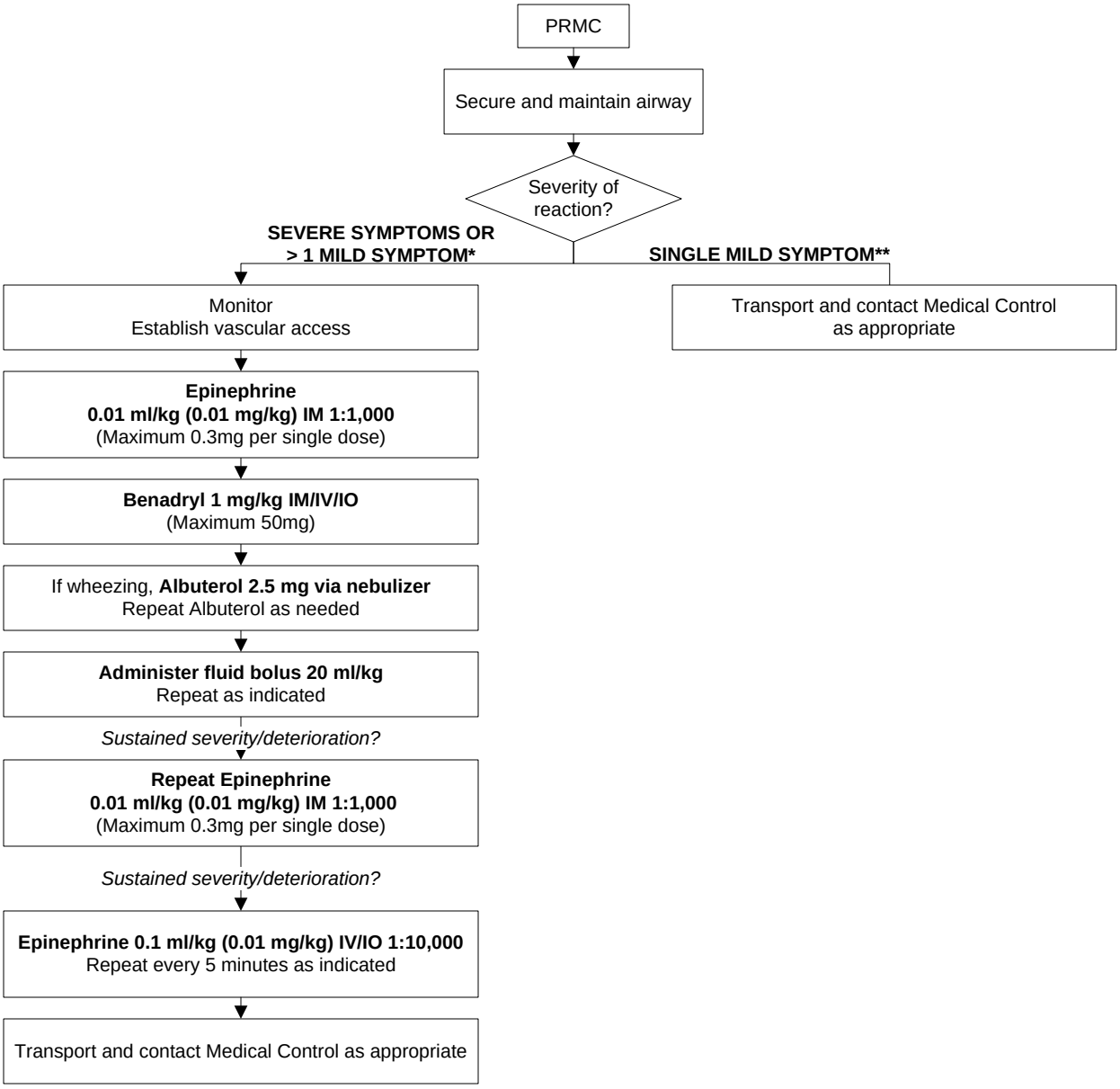
RESPIRATORY OBSTRUCTION - PEDIATRIC - ALS



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

Written: 5/99 based on adult SMO
Reviewed: 3/09; 6/11; 10/15
Revised: 3/09; 6/11; 10/15
MDC Approval: 5/99; 4/7/09; 6/7/11; 10/5/15
IDPH Approval: Summer 1999; 7/9/09; 9/29/11; 2/25/16
Implementation: 8/1/99; 1/1/10; 4/1/12; 3/1/16

ALLERGIC REACTION and/or ANAPHYLAXIS - PEDIATRIC - ALS



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

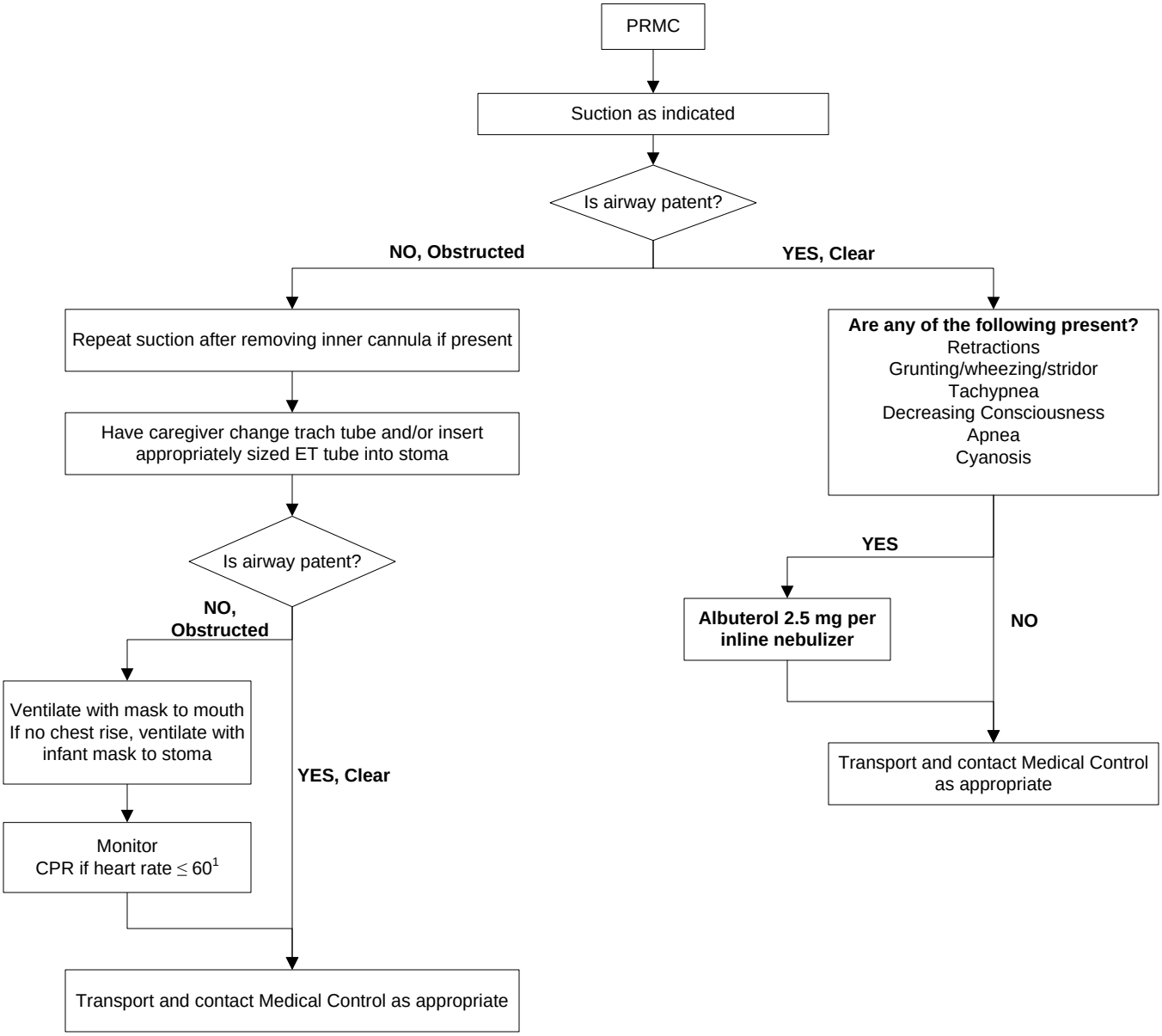
RESPIRATORY – Shortness of breath, wheezing, repetitive coughing
CARDIOVASCULAR – Pale, cyanotic, low blood pressure, dizzy
THROAT – Tightness, hoarse, trouble breathing/swallowing
MOUTH – Swelling of the tongue and/or lips
SKIN- Diffuse hives or redness
GI – Repetitive vomiting, severe diarrhea
NEURO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

Written: 4/98
Reviewed: 4/99; 6/00; 12/01; 6/04; 3/09; 5/11; 10/15; 11/16
Revised: 5/99; 6/00; 1/02; 6/04; 3/09; 5/11; 10/15; 11/16
MDC Approval: 5/98; 5/99; 6/00; 1/02; 6/04; 4/7/09; 6/7/11; 10/5/15; 12/6/16
IDPH Approval: 1/99; Summer 99; 8/00; 5/02; 9/04; 7/9/09; 9/29/11; 2/25/16; 1/12/17
Implementation: 8/1/99; 10/00; 1/1/03; 1/1/05; 1/1/10; 4/1/12; 3/1/16; 4/1/17

TRACHEOSTOMY WITH RESPIRATORY DISTRESS - PEDIATRIC - ALS

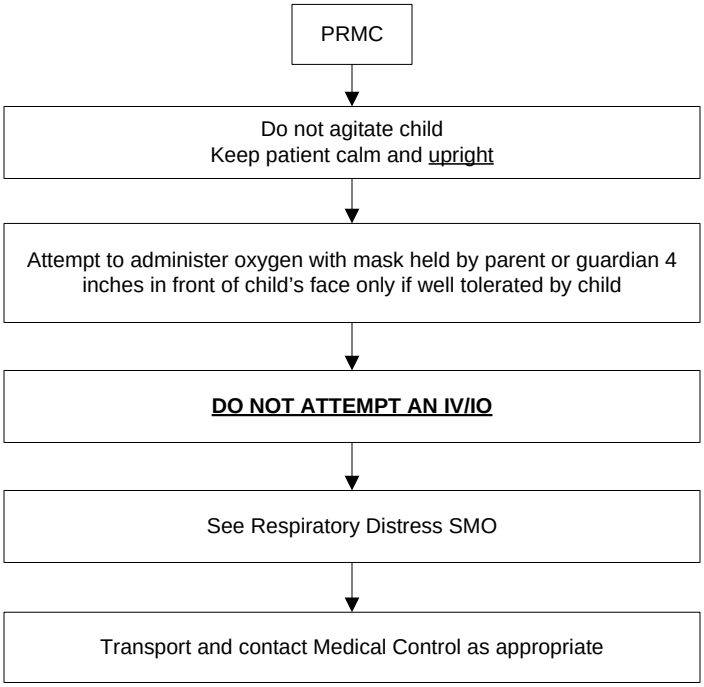


NOTE: If chest raise inadequate using mask to stoma, consider depressing pop-off valve or switching to an adult bag to increase volume and pressure.

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

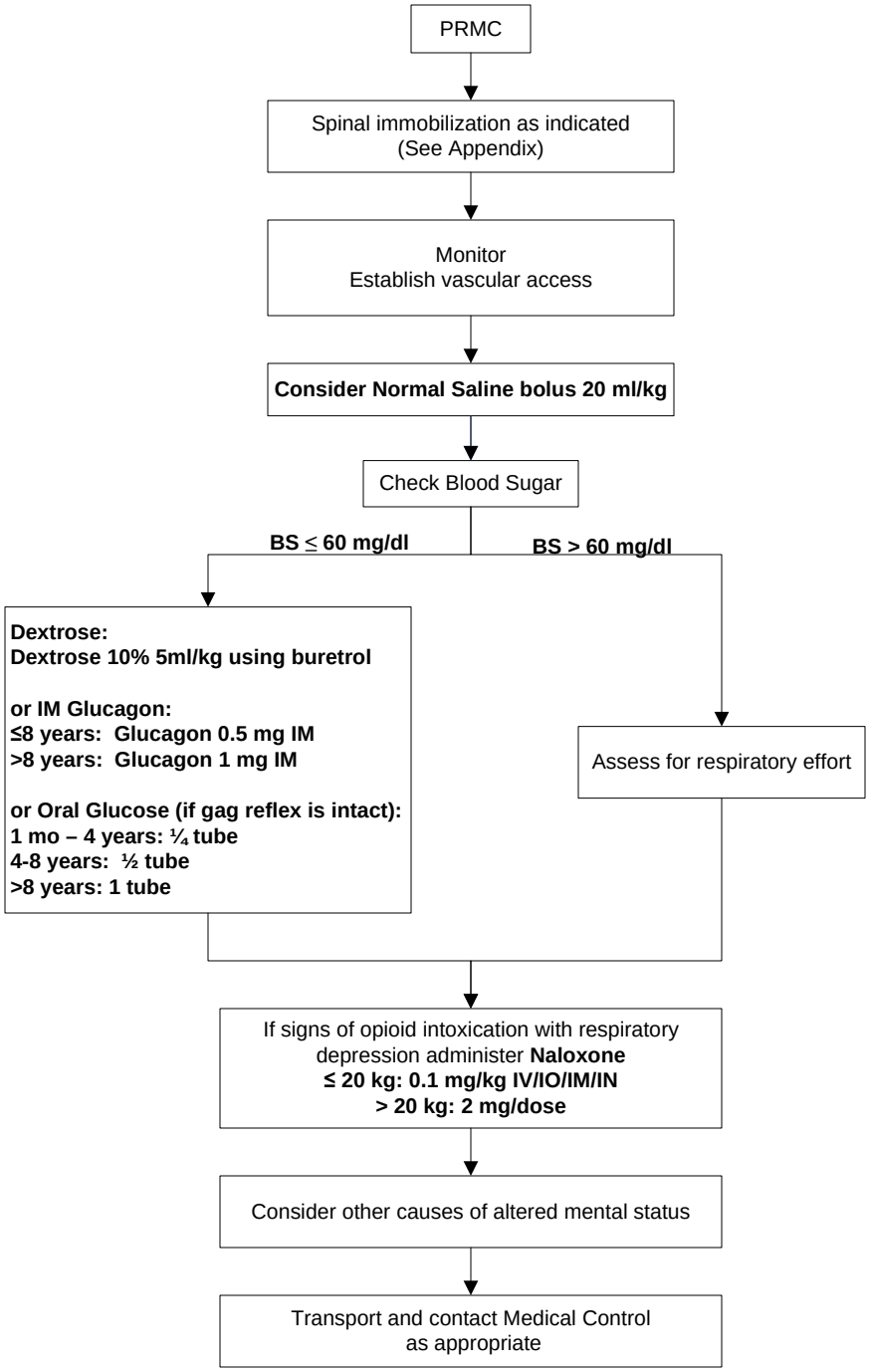
Written: 3/98
Reviewed: 4/99; 6/00; 3/09; 5/11; 10/15
Revised: 4/99; 6/00; 3/09; 10/15
MDC Approval: 4/98; 5/99; 6/00; 4/7/09; 10/5/15
IDPH Approval: 1/99; Summer 99; 8/00; 7/9/09; 2/25/16
Implementation: 8/1/99; 10/00; 1/1/10; 3/1/16

SUSPECTED CROUP OR EPIGLOTTITIS - PEDIATRIC - ALS



Written: 7/86
Reviewed: 1/92; 12/95; 4/98; 6/00; 3/09; 5/11; 10/15
Revised: 1/92; 4/98; 6/00; 3/09; 10/15
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 4/98; 6/00; 4/7/09; 10/5/15
IDPH Approval: 8/86; 11/16/92; 2/20/96; 1/99; 8/00; 7/9/09; 2/25/16
Implementation: 8/86; 3/1/93; 5/1/96; 8/1/99; 10/00; 1/1/10; 3/1/16

ALTERED MENTAL STATUS - PEDIATRIC - ALS

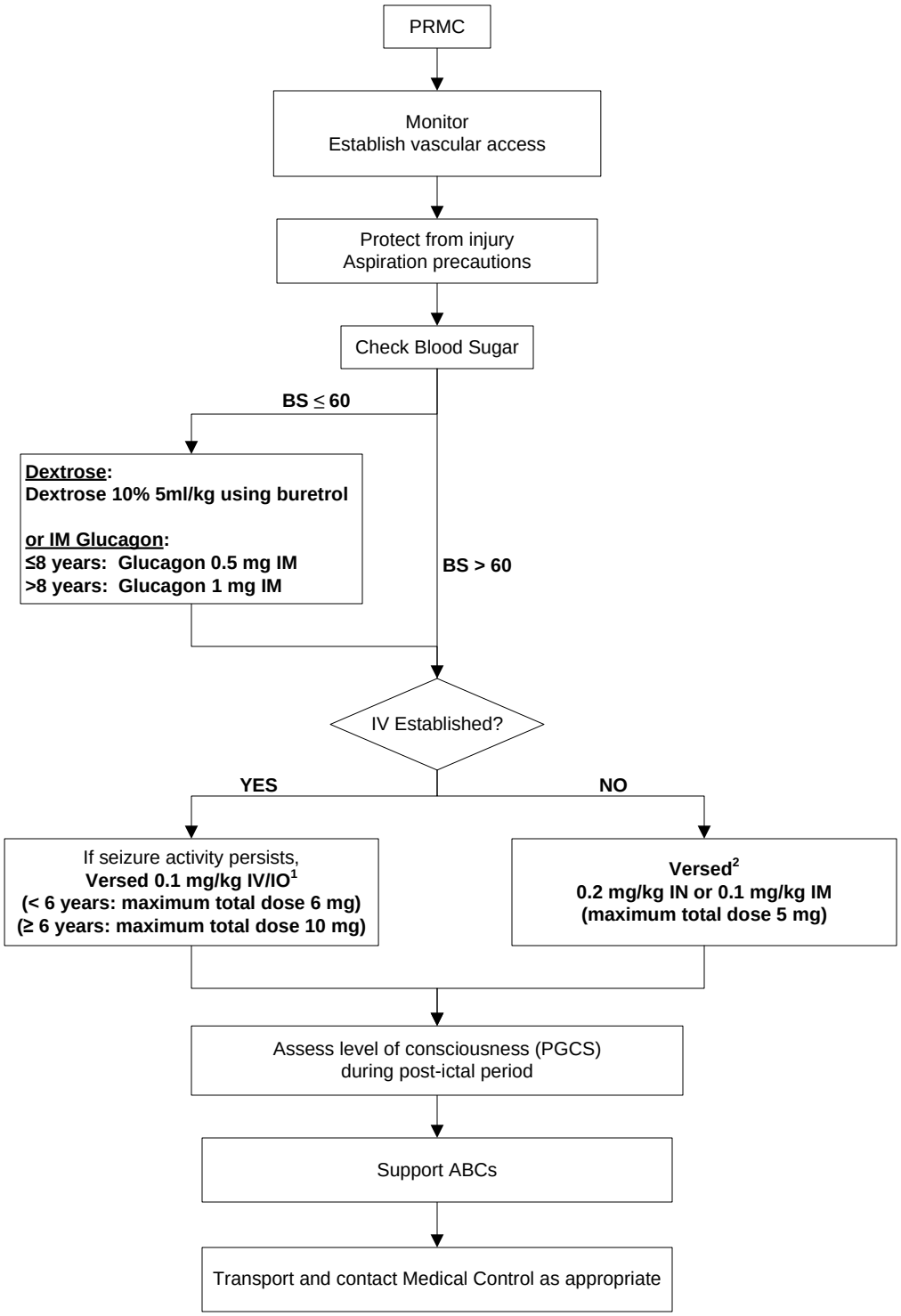


Special Considerations:
Consider causes:

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

Written: 4/98
Reviewed: 6/00; 6/04; 3/09; 6/11;10/15; 5/16
Revised: 6/00; 6/04; 3/09; 6/11; 10/15; 5/16
MDC Approval: 4/98; 6/00; 6/04; 4/7/09; 9/7/10; 6/7/11; 10/5/15; 6/7/16
IDPH Approval: 1/99; 8/00; 9/04; 7/9/09; 11/24/10; 9/29/11; 2/26/16; 8/11/16
Implementation: 8/1/99; 10/00; 1/1/05; 1/1/10; 3/1/11; 4/1/12; 3/1/16; 10/17/16

SEIZURES - PEDIATRIC - ALS

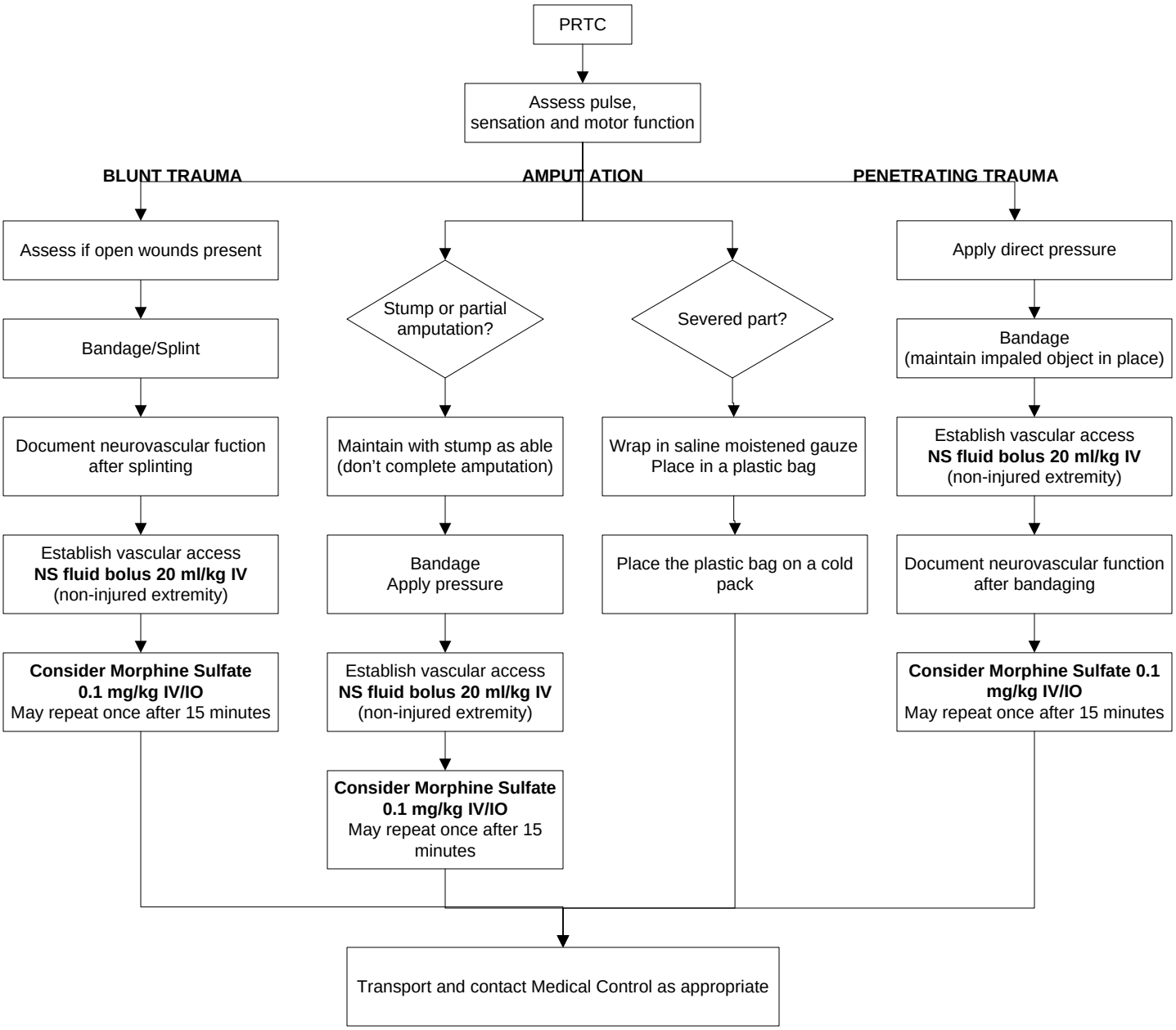


1 – Alternative to Versed IV: VALIUM 0.1-0.3 mg/kg IV over 2-3 minutes, every 5 minutes (< 5 years: maximum total dose 5 mg) (≥ 5 years: maximum total dose 10 mg) OR Ativan 0.1 mg/kg IV/IO May repeat X1 (maximum dose 4 mg)

2 – Alternative to Versed IM/IN: Ativan 0.1 mg/kg IM

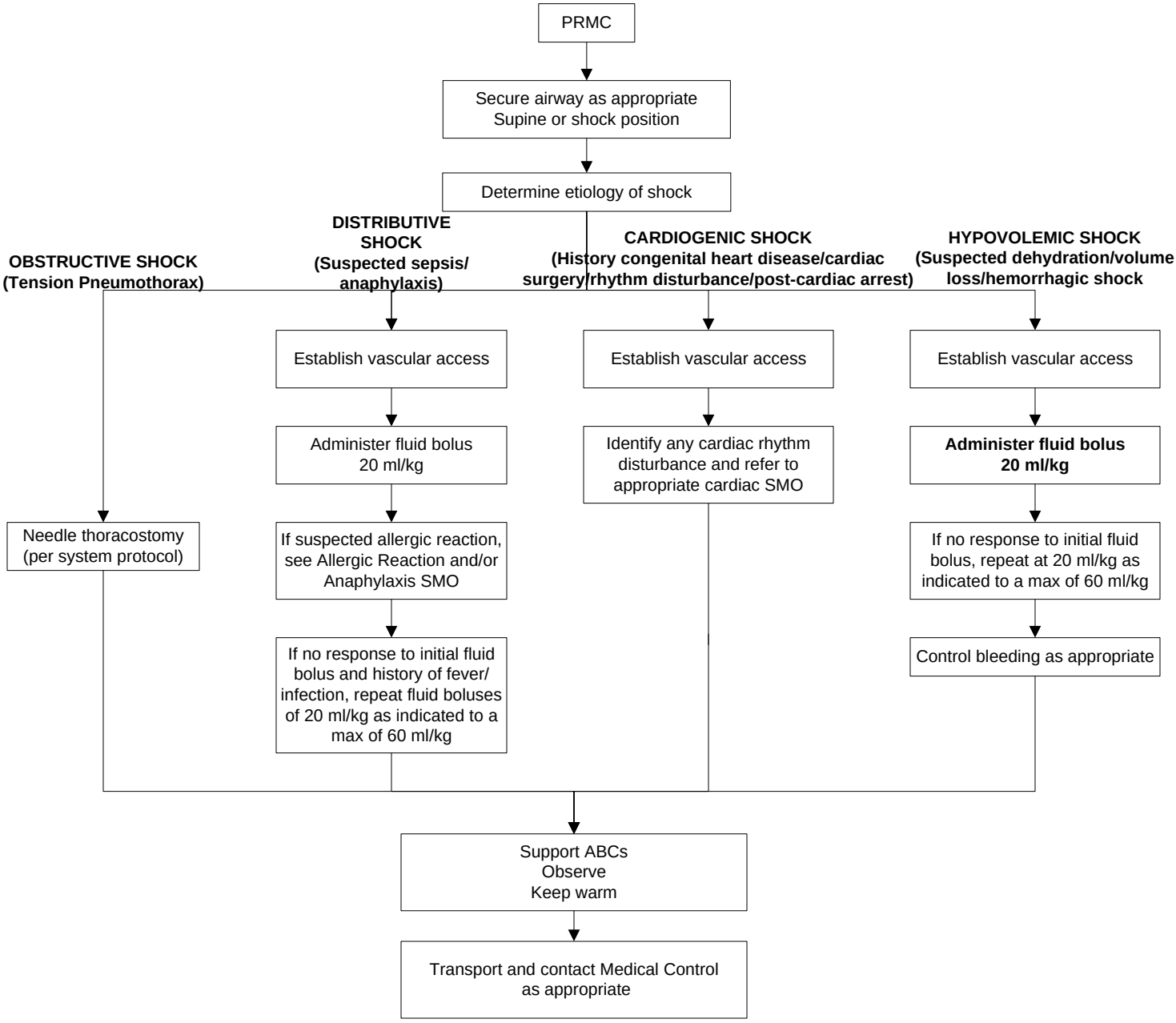
Written: 4/98
Reviewed: 4/99; 3/09; 7/10; 5/11; 5/12; 10/15
Revised: 5/99; 3/09; 7/10; 5/11; 5/12; 10/15
MDC Approval 4/98; 5/99; 4/7/09; 9/7/10; 6/7/11; 5/30/12; 10/5/15
IDPH Approval: 1/99; Summer 99; 7/9/09; 11/24/10; 9/29/11; 1/31/13; 6/9/14; 2/25/16
Implementation: 8/1/99; 1/1/10; 6/1/11; 4/1/12; 2/1/13; 6/1/15; 3/1/16

EXTREMITY TRAUMA - PEDIATRIC - ALS



Written: 5/04
Reviewed: 9/09; 5/11
Revised: 9/09
MDC Approval: 6/04; 9/09
IDPH Approval: 9/04; 3/5/10
Implementation: 1/1/05; 1/1/10

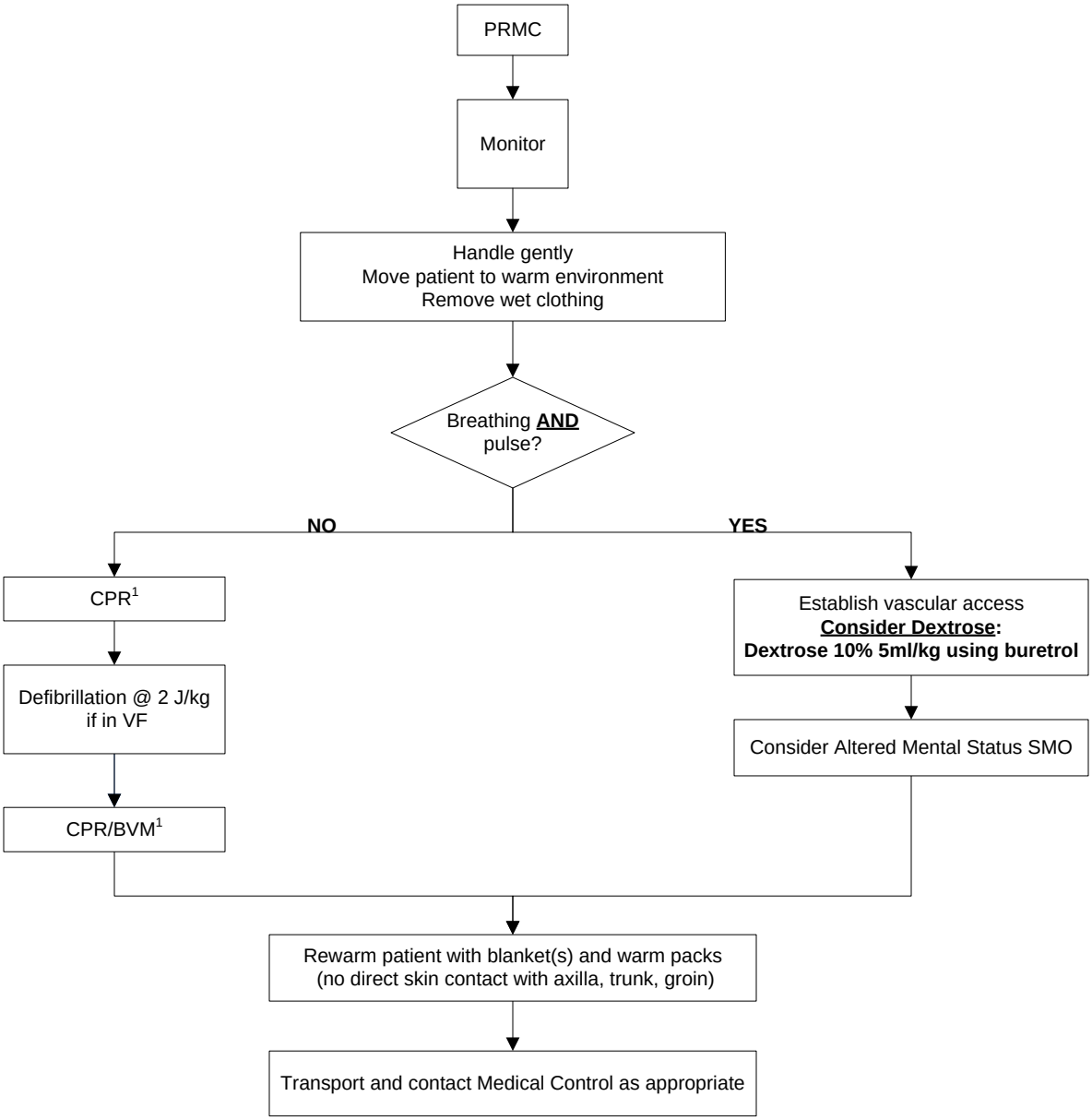
NON-TRAUMATIC SHOCK - PEDIATRIC - ALS



Special Considerations:
Caution – fluids may need to be restricted in Cardiogenic shock.

Written: 4/98
Reviewed: 3/09; 5/11; 5/14
Revised: 3/09; 5/14
MDC Approval: 4/98; 4/7/09; 5/19/14
IDPH Approval: 1/99; 7/9/09; 6/9/14
Implementation: 8/1/99; 1/1/10

HYPOTHERMIA - PEDIATRIC - ALS

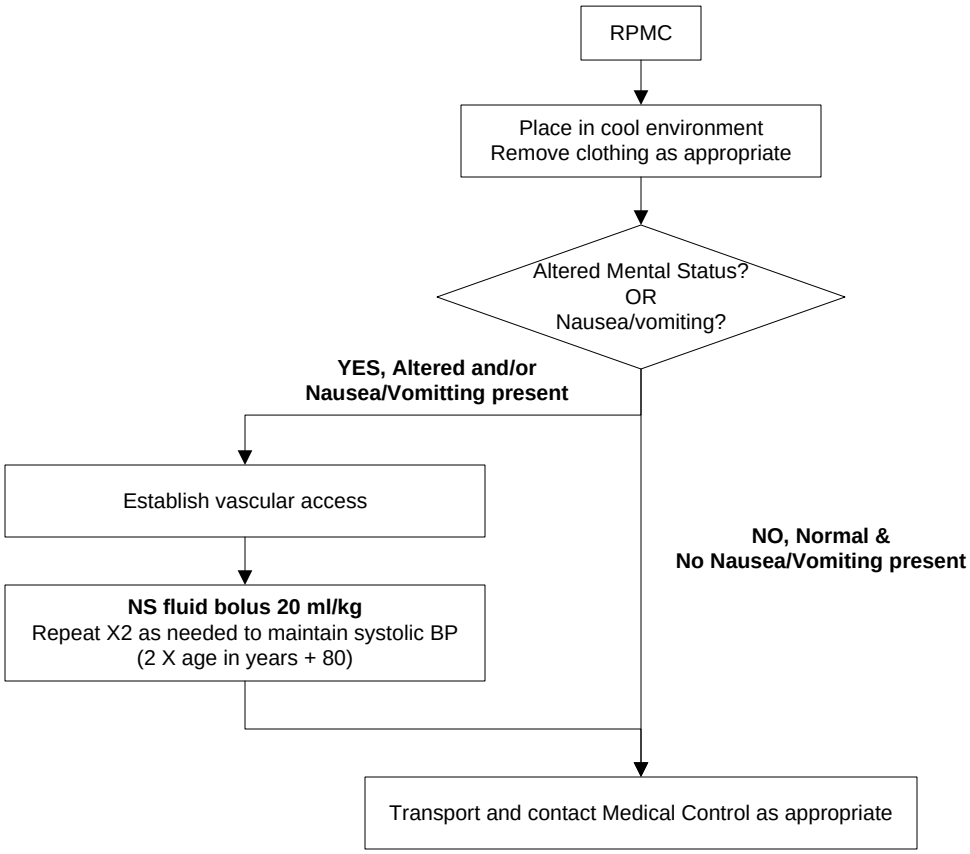


NOTES: **- May present with altered sensorium or as unconscious. Heart more susceptible to dysrhythmias. May have apnea, dusky or cyanotic appearance, fixed and dilated pupils; may appear without signs of life.**
- An individual in a frozen state is not considered salvageable.
- The suspected hypothermic 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

Written: 4/98
Reviewed: 12/01; 3/09; 6/11; 10/15
Revised: 1/02; 3/09; 6/11; 10/15
MDC Approval: 4/98; 1/02; 4/7/09; 6/7/11; 10/5/15
IDPH Approval: 1/99; 5/02; 7/9/09; 9/29/11; 2/25/16
Implementation: 8/1/99; 1/1/03; 1/1/10; 4/1/12; 3/1/16

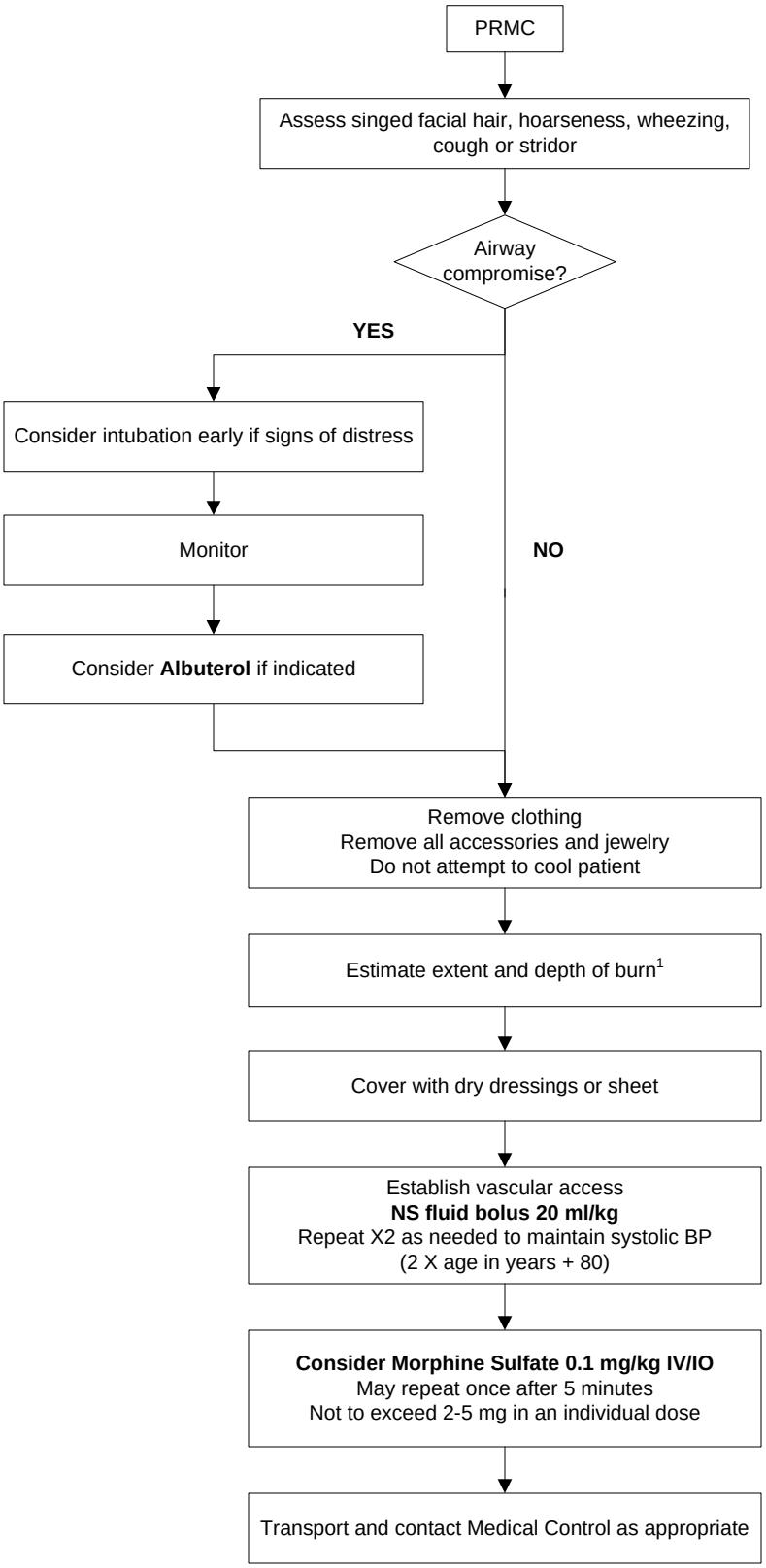
HEAT ILLNESS - PEDIATRIC - ALS



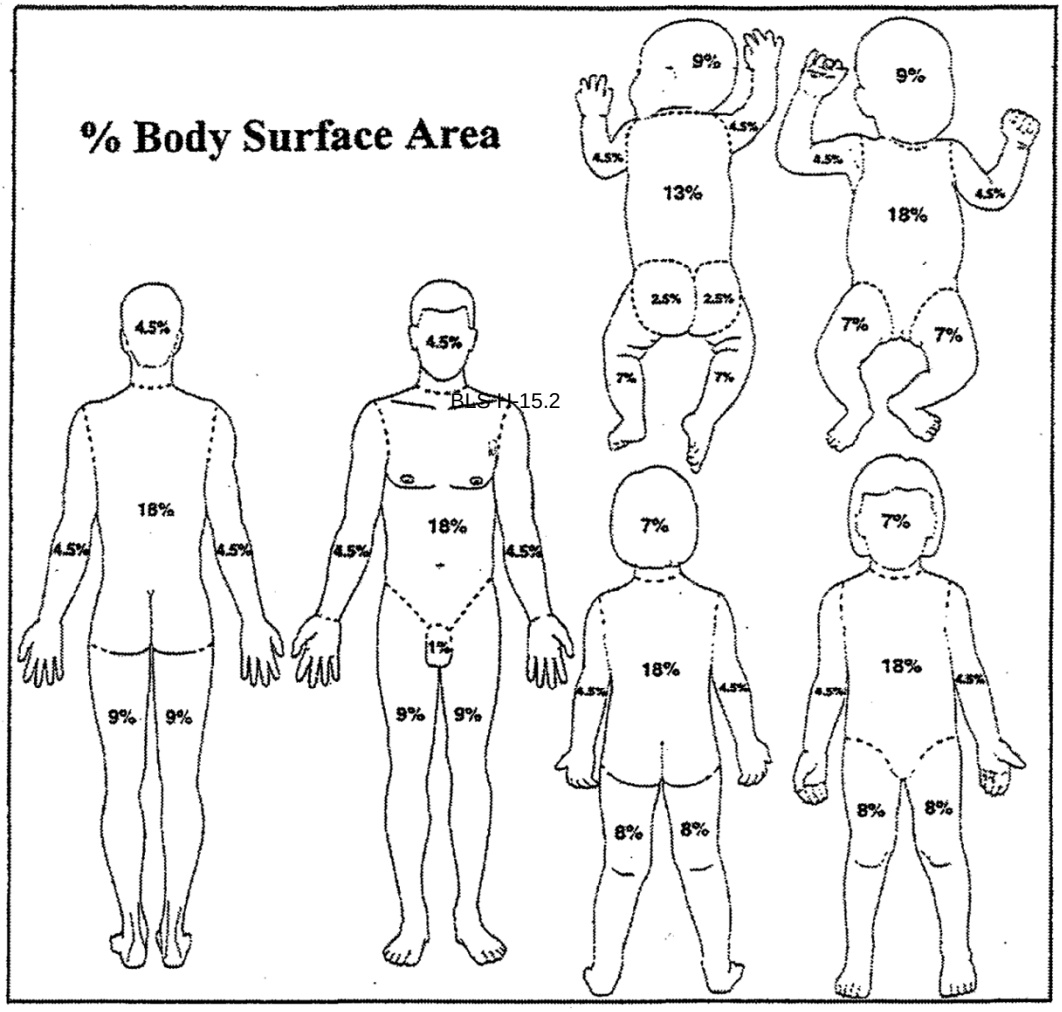
NOTE: Capillary refill may NOT be a reliable indicator when the patient's temperature is > 104 degrees

Written: Taken from adult SMOs 4/98
Reviewed: 4/98; 6/00; 3/09; 5/11
Revised: 6/00; 3/09
MDC Approval: 6/98; 6/00; 4/7/09
IDPH Approval: 1/99; 8/00; 7/9/09
Implementation: 8/1/99; 10/00; 1/1/10

BURNS - PEDIATRIC - ALS



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

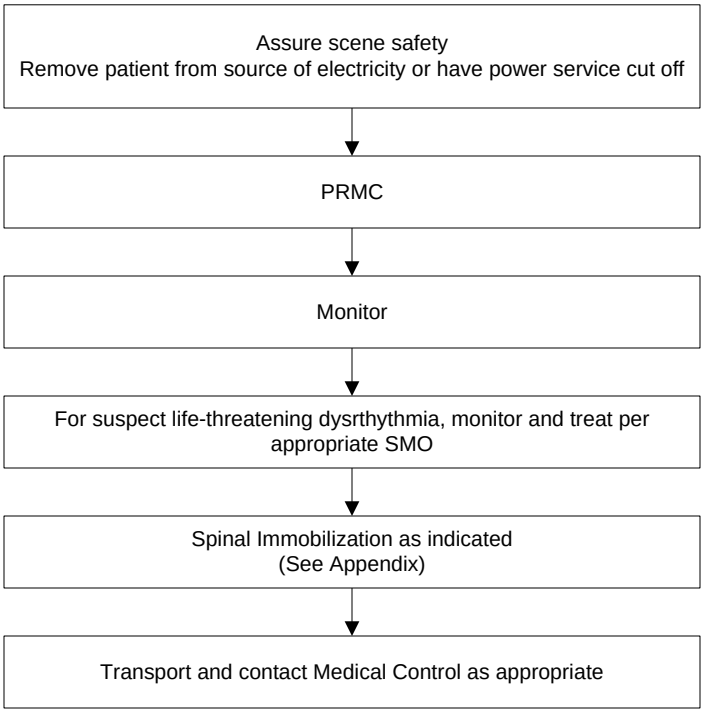


BLS H-15.2

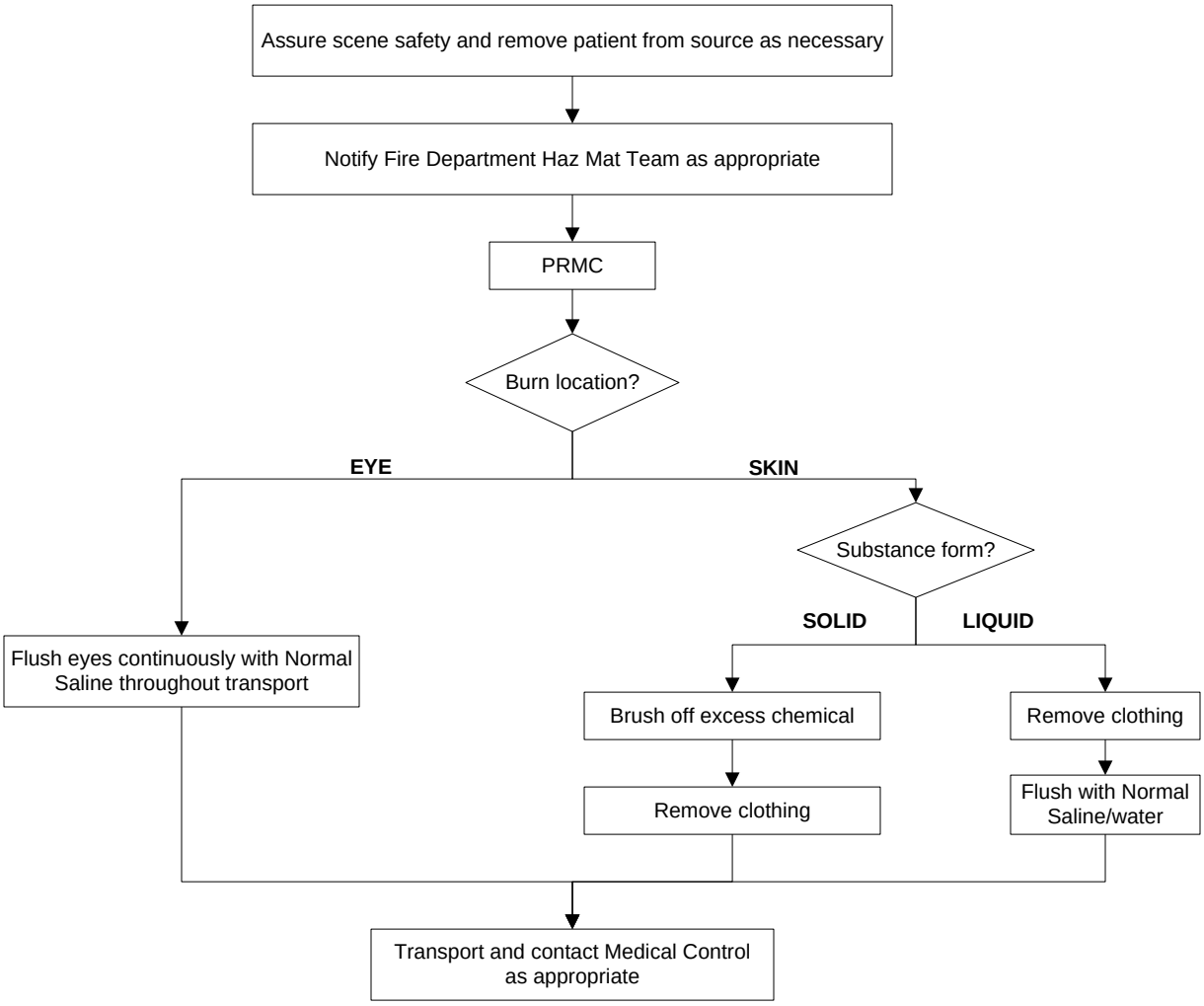
Palm of hand (including fingers) of infant or child = 1% of the total body surface

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 - ALS



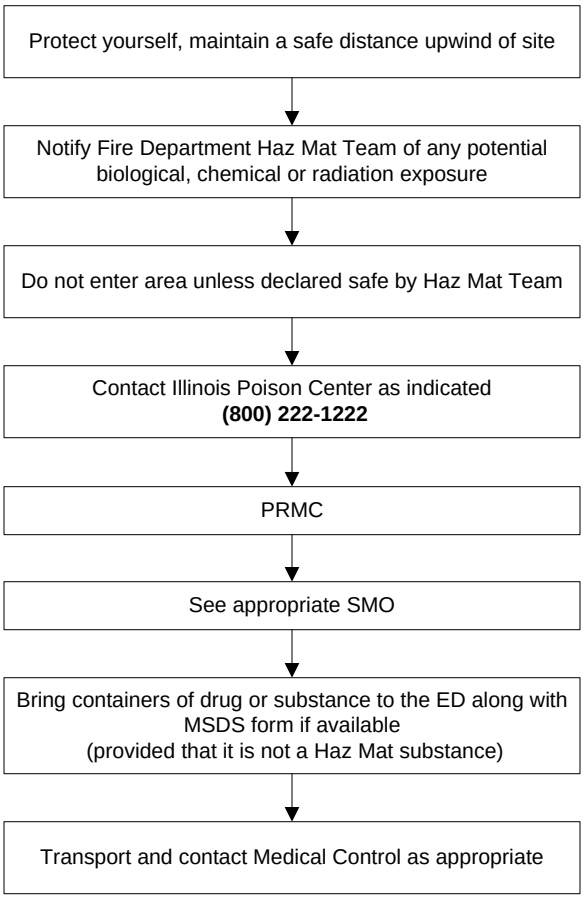
CHEMICAL BURNS - PEDIATRIC - ALS



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

Written: Taken from adult burn SMO 4/98
Reviewed: 3/00; 5/04;3/09; 5/11
Revised: 3/00; 5/04; 3/09; 5/11
MDC Approval: 4/98; 3/00; 6/04; 4/7/09; 6/7/11
IDPH Approval: 1/99; 8/00; 9/04; 7/9/09; 9/29/11
Implementation: 8/1/99; 10/00; 1/1/05; 1/1/10; 4/1/12

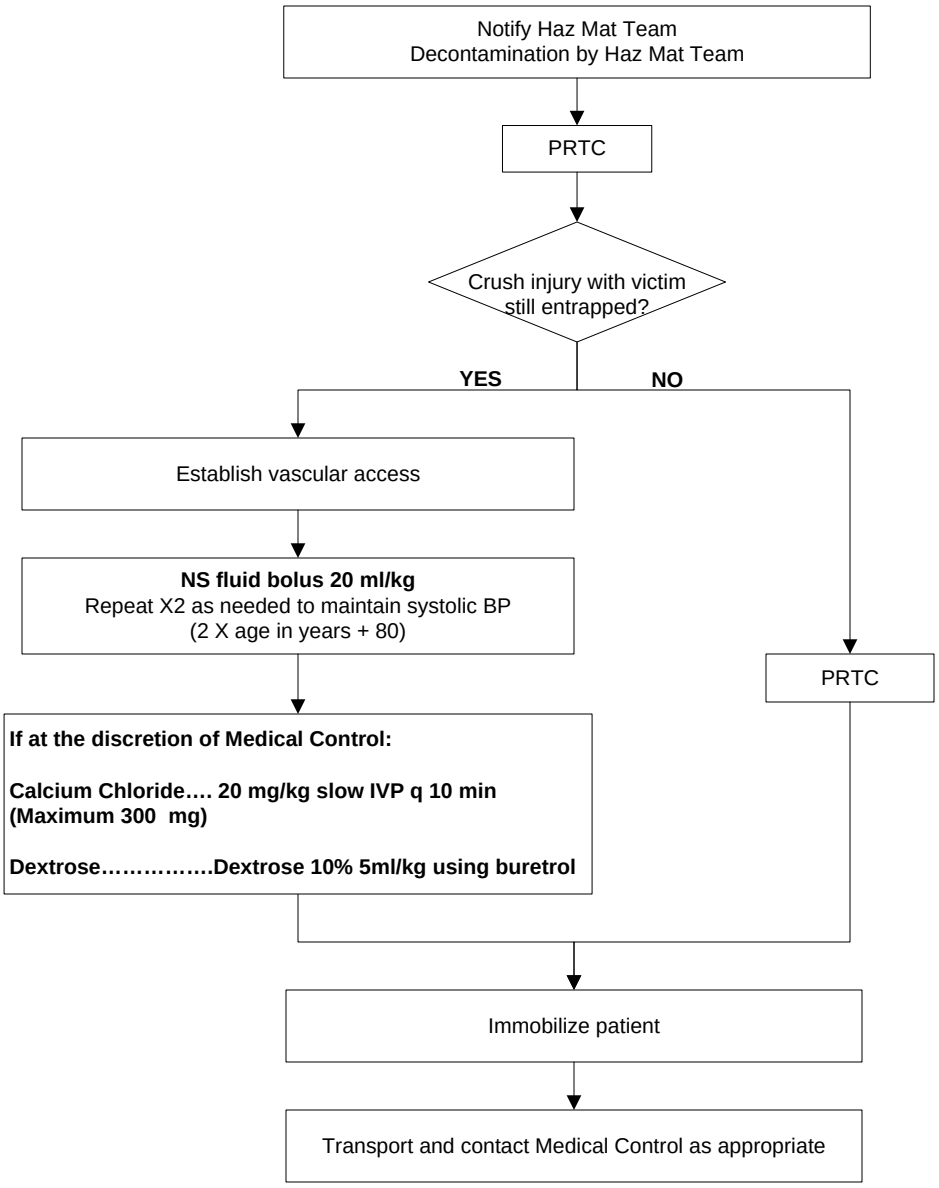
HAZ MAT / TOXIC EXPOSURE - PEDIATRIC - ALS



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

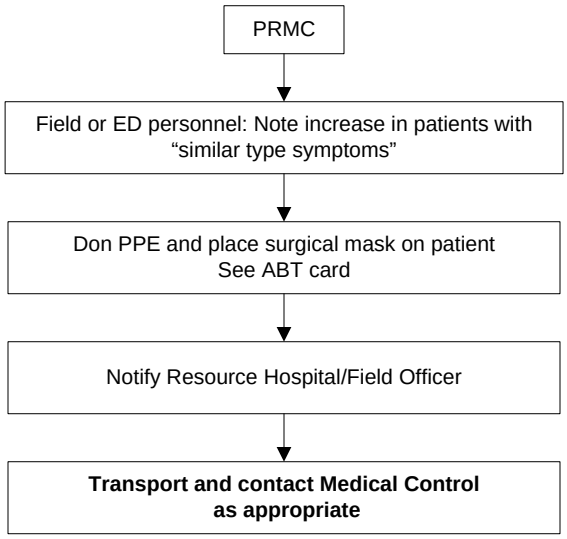
Written: 4/98
Reviewed: 3/09; 5/11
Revised: 3/09; 5/11
MDC Approval: 4/98; 4/7/09; 6/7/11
IDPH Approval: 1/99; 7/9/09; 9/29/11
Implementation: 8/1/99; 1/1/10; 4/1/12

HAZ MAT / NUCLEAR-BLAST INJURIES - PEDIATRIC - ALS



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

HAZ MAT / SUSPECTED BIOLOGICAL - PEDIATRIC - ALS



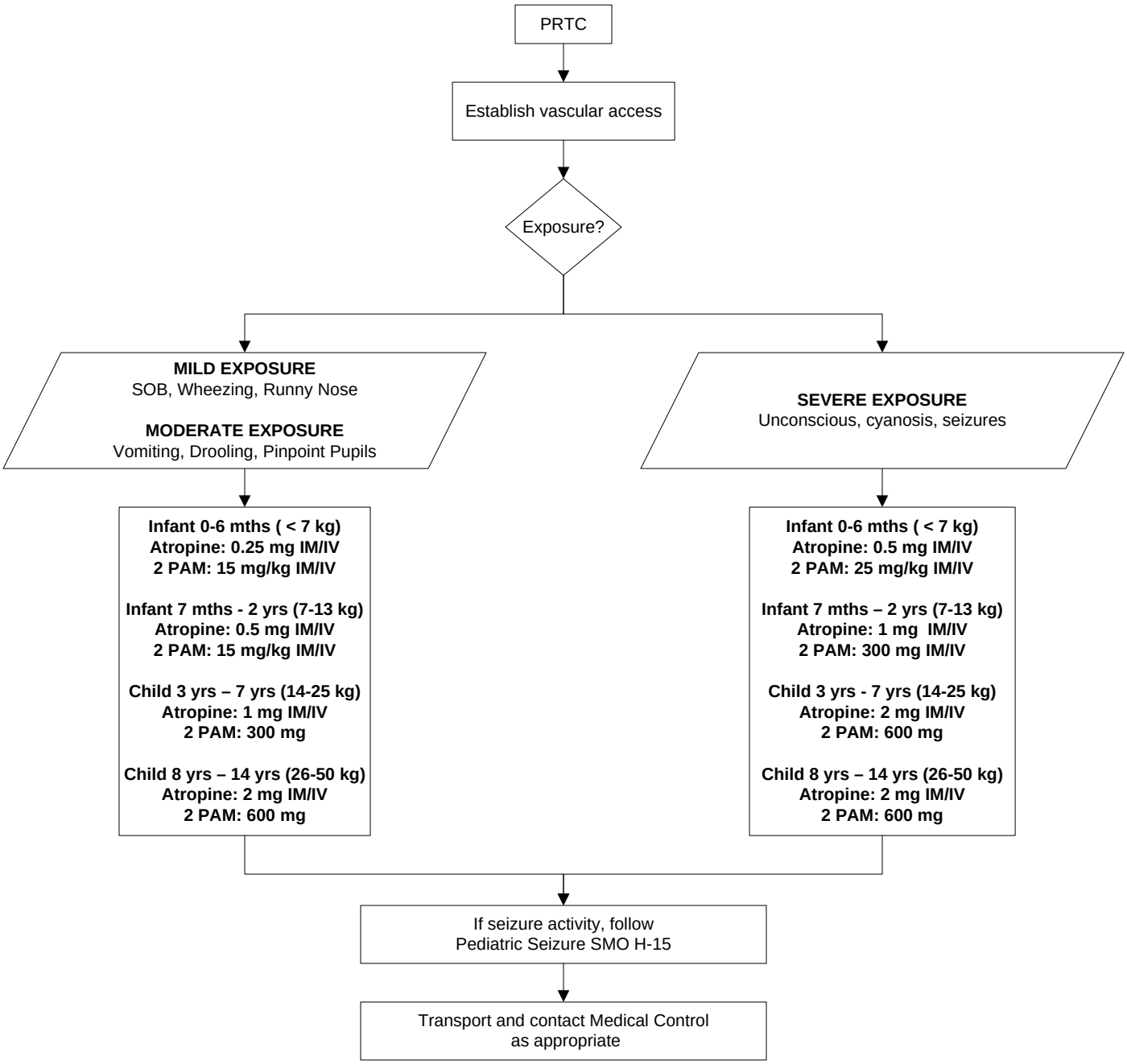
*** All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.**

HAZ MAT / CHEMICAL - PEDIATRIC - ALS

1 – If available, CyanoKit 70 mg/kg IV up to 5 gms

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

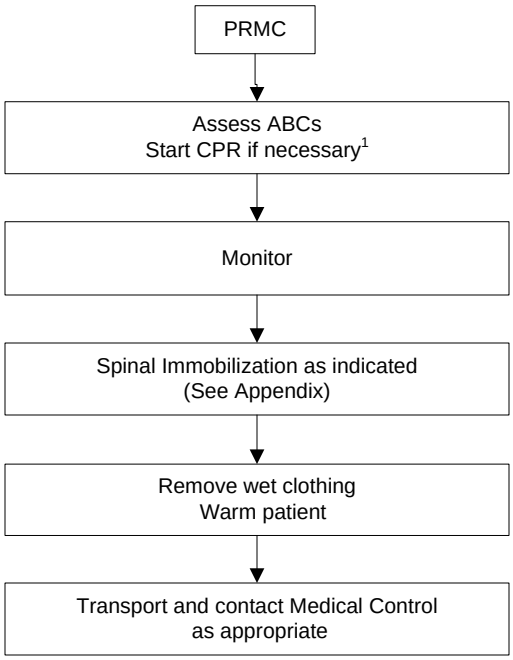
HAZ MAT / NERVE AGENTS - PEDIATRIC - ALS



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

Written: 12/08
Reviewed: 3/09; 6/11; 5/14; 11/15
Revised: 3/09; 6/11; 5/14; 11/15
MDC Approval: 4/7/09; 6/7/11; 5/19/14; 11/17/15
IDPH Approval: 7/9/09; 9/29/11; 6/9/14; 2/25/16
Implementation: 1/1/10; 4/1/12; 6/1/15; 3/1/16

NEAR DROWNING - PEDIATRIC - ALS



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

Written: 4/98
Reviewed: 3/09; 5/11
Revised: 3/09
MDC Approval: 4/98; 4/7/09
IDPH Approval: 1/99; 7/9/09
Implementation: 8/1/99; 1/1/10

PEDIATRIC DRUG DOSING
DOSE REFERENCE GUIDE - ALS

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

DRUG	DOSE	MODE	INTERVAL/ RATE	MAX SINGLE DOSE	DOSE PREP.
ADENOSINE	0.1-0.2 mg/kg	IV/IO rapid	X 1	12 mg	6 mg/2 ml
ALBUTEROL	2.5 mg	Nebulizer	X 1	2.5 mg	2.5 mg/3 ml
AMIODARONE	5 mg/kg	IV/IO	may repeat initial dose X2	300 mg	150 mg/3 ml
ATIVAN	0.1 mg/kg	IV/IO/IN/IM	X1	4 mg	2 mg/1 ml
ATROPINE	0.02 mg/kg (minimum dose: 0.1mg)	IV/ET/IO	q 5 min total of 1mg	0.5 mg child 1 mg adolescent	1mg /10 ml
ATROVENT	0.5 mg	Nebulizer	X 1	0.5 mg	0.5 mg/3 ml
BENADRYL	1 mg/kg	IV/IO/IM	X 1	50 mg	50 mg/1 ml
CALCIUM CHLORIDE 10%	20 mg/kg	IV/IO slow	q 10 min x 1	300 mg	10% solution 100 mg/ml
DEXTROSE 10% (All Ages)	5 ml/kg	IV/IO	as indicated		D10% W using buretrol
DEXTROSE 50% (Age > 8 years)	1-2 ml/kg	IV/IO	as indicated		D50% 50ml
EPINEPHRINE 1:1,000	0.01 mg/kg (= 0.01 ml/kg)	SQ/IM	q 20 min	0.3 mg	1 mg/1 ml
EPINEPHRINE 1:1,000	0.1 mg/kg (= 0.1 ml/kg)	ET	q 3-5 min	10 ml	1 mg/1 ml If volume is <3 ml flush w/3 ml NS
EPINEPHRINE 1:10,000	0.01 mg/kg (= 0.1 ml/kg)	IV/IO	q 3-5 min	5-1 0 ml	1 mg/10 ml

PEDIATRIC DRUG DOSING -- DOSE REFERENCE GUIDE (Con't.)

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

DRUG	DOSE	MODE	INTERVAL/ RATE	MAX SINGLE DOSE	DOSE PREP.
GLUCAGON	0.1 mg/kg	IM	X 1	1 mg	1 mg powder
GLUCOSE, ORAL[1] (Age 1 month to 3 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
MORPHINE	0.1 mg/kg	IV/IO/IM	q 5 min	10mg	10 mg/10 ml
NALOXONE	0.1 mg/kg	IV/ET/IO/ IM/IN		2mg	2 mg/2 ml
VALIUM	0.1-0.3 mg/kg	IV/IO	slow push	< 5 yrs. 5mg > 5 yrs. 10mg	10 mg/2 ml
VERSED	0.2 mg/kg 0.1 mg/kg	IN IM		5 mg 5 mg	10 mg/2 ml 10 mg/2 ml

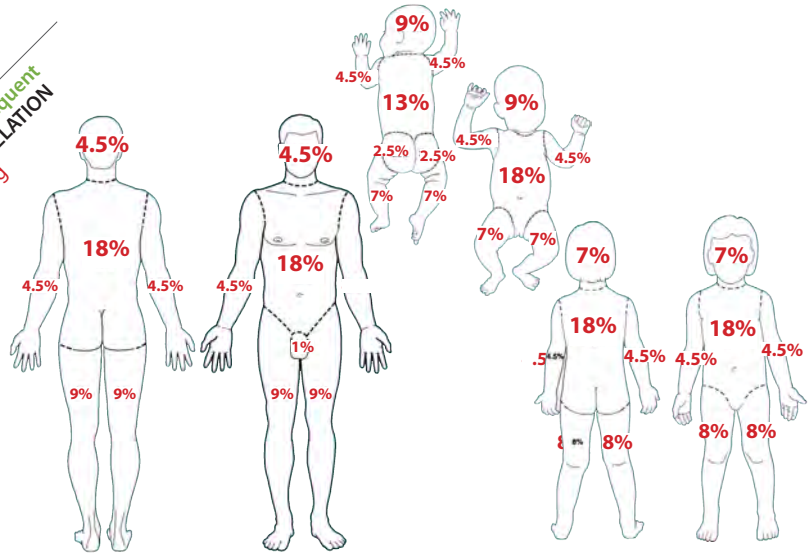
1 - Oral Glucose is NOT to be used for patients less than 1 month old.

Written: 7/86
Reviewed: 1/92, 6/15/95; 12/95; 12/97; 4/98; 2/99; 4/99; 6/04; 3/09; 7/10; 6/11; 3/12; 5/14; 11/15; 5/16
Revised: 11/91; 1/92, 6/15/95; 12/95; 5/96; 12/97; 4/98; 2/99; 5/99; 6/04; 3/09; 7/10; 6/11;5/12; 5/14; 11/15; 5/16
MDC Approval: 7/3/86; 10/3/91; 9/3/92; 7/13/95; 1/4/96; 6/13/96; 12/97; 5/98; 2/99; 5/99; 6/04; 4/7/09; 9/7/10; 6/7/11; 5/30/12; 5/19/14; 11/17/15; 6/7/16
IDPH Approval: 8/86; 12/3/91; 11/16/92; 2/20/96; 6/28/96; 1/99; Summer 99; 9/04; 7/9/09; 11/24/10; 9/29/11; 1/31/13; 6/9/14; 2/25/16; 8/11/16
Implementation: 8/86; 1/1/92; 3/1/93; 5/1/96; 8/1/99; 1/1/05; 1/1/10; 6/1/11; 4/1/12; 2/1/13; 6/1/15; 3/1/16; 10/17/16

Region XI Pediatric Resuscitation Card

AGE	WEIGHT IN KG	HEART RATE PER MINUTE	SYSTOLIC BLOOD PRESSURE	RESPIRATORY RATE	BLADE SIZE	ETT SIZE uncuffed, for cuffed use 0.5 smaller	1st CARDIOVERSION dose 0.5J/kg	2nd CARDIOVERSION dose 1.0J/kg	1st DEFIBRILLATION 2J/kg	2nd & Subsequent DEFIBRILLATION 4J/kg
NB	3	100-180	> 60	30-60	0-1	2.5-3	2 J	3 J	6 J	12 J
1 mo	4	100-180	> 60	30-60	0-1	2.5-3	2 J	4 J	8 J	16 J
2 mo	5	100-160	> 60	30-60	0-1	2.5-3	3J	5 J	10J	20J
3 mo	6	100-160	> 60	30-60	1	3.5-4	3 J	6 J	12 J	24 J
4 mo	7	100-160	> 60	30-60	1	3.5-4	4 J	7 J	14 J	28 J
6 mo	8	100-160	> 60	30-60	1	3.5-4	4 J	8 J	16 J	32 J
9 mo	9	100-160	> 60	30-60	1	3.5-4	4 J	9 J	18 J	36 J
1 yr	10	90-150	> 70	24-40	1	4-4.5	5 J	10 J	20 J	40 J
2 yr	12	90-150	> 70	24-40	2	4-4.5	6 J	12 J	24 J	48 J
3 yr	14	80-140	> 75	22-34	2	4.5-5	7 J	14 J	28 J	56 J
4 yr	16	80-140	> 75	22-34	2	4.5-5	8 J	16 J	32 J	64 J
5 yr	18	70-120	> 80	18-30	2	4.5-5	9 J	18 J	36 J	72 J
6 yr	20	70-120	> 80	18-30	2	5-5.5	10 J	20 J	40 J	80 J
	22	70-120	> 80	18-30	2	5-5.5	11 J	22 J	44 J	88 J
	24	70-120	> 80	18-30	2	5-5.5	12 J	24 J	48 J	96 J
8 yr	26	70-120	> 80	18-30	2-3	5.5-6.5	13 J	26 J	52 J	104 J
	28	70-120	> 80	18-30	2-3	5.5-6.5	14 J	28 J	56 J	112 J
9 yr	30	70-120	> 80	18-30	2-3	5.5-6.5	15 J	30 J	60 J	120 J
	32	70-120	> 80	18-30	2-3	5.5-6.5	16 J	32 J	64 J	128 J
10 yr	34	70-120	> 80	18-30	2-3	5.5-6.5	17 J	34 J	68 J	136 J
	36	70-120	> 80	18-30	2-3	5.5-6.5	18 J	36 J	72 J	144 J
	38	70-120	> 80	18-30	2-3	5.5-6.5	19 J	38 J	76 J	152 J
12 yr	40	60-100	> 90	12-16	3	6-7.0	20 J	40 J	80 J	160 J
	42	60-100	> 90	12-16	3	6-7.0	21 J	42 J	84 J	168 J
	44	60-100	> 90	12-16	3	6-7.0	22 J	44 J	88 J	176 J
13yr	46	60-100	> 90	12-16	3	6-7.0	23 J	46 J	92 J	184 J
	48	60-100	> 90	12-16	3	6-7.0	24 J	48 J	96 J	192 J
adol	50	60-100	> 90	12-16	3	7.0-8	25 J	50 J	100 J	200 J

% BODY SURFACE AREA



PALM OF HAND (INCLUDING FINGERS) OF INFANTS OR CHILD = 1% OF TOTAL BODY SURFACE

PEDIATRIC GLASCOW COMA SCALE (PGCS)

	> 1 Year		< 1 Year	SCORE
EYE OPENING	Spontaneously		Spontaneously	4
	To Verbal Command		To Shout	3
	To Pain		To Pain	2
	No Response		No Response	1
MOTOR RESPONSE	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
VERBAL RESPONSE	> 5 Years	2-5 Years	0-23 Months	
	Oriented	Appropriate Words/Phrases	Smiles/Coos Approriately	5
	Disoriented/Confused	Inappropriate Words	Cries and is consolable	4
	Inappropriate Words	Persistent Cries & Screams	Persistent inappropriate crying and/or screaming	3
	Incomprehensible Sounds	Grunts	Grunts, agitated and restless	2
	No Response	No Response	No Response	1
TOTAL PEDIATRIC GLASCOW COMA SCORE:				(3-15)

APGAR SCORING

	0	1	2	1MIN	5MIN
A = Appearance (color)	Blue, Pale	Blue Hands & Feet	Entirely Pink	____	____
P = Pulse (heart rate)	Absent	<100/min	>100/min	____	____
G = Grimace (reflex irritability)	No Response	Grimace	Cough or Sneeze	____	____
A = Activity (muscle tone)	Limp	Some Flexion of Extremeties	Active Motion	____	____
R = Respiratory Effort	Absent	Weak Cry, Hypoventilation	Good, Strong Cry	____	____
			TOTALS =	____	____

Region XI Pediatric Resuscitation Card

CHICAGO EMS

AGE	WEIGHT IN KG	FLUID BOLUS 0.9 NS 20ml/kg/IV (NB 10ml/kg)	1st DOSE ADENOSINE 6mg/2ml 0.1mg/kg IV	2nd DOSE ADENOSINE 6mg/2ml 0.2mg/kg IV	ATROPINE 1mg/10ml 0.02mg/kg (min dose 0.1mg) IV	BENADRYL 50mg/ml 1mg/kg IV, IM	DEXTROSE D50% 1mL/kg IV/IO for >8 D25% 2-4ml/kg for 1-8; D12.5% 4-8ml/kg for age<1 (dilute D25% 1:1) for all conentrations, may repeat x1 if needed	DEXTROSE 10% 25g/250ml 0.5g/kg 5ml/kg IV	EPINEPHrine 1:1,000 0.01mg/kg IM	EPINEPHrine IV 1:10,000 0.01mg/kg IV	fentaNYL 50mcg/ml 1mcg/kg IV	MORPHINE 10mg/1ml 0.1mg/kg IV	NARCAN 0.4mg/ml 0.1mg/kg IV	NARCAN 2mg/2ml 0.1mg/kg IV	VERSED IN 10mg/2ml 0.2mg/kg IN	VERSED IM 10mg/2ml 0.1mg/kg IM
NB	3	30 ml	0.1 ml	0.2 ml	1 ml	x	12-24 ml D12.5%	15 ml	x	0.3 ml	x	x	0.7 ml	0.3 ml	0.1 ml	x
1 mo	4	80 ml	0.1 ml	0.3 ml	1 ml	x	16-32 ml D12.5%	20 ml	x	0.4 ml	x	x	1 ml	0.4 ml	0.2 ml	x
2 mo	5	100 ml	0.2 ml	0.3 ml	1ml	0.1 ml	20-40 ml D12.5%	25 ml	x	0.5 ml	0.1 ml	x	1.2 ml	0.5 ml	0.2 ml	x
3 mo	6	120 ml	0.2 ml	0.4 ml	1.2 ml	0.1 ml	24-48 ml D12.5%	30 ml	x	0.6 ml	0.1 ml	x	1.5 ml	0.6 ml	0.2 ml	0.1 ml
4 mo	7	140 ml	0.2 ml	0.4 ml	1.4 ml	0.1ml	28-56 ml D12.5%	35 ml	x	0.7 ml	0.1 ml	x	1.8 ml	0.7 ml	0.3 ml	0.1 ml
6 mo	8	160 ml	0.3 ml	0.5 ml	1.6 ml	0.2 ml	32-64 ml D12.5%	40 ml	x	0.8 ml	0.1 ml	x	2 ml	0.8 ml	0.3 ml	0.2 ml
9 mo	9	180 ml	0.3 ml	0.5 ml	1.8 ml	0.2 ml	36-72 ml D12.5%	45 ml	0.1 ml	0.9 ml	0.2 ml	x	2 ml	0.9 ml	0.3 ml	0.2 ml
1 yr	10	200 ml	0.3 ml	0.7 ml	2 ml	0.2 ml	20-40 ml D25%	50 ml	0.1 ml	1 ml	0.2 ml	0.1 ml	2.5 ml	1 ml	0.4 ml	0.2 ml
2 yr	12	240 ml	0.4 ml	0.8 ml	2.4 ml	0.2 ml	24-48 ml D25%	60 ml	0.1 ml	1.2 ml	0.2 ml	0.1 ml	3 ml	1.2 ml	0.5 ml	0.2 ml
3 yr	14	280 ml	0.5 ml	0.9 ml	2.8 ml	0.3 ml	28-56 ml D25%	70 ml	0.1 ml	1.4 ml	0.3 ml	0.1 ml	3.5 ml	1.4 ml	0.6 ml	0.3 ml
4 yr	16	320 ml	0.5 ml	1.1 ml	3.2 ml	0.3ml	32-64 ml D25%	80 ml	0.2 ml	1.6 ml	0.3 ml	0.1 ml	4 ml	1.6 ml	0.6 ml	0.3 ml
5 yr	18	360 ml	0.6 ml	1.2 ml	3.6 ml	0.4 ml	36-72 ml D25%	90 ml	0.2 ml	1.8 ml	0.4 ml	0.1 ml	4.5 ml	1.8 ml	0.7 ml	0.4 ml
6 yr	20	400 ml	0.7 ml	1.3 ml	4 ml	0.4 ml	40-80 ml D25%	100 ml	0.2 ml	2 ml	0.4 ml	0.2 ml	5 ml	2 ml	0.8 ml	0.4 ml
	22	440 ml	0.7 ml	1.5 ml	4.4 ml	0.4 ml	44-88 ml D25%	110 ml	0.2 ml	2.2 ml	0.4 ml	0.2 ml	5 ml	2 ml	0.9 ml	0.4 ml
	24	480 ml	0.8 ml	1.6 ml	4.8 ml	0.5 ml	48-96 ml D25%	120 ml	0.2 ml	2.4 ml	0.5 ml	0.2 ml	5 ml	2 ml	1 ml	0.5 ml
8 yr	26	520 ml	0.9 ml	1.7 ml	5 ml	0.5 ml	52-104 ml D25%	130 ml	0.3 ml	2.6 ml	0.5 ml	0.2 ml	5 ml	2 ml	1 ml	0.5 ml
	28	560 ml	0.9 ml	1.9 ml	5 ml	0.6 ml	56-112 ml D25%	140 ml	0.3 ml	2.8 ml	0.5 ml	0.2 ml	5 ml	2 ml	1.1 ml	0.6 ml
9 yr	30	600 ml	1 ml	2 ml	5 ml	0.6 ml	30 ml D50%	150 ml	0.3 ml	3 ml	0.6 ml	0.3 ml	5 ml	2 ml	1.2 ml	0.6 ml
	32	640 ml	1.1 ml	2.1 ml	5 ml	0.6 ml	32 ml D50%	160 ml	0.3 ml	3.2 ml	0.6 ml	0.3 ml	5 ml	2 ml	1.3 ml	0.6 ml
10 yr	34	680 ml	1.2 ml	2.3 ml	5 ml	0.7 ml	34 ml D50%	170 ml	0.3 ml	3.4 ml	0.7 ml	0.3 ml	5 ml	2 ml	1.4 ml	0.7 ml
	36	720 ml	1.2 ml	2.4 ml	5 ml	0.7 ml	36 ml D50%	180 ml	0.3 ml	3.6 ml	0.7 ml	0.3 ml	5 ml	2 ml	1.4 ml	0.7 ml
	38	760 ml	1.3 ml	2.5 ml	5 ml	0.8 ml	38 ml D50%	190 ml	0.3 ml	3.8 ml	0.7 ml	0.3 ml	5 ml	2 ml	1.5 ml	0.8 ml
12 yr	40	800 ml	1.3 ml	2.7 ml	5 ml	0.8 ml	40 ml D50%	200 ml	0.3 ml	4 ml	0.8 ml	0.4 ml	5 ml	2 ml	1.6 ml	0.8 ml
	42	840 ml	1.4 ml	2.8 ml	5 ml	0.8 ml	42 ml D50%	210 ml	0.3 ml	4.2 ml	0.8 ml	0.4 ml	5 ml	2 ml	1.7 ml	0.8 ml
	44	880 ml	1.5 ml	2.9 ml	5 ml	0.9 ml	44 ml D50%	220 ml	0.3 ml	4.4 ml	0.9 ml	0.4 ml	5 ml	2 ml	1.8 ml	0.9 ml
13 yr	46	920 ml	1.5 ml	3.1 ml	5 ml	0.9 ml	46 ml D50%	230 ml	0.3 ml	4.6 ml	0.9 ml	0.4 ml	5 ml	2 ml	1.8 ml	0.9 ml
	48	960 ml	1.6 ml	3.2 ml	5 ml	1 ml	48 ml D50%	240 ml	0.3 ml	4.8 ml	1 ml	0.4 ml	5 ml	2 ml	1.9 ml	1 ml
adol	50	1000 ml	1.7 ml	3.3 ml	5 ml	1 ml	50 ml D50%	250 ml	0.3 ml	5 ml	1 ml	0.5 ml	5 ml	2 ml	2 ml	1 ml

APPENDIX

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.

Written: 2/16
Reviewed:
Revised:
MDC Approval: 2/16/16
IDPH Approval: 2/25/16
Implementation: 3/1/16

GLASGOW COMA SCALE (GCS)

TOTAL 3 to 15

EYES OPEN:	Spontaneously	4
	Verbal	3
	Pain	2
	None	1
BEST VERBAL:	Oriented	5
	Confused	4
	Inappropriate	3
	Incomprehensible	2
	None	1
BEST MOTOR:	Obeys	6
	Localizes	5
	Withdraws	4
	Abnormal Flexion	3
	Abnormal Extension	2
	None	1

Written: 12/08
Reviewed: 3/09; 5/11
Revised: 3/09
MDC Approval: 4/7/09
IDPH Approval: 7/9/09
Implementation: 1/1/10

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 ≤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

Written: 12/08
Reviewed: 3/09; 5/11
Revised: 3/09; 5/11
MDC Approval: 4/7/09; 6/7/11
IDPH Approval: 7/9/09; 9/29/11
Implementation: 1/1/10; 4/1/12

ADVANCED AIRWAY MANAGEMENT

I. PEDIATRIC ADVANCED AIRWAY MANAGEMENT

Pediatric patients ≤ 8 years of age should have their airway preferentially managed via BVM and oral or nasal airway.

II. ADULT ORAL ENDOTRACHEAL INTUBATION

INDICATIONS

Considered for patients with:

- Apnea
- Inadequate respiratory effort, or
- An inability to protect the patient airway (e.g., Glasgow Coma Scale less than or equal to 8)

CONTRAINDICATIONS

Inability to visualize anatomical landmarks.

EQUIPMENT

1. Oral airway
2. Bag-valve-mask
3. O_2
4. Suction
5. Stethoscope
6. Appropriately sized ET tube and stylet
7. Appropriately sized Laryngoscope blade and handle
8. 10cc syringe
9. ETT holder
10. Pulse oximeter and capnography

PROCEDURE

1. Apply personal protective equipment.

2. Position patient to open airway, insert OP and maintain in-line stabilization for all suspected trauma patients.

3. Create seal with mask on patient's face and assist ventilation with bag-valve-mask device.

4. Assemble all equipment and test for function. Attach pulse oximeter.

5. Remove oral airway, insert laryngoscope blade to visualize vocal cords.

6. Insert the ET tube until the cuff passes through the cords and remove the stylet if used.

7. Immediately connect the EtCO2 detector to the ET tube and confirm placement with EtCO2 waveform.

8. If EtCO2 waveform indicates **improper** ET tube placement, immediately remove the ET tube and ventilate the patient using the BVM. Consider securing an airway with the King/Supraglottic Airway.

9. If ET tube placement cannot be visualized with direct laryngoscopy, return to step 3. May repeat for a total of two (2) attempts, then proceed to Part II -- King/Supraglottic Airway Intubation.

10. All patients, once intubated, should have both lungs auscultated for adequate ventilation. Next auscultate the epigastric area for absence of air movement, then secure the ET tube and insert oral airway. **Attach capnography and monitor continuously.**

11. If inadequate lung sounds are auscultated on the **LEFT** side, the tube should be pulled back in 1 cm increments until equal breath sounds are heard.

12. Lung sounds should be continually re-assessed throughout patient contact and whenever patient is moved or position changed. Continually reassess pulse oximeter and capnography.

13. If at any time:
    - the bag becomes difficult to compress,
    - there is evidence of hypoperfusion (changes in vital signs, mental status or decreased capillary refill),
    - change in tube position does not demonstrate clinical improvement,

    Tube placement verification should be reassessed by direct visualization. Reassess pulse oximeter and capnography. If the ET tube is inappropriately placed, return to step 3.

14. If the ET tube is appropriately placed, consider chest decompression for tension pneumothorax.

15. Continue to assist ventilations as indicated.

16. Documentation should include all procedures associated with intubation process that were attempted and completed.

II. 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 CO2 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.

Written: 11/96
Replaces: Management of Intubated Patients, I-5, 1/96
Reviewed: 6/97; 1/01; 3/09; 6/11; 11/14; 10/15
Revised: 6/97; 1/01; 3/09; 6/11; 11/14; 10/15
MDC Approval: 12/5/96; 7/97; 2/01; 4/7/09; 6/7/11; 11/13/14; 10/5/15
IDPH Approval: 2/14/97; 1/99; 4/01; 7/9/09; 9/29/11; 5/21/15; 2/25/16
Implementation: 6/1/97; 8/1/99; 5/1/01; 1/1/10; 4/1/12; 6/1/15; 3/1/16

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 CO2 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/ETCO2/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 metronome when available). 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 CO2 to BVM. Monitor ETCO2 to assess quality of CPR. Goal ETCO2: > 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.7)
    b. Continue resuscitation on scene and re-contact medical control
    c. ROSC achieved (consider Therapeutic Hypothermia ALS I-5.1) and transport to the 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 12 and 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 ETCO2 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 CO2

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

Written: 4/5/13
Reviewed: 10/15
Revised: 10/15
MDC Approval: 4/5/13; 10/5/15
IDPH Approval: 6/26/13; 2/25/16
Implementation: 1/6/14; 3/1/16

ADULT POST-CARDIAC ARREST CARE

PROCEDURE:

1. Confirm Return of Spontaneous Circulation (ROSC)
    a. Identify palpable pulse
    b. Document auscultated blood pressure
    c. Check blood glucose, treat hypoglycemia accordingly

2. Assess oxygenation and ventilation
    a. Maintain oxygen saturation ≥ 94%
    b. Assist spontaneous respirations with BVM as necessary
    c. If no spontaneous respirations, place King Airway or Endotracheal Tube and attach continuous ETCO2 capnography
    d. Avoid hyperventilation
    e. Titrate ventilation to target ETCO2 of 35-40 mmHg

3. Assess circulation
    a. Obtain 12 lead EKG
    b. If SBP is less than 90 mmHg, administer one 300 ml bolus of NS and repeat as indicated to maintain SBP ≥ 90 mmHg

4. Assess mental status
    a. If patient is comatose with GCS ≤8, begin Therapeutic Hypothermia (see indications and contraindications below)

5. Contact Medical Control
    a. Minimize movement of patient during post-arrest phase
    b. In the radio report, notify Medical Control if:
        i. Patient has ST Elevation Myocardial Infarction (STEMI) on 12 lead AND/OR
        ii. If therapeutic hypothermia has been started

6. Transport patient to STEMI Receiving Center (SRC)

THERAPEUTIC HYPOTHERMIA

INDICATIONS:

1. Adult cardiac arrest with ROSC
2. Sustained ROSC for a minimum of 5 minutes after arrest
3. Comatose with GCS ≤ 8 (lack of meaningful response to verbal commands)

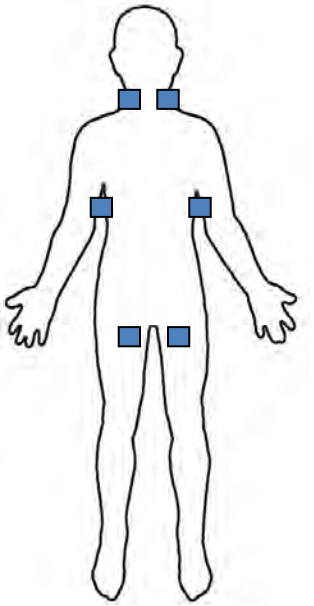
CONTRAINDICATIONS:

1. Traumatic cardiac arrest
2. Pregnancy
3. Do Not Resuscitate (DNR) status
4. Patients with known bleeding problem or active bleeding
5. Patients with significant known liver disease

IMPLEMENTATION:

Apply ice packs to each of the following locations (6 total):

a. 1 to each carotid artery on neck
b. 1 to each axilla
c. 1 to each femoral artery on groin



Snap and then apply ice packs as shown. One over each carotid artery (neck), one in each axilla, and one over each femoral artery (groin)

Written: 2/15
Reviewed: 3/15
Revised:
MDC Approval: 3/3/15
IDPH Approval: 5/12/15
Implementation: 6/1/15

NEEDLE CRICOTHYROTOMY

INDICATIONS

- Respiratory obstruction
- Anaphylaxis
- Traumatic airway
- Suspected croup
- Epiglottis with airway obstruction
- Failed endotracheal intubation “with” inability/contraindication to use supraglottic airway

CONTRAINDICATIONS

To be done with caution in patients:
- less than 8 years old or
- suspected barotrauma

EQUIPMENT

1. 10 or 14 gauge angiocath
2. 10 ml syringe
3. 3.0 or 3.5mm ET tube adapter

PROCEDURE

1. Hyperextend neck unless suspected neck trauma.

2. Identify thyroid cartilage and cricoid cartilage. Locate cricothyroid membrane located between these two landmarks.

3. Use angiocath attached to a 10cc syringe; insert catheter through the cricothyroid membrane at a 90 degree angle until a “popping” sensation is felt.

4. Aspirate air to verify placement.

5. Remove syringe; advance catheter tilting it at a 30 degree angle, aiming towards the feet. Remove the needle while advancing the catheter.

6. Once in place, reconnect the syringe and re-verify placement (Should aspirate air easily.)

7. Connect adapter from 3.0 or 3.5 ET tube to angiocath.

8. Attach bag valve mask and initiate ventilation; you will have difficulty ventilating due to narrowed airway.

9. Auscultate breath sounds.

10. May repeat for total of 2 attempts. Transport with catheter in place.

Written: 7/86
Reviewed: 1/92; 11/95; 3/09; 5/11; 9/16
Revised: 1/92; 11/95; 3/09; 9/16
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 4/7/09; 9/20/16
IDPH Approval: 8/96; 11/16/92; 2/20/96; 7/9/09; 11/2/16
Implementation: 8/96; 3/1/93; 5/1/96; 1/1/10; 11/2/16

NEEDLE DECOMPRESSION

INDICATIONS

This procedure is to be used for patients with:

- Evidence of thoracic trauma AND any of the following:

    1. Traumatic arrest
    2. Evidence of tension pneumothorax, which are:

        a. Systolic blood pressure <90 mmHg AND
        b. Respiratory distress or respiratory failure

    3. Direction by Online Medical Control

- Suspected tension pneumothorax in non-traumatic cardiac arrest (e.g. PEA arrest with subcutaneous emphysema)

CONTRAINDICATIONS

- Isolated, decreased breath sounds without evidence of hypotension and respiratory distress

EQUIPMENT

1. 14 gauge 3.5" angiocatheter
2. Alcohol prep pad

PROCEDURE

1. Identify second intercostal space in the midclavicular line on the same side of the chest as the traumatic injury or subcutaneous emphysema.

2. Prepare the skin with alcohol prep pad.

3. Insert the needle at a 90 degree angle into the skin just over the third rib into the second intercostal space in the midclavicular line.

3. Aspirate as necessary to relieve respiratory distress.

4. Leave catheter in place; remove syringe and needle from catheter for transport.

5. If no improvement in blood pressure or respiratory status, check for free flow of air through the catheter. If obstructed, place second catheter next to the first. Do not delay transport for repeated attempts at decompression.

Written: 7/86
Reviewed: 1/92; 11/95; 3/09; 5/11; 10/15
Revised: 1/92; 11/95; 3/09; 10/15
MDC Approval: 7/3/86; 9/3/92; 1/4/96; 4/7/09; 10/5/15
IDPH Approval: 8/96; 11/16/92; 2/20/96; 7/9/09; 2/25/16
Implementation: 8/96; 3/1/93; 5/1/96; 1/1/10; 3/1/16

AUTOMATIC VENTILATORS

I. UNIVENT

INDICATIONS

- Intubated patients who need continuous ventilation

CONTRAINDICATIONS

- Chest trauma
- Children less than 2 years old
- Known pneumothorax

EQUIPMENT

Model specific

If adequacy of ventilation with ventilator is in question remove ventilator and bag patient.

Written: 8/92
Reviewed: 8/92; 11/95; 6/04; 3/09; 5/11
Revised: 11/95; 6/04; 3/09
MDC Approval: 9/3/92; 1/4/96; 6/04; 4/7/09
IDPH Approval: 11/16/92; 2/20/96; 9/04; 7/9/09
Implementation: 3/1/93; 5/1/96; 1/1/05; 1/1/10

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

Continuous Positive Airway Pressure (CPAP) may be used as an adjunctive therapy for the treatment of patients with suspected Acute Pulmonary Edema, Chronic Obstructive Pulmonary Disease (COPD) or Asthma who present in **MODERATE to SEVERE** respiratory distress:

INDICATIONS

- Pulse Ox less than 92%
- Respiratory rate greater than 25
- Accessory muscle use

Suspect Acute Pulmonary Edema, COPD or Asthma as the cause of respiratory distress in patients with:

- History of CHF/MI, COPD or Asthma
- Orthopnea
- On medications for CHF (furosemide, digoxin, ace inhibitor)
- Pulmonary rales, crackles
- Wheezing
- Lower extremity edema
- Jugular Venous Distension
- STEMI confirmed by 12 lead ECG

CONTRAINDICATIONS

- Age less than < 10 years
- Inability to protect airway, significantly altered mental status.
- Hemodynamic instability
    a. Systolic blood pressure less than 100 mmHg
    b. Significant arrhythmia (i.e. ventricular tachycardia, 3rd degree heart block).
- Inability to cooperate with fitting and wearing of mask
- Rapid deterioration once mask is placed
- Known or suspected pneumothorax
- Recent gastric, laryngeal, esophageal surgery
- Significant nausea and vomiting.

EQUIPMENT

1. Boussignac CPAP system or the Flow Safe II EZ CPAP system (private providers may use ventilator based system)

2. Appropriate sized mask
    a. Boussignac – Size 5 medium (adult)
    b. Flow Safe II EZ – Size large

3. Oxygen tank with flow regulator able to generate 25 liters/min flow rate.

4. D-tank must have a minimum of 2,000 psi.

BOUSSIGNAC CPAP SYSTEM

PROCEDURE

1. Initiate RMC.

2. Explain procedure to patient.
   - i.e. *"I am going to put this mask on your face to help you breath. Try to relax and breathe normally."*

3. Prepare CPAP system equipment
   - Insert white end of CPAP system into face mask
   - Connect funnel end of green O2 tubing to oxygen source.
   - Turn on O2 and dial flow meter to desired setting (begin with 15 liters per minute (LPM) equaling CPAP of 5.0)

4. Prepare patient
   - Place in fowler's or semi-fowler's position
   - One crew member gently place mask on patient's face obtaining a proper seal without leaks.
   - Second crew member secure mask to patients face with head strap.

5. Titrate CPAP
   - Increase flow meter to 25 LPM equaling CPAP of 10 (see table 1 and 2)
   - Reassess patient for mask seal and ability to cooperate/tolerate mask
   - If patient is unable to tolerate, decrease flow rate to 20 LPM and reassess
   - Continue close monitoring of patient with goal of:
     i. Decreased heart rate
     ii. Decreased respiratory rate/effort
     iii. Improved oxygen saturation

6. Indications for discontinuation of CPAP (Place on 100% oxygen NRB mask)
   - Rapid deterioration (proceed to Advanced Airway Management procedure as indicated)
   - Inability to cooperate with wearing and fitting of mask
   - Hypotension (SBP less than 100 mmHg)
   - Worsening hypoxia (decrease in O2 saturations %)
   - Vomiting or inability to handle secretions
   - Suspected pneumothorax
   - Base station discretion

TABLE 1: Liters of 02 Flow = CPAP cm H20

Flow (LPM)	CPAP (cm H20)
10	2.5-3.0
15	4.5-5.0
20	7.0-8.0
25	8.5-10
>25	>10

TABLE 2: Minutes of CPAP use based on Oxygen Tank Size

Flow (LPM)	D Tank (minutes)	K Tank (minutes)
5	70	703
6	58	598
8	44	498
10	35	374
12	29	299
15	23	199
20	16	175
25	14	140

FLOW-SAFE II EZ CPAP System

PROCEDURE

1. Initiate RMC.

2. Explain procedure to patient.
   - *eg. "I am going to put this mask on your face to help you breath. Try to relax and breathe normally."*

3. Prepare CPAP system equipment
   - Connect oxygen tubing to flow meter or regulator.
   - Turn on O2 and dial flow meter to desired setting: begin with 8-9 liters per minute (LPM) equaling CPAP of 5.0
   - Adjust oxygen flow as indicated on yellow sticker attached to oxygen tubing. ***Manometer will not register until placed on patient***

4. Prepare Patient
   - Place in fowler's or semi-fowler's position
   - One crew member gently place mask on patient's face obtaining a proper seal without leaks. Place mask on patient's face and adjust with Velcro strap on each of 4 points.
   - Quick release clips allow fast access to remove mask.
   - Spring action forehead pads allow for adjustment of mask on bridge of nose.
   - Second crew member secure mask to patients face with head strap.

5. Titrate CPAP
   - Increase flow meter to 13-14 LPM equaling CPAP of 10.0 (see table below)
   - Reassess patient for mask seal and ability to cooperate/tolerate mask
   - If patient is unable to tolerate, decrease flow rate to 10-12 LPM and reassess
   - Continue close monitoring of patient with goal of:
     i. Decreased heart rate
     ii. Decreased respiratory rate/effort
     iii. Improved oxygen saturation

TABLE 1: **CONNECT TO FLOW SOURCE ONLY**

CPAP Pressure (cm H2O)	Flow (LPM) Nebulizer Off	Flow (LPM) Nebulizer On
5.0	8 - 9	15 – 16
7.5	10 - 12	19 – 20
10.0	13 - 14	24 – 25
13.0 (Max)	FLUSH	28 - 30

CAUTION: *CPAP pressure will decrease when nebulizer is activated and increase when nebulizer is deactivated. Verify CPAP pressure with manometer and adjust flow meter as needed.*

FLOW-SAFE II EZ CPAP WITH NEBULIZER

Only one oxygen source is necessary since the nebulizer portion is built into Flow-Safe II EZ CPAP System

6. Place medication in medication bowl.

7. Turn nebulizer switch to green (on). (see picture)

8. Adjust oxygen flow to maintain desired pressure.
    - Turning the switch to green will reduce pressure requiring an increase in oxygen flow to maintain original pressure.
    - For CPAP Pressure of 5.0, increase flow to 15-16 LPM
    - For CPAP Pressure of 10.0, increase flow to 24-25 LPM

9. Indications for discontinuation of CPAP (Place on 100% oxygen NRB mask)
    - Rapid deterioration (proceed to Advanced Airway Management procedure as indicated)
    - Inability to cooperate with wearing and fitting of mask
    - Hypotension (SBP less than 100 mmHg)
    - Worsening hypoxia (decrease in O2 saturations %)
    - Vomiting or inability to handle secretions
    - Suspected pneumothorax
    - Base station discretion

Written: 3/09
Reviewed: 3/09; 9/09; 5/10; 6/11; 2/15
Revised: 3/09; 11/09; 7/10; 6/11, 2/15
MDC Approval: 4/7/09; 9/7/10; 6/7/11; 2/3/15
IDPH Approval: 7/9/09; 11/24/10; 9/29/11; 5/12/15
Implementation: 1/1/10; 3/1/11; 4/1/12; 6/1/15

INTRA-NASAL DRUG ADMINISTRATION
Mucosal Atomization Device (MAD)

INDICATIONS

- Opiate Overdose – Narcan (Adults & Pediatrics)
- Hypoglycemia without IV access – Glucagon (Adults only)
- Seizures – Versed (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. Assess for response; if none, consider alternative route for drug administration (e.g. IM)
7. Document the medication dose and patient response.

Written: 6/10
Reviewed: 7/10; 5/11
Revised: 7/10
MDC Approval: 9/7/10
IDPH Approval: 11/24/10
Implementation: 3/1/11

DEFIBRILLATION/CARDIOVERSION

INDICATIONS

- See appropriate SMO

CONTRAINDICATIONS

- Potential injury to rescuer

EQUIPMENT

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

Written: 6/97
Reviewed: 1/01; 3/09; 5/11
Revised: 1/01; 3/09
MDC Approval: 7/97; 2/01; 4/7/09
IDPH Approval: 1/99; 4/01; 7/9/09
Implementation: 8/1/99; 5/1/01; 1/1/10

LifePack 1000 AUTOMATED EXTERNAL DEFIBRILLATOR (3 LEAD) (CFD PARAMEDICS ONLY)

INDICATIONS

- AED 1000 is to be brought to patients' side for **all EMS responses** by CFD ALS ambulances.

CONTRAINDICATIONS

- None

EQUIPMENT

- LifePack AED 1000 with case
- 3 Lead cable
- 2 sets of therapy pads
- Electrodes (adult and pediatric)

PROCEDURE

1. Initiation of Patient Care policy B-2.

2. The "3 Lead cable", with electrodes will be applied when indicated i.e. based on patient's history and/or chief complaint.

3. The "therapy pads" will be applied to the patient when indicated for defibrillation.

4. At anytime the LifePack 1000 (3-lead AED) is used, either for monitoring or for treatment, the patient will be immediately transferred to the cardiac monitor/defibrillator, once the patient has been transferred into the ambulance.

5 For known cardiac or respiratory arrest calls, the monitor/defibrillator will be carried into patient's side.

Written: 6/11
Reviewed: 6/11
Revised:
MDC Approval: 6/16/11
IDPH Approval: 9/29/11
Implementation: 4/1/12

TRANSCUTANEOUS PACING

INDICATIONS

Transcutaneous pacing should be considered in symptomatic patients with:

- Bradycardia,
- 2nd degree AV block
- 3rd degree AV block

CONTRAINDICATIONS

- Bradycardia associated with hypothermia
- Asymptomatic bradycardia

EQUIPMENT

1. Pacing pads
2. Therapy cable
3. Monitor

PROCEDURE

1. RMC
2. Assess for potential causes
3. Assemble equipment
4. Have resuscitation capabilities ready
5. Explain the procedure to the patient and/or family
6. Consider sedation and/or analgesia:
   Morphine 2-5 milligrams IV/IO
   Versed 1-2 milligrams IV/IO/IN
   Valium 2-5 milligrams IV/IO
   Ativan 1-2 milligrams IV/IO
7. Apply pacing pads to clean dry skin (Clip excessive chest hair)
8. Connect pacing cable to device
9. Select current, starting at 70 mA (Range 50-100 mA)
10. Select pacing rate, starting at 80 bpm
11. Activate pacer; adjust current until electrical and mechanical capture
12. Adjust rate to maintain perfusion
13. Adjust slowly in conscious patient, quickly in cardiac arrest
14. Continually reassess

Written: 7/20/95
Reviewed: 7/20/95; 3/09; 5/11; 3/12
Revised: 3/09; 5/11; 3/12
MDC Approval: 8/3/95; 4/7/09; 6/7/11; 3/6/12
IDPH Approval: 2/20/96; 7/9/09; 9/26/11; 1/31/13
Implementation: 5/1/96; 1/1/10; 4/1/12; 2/1/13

INTRAVENOUS THERAPY

I. INTRAVENOUS ACCESS

INDICATIONS

- See Initiation of Patient Care Policy

CONTRAINDICATIONS

- Extremity with AV fistula (unless patient is in extremis)
- Extremity on the same side of previous mastectomy
- Avoid burn site

EQUIPMENT

1. Tourniquet
2. IV catheter
3. Alcohol wipes/skin prep
4. Tape
5. Dressing material

II. SALINE LOCK

INDICATIONS

Saline locks are to be used in situations in which:

- IV access is only precautionary
- No active fluid or medication treatment is expected during transport

CONTRAINDICATIONS

- Cardiac arrest patients
- Patients who appear unstable
  - Imminent cardiovascular collapse
  - Severe respiratory distress
  - Significant arrhythmias
- Trauma
- Any patient requiring
  - Medication drip infusions
  - IV Boluses medication, eg. D50, etc.
- Fluid resuscitation
  - Dehydration
  - Hypotension

EQUIPMENT

1. Luer lock connector
2. Saline for flush
3. Syringe with straight needle
4. Tape
5. Alcohol wipes

PROCEDURE FOR CONVERSION TO IV FLUID INFUSION

1. Prepare IV tubing and bag as per routine
2. Remove rubber port
3. Insert distal end of primed IV tubing connected to saline lock or angiocath
4. Secure IV line with tape
5. Set appropriate drip rate

III. MEDICATION ADMINISTRATION

INDICATIONS

- Direct ECP/ECRN order
- SMO

CONTRAINDICATION

- Known allergy

EQUIPMENT

1. Syringe
2. Needleless set-up/needle
3. Medication
4. Alcohol Wipe

Written: 11/94
Reviewed: 6/15/95; 12/95; 6/97; 3/09; 5/11
Revised: 6/15/95; 12/95; 6/97; 3/09
MDC Approval: 12/1/94; 7/13/95; 1/4/96; 7/97; 4/7/09
IDPH Approval: 12/19/94; 2/20/96; 1/99; 7/9/09
Implementation: 7/1/95; 5/1/96; 8/1/99; 1/1/10

MANUAL PEDIATRIC INTRAOSSEOUS INFUSIONS

INDICATIONS

If a child presents meeting **all** of the following criteria, paramedics should immediately gain vascular access through the intraosseous route:

AGE:	6 years or less
PRESENTATION:	Shock, arrest, impending arrest
LOC:	Unconscious, non-responsive to verbal stimuli
UNSUCCESSFUL IV's:	Two quick IV attempts have been unsuccessful or no peripheral veins are readily apparent or obtainable. In full cardiac arrest - may attempt intraosseous as first procedure.

CONTRAINDICATIONS

1. If history is known, bone disorders such as osteogenesis imperfecta and osteopetrosis (excessive calcification causing spontaneous fractures)
2. Cellulitis at the site
3. Recently fractured bones due to extravasation of blood/fluid into the subcutaneous tissue
4. If two attempts are unsuccessful

EQUIPMENT

1. Bone marrow aspiration needle (size 15-18 ga.)
2. 3cc non-luer lock or luer lock and adapter syringe
3. Normal saline IV solution; regular IV tubing
4. Tape
5. Sterile gloves
6. Towel roll

PROCEDURE

1. Support the child's leg on towel roll. Externally rotate leg slightly.

2. Select insertion site:

    a. Preferred site: Anteriomedial tibia, two fingerbreadths below the tibial tuberosity.

    b. Second choice: Distal one-third of the femur, two fingerbreadths above the patella (Note: This site is more difficult to penetrate)

3. Find the landmarks by palpating approximately two fingerbreadths below the tibial tuberosity. Move fingers inward to medial plane of bone.
4. Using aseptic technique, put on sterile gloves and clean skin using a circular motion starting at the center and moving outward from the insertion site.

INTRAOSSEOUS INFUSIONS (cont.)

5. Place the bone marrow needle at a 90^{o} angle away from the epiphyseal plate. (POINT TIP OF NEEDLE TOWARD THE FOOT).
6. Insert the needle with firm downward pressure using a rotary motion to penetrate the skin and subcutaneous tissues and then the periosteum and bone cortex.
7. A “pop” or sudden loss of resistance will herald entrance into the medullary cavity. A child of less than 4 years old will only require a penetration depth of 2-4mm.
8. Remove stylet from needle and aspirate with 3 ml syringe. A flashback or aspiration of bone marrow (looks like dark blood) will confirm proper placement. Do not aspirate more than 1cc of bone marrow.

   Occasionally, no bone marrow can be aspirated because:

   a. The needle may not be in the medullary cavity because it went completely through the bone;
   b. The point of the needle is in the cortex of the bone;
   c. The distal opening may be lying against a small piece of bone. Try turning the needle in a semicircular motion to clear the obstruction.

9. Immediately flush needle with Normal Saline once proper placement is confirmed. Attach IV tubing and begin IV infusion. IV fluid should flow freely without significant subcutaneous infiltration. Fluid challenges in children should be calculated at 20 ml NS/Kg of body weight.

10. To secure needle: the needle should remain stabilized with little assistance. The flange of the needle depth guard should be adjusted by screwing it down until it is flush with the skin. Tape needle in place.

11. Restrain child as necessary to protect site and reassess site for displacement or infiltration.

Written: 11/92
Reviewed: 12/95; 3/09; 5/11
Revised: 12/95
MDC Approval: 4/1/93; 1/4/96; 4/7/09
IDPH Approval: 11/29/93; 2/20/96; 7/9/09
Implementation: 01/94; 5/1/96; 1/1/10

EZ – IO PEDIATRIC INTRAOSSEOUS INFUSION

INDICATIONS:

- Pediatric patients who are in shock, arrest, impending arrest, are unstable, unconscious or when immediate vascular access is needed

APPROVED IO SITES:

- Proximal medial tibia
- Distal tibia (medial malleolus)

CONTRAINDICATIONS

- Infection at the site selected for insertion (*choose alternate site)*
- Fracture of the bone selected for IO infusion (*choose alternate site)*
- Previous significant orthopedic procedures *(IO within 24 hours, prosthesis- choose alternate site)*
- If known history of osteogenesis imperfecta and osteoporosis
- If two attempts are unsuccessful with the EZ IO

EQUIPMENT:

1. EZ-IO Driver
2. EZ-IO needle set
3. 10 ml syringe
4. Normal Saline IV solution, regular IV tubing
5. Tape
6. Gloves
7. Dressing
8. Skin prep
9. Towel Roll/Blanket

PROCEDURE:

1. Support the leg on a towel roll/blanket. Externally rotate leg.
2. Select appropriate insertion site.
3. Prepare insertion site using aseptic technique.
4. Identify Landmarks:
    i. **Proximal Tibia**: Palpate tibial tuberosity, move (2) fingers below and medial to it.
    ii. **Distal Tibia:** Palpate medial malleolus move fingers two (2) finger width above it *(inside ankle bone).*
5. Prepare the EZ IO driver and appropriate needle set.
6. Stabilize site and insert appropriate needle set.
7. Drill until loss of resistance is felt.
8. Remove EZ-IO driver from needle set while stabilizing catheter hub.
9. Remove stylet from catheter.
10. Confirm placement by attempting to aspirate bone marrow or blood.
11. Flush with 10 ml of normal saline.
12. Connect primed tubing and begin utilizing pressure if IO flushes easily.

EZ – IO PEDIATRIC INTRAOSSEOUS INFUSION (cont.)

13. Dress site, secure tubing.
14. Monitor EZ-IO site for swelling.

Written: 1/09
Reviewed: 3/09; 5/11
Revised: 3/09
MDC Approval: 4/7/09
IDPH Approval: 7/9/09
Implementation: 1/1/10

EZ - IO ADULT INTRAOSSEOUS INFUSION

INDICATIONS:

- Intravenous access is indicated
- Two (2) unsuccessful peripheral intravenous attempts
- Patient is unresponsive to verbal stimuli/unconscious **AND** has one of the following:

    1. Cardiac arrest
    2. Impending arrest
    3. Shock

APPROVED I.O. SITES:

1. Proximal medial tibia
2. Distal tibia (medial malleolus)
3. Proximal Humerus

CONTRAINDICATIONS

- Infection at the site selected for insertion (choose alternate site)
- Fracture of the bone selected for IO infusion (choose alternate site)
- Excessive tissue preventing identification of landmarks (choose alternate site)
- Previous significant orthopedic procedures. (IO within 24 hours, prosthesis- choose alternate site.

EQUIPMENT:

EZ-IO Driver
EZ-IO needle set
10 ml syringe
Normal Saline IV solution, regular IV tubing
Tape
Sterile Gloves
Dressing
Skin prep pad

PROCEDURE:

1. Select appropriate insertion site
2. Prepare insertion site using aseptic technique
3. Identify Landmarks:
    i. **Proximal Tibia**: Palpate tibial tuberosity, move (2) fingers below and medial to it
    ii. **Distal Tibia:** Palpate medial malleolus move fingers two (2) finger width above it. (inside ankle bone)
    iii. **Proximal Humerus:** Adduct arm (humerus against body) with the elbow at 90 degrees, the hand on the umbilicus, and the elbow resting on ground or stretcher. Palpate the mid-shaft humerus continuing proximally toward the humeral head identifying a small protrusion, the greater tuberosity insertion site.

EZ – IO ADULT INTRAOSSEOUS INFUSION (cont.)

4. Prepare the EZ IO driver and appropriate needle set.
5. Stabilize site and insert appropriate needle set.
6. Drill until loss of resistance is felt.
7. Remove EZ-IO driver from needle set while stabilizing catheter hub
8. Remove stylet from catheter.
9. Confirm placement by attempting to aspirate bone marrow or blood
10. Flush with 10 ml of normal saline
11. Assess for signs of infiltration
12. Begin utilizing pressure bag for infusion if IO flushes easily and no infiltration
13. Dress site, secure tubing
14. Monitor EZ-IO site for swelling
15. **MAXIMUM 2 ATTEMPTS (2ND ATTEMPT MUST BE AT ALTERNATE SITE)**

Written: 4/09
Reviewed: 4/09; 5/11; 10/15
Revised: 10/15
MDC Approval: 4/7/09; 10/5/15
IDPH Approval: 7/9/09; 2/25/16
Implementation: 1/1/10; 3/1/16

ALTERNATE VASCULAR SITES FOR PATIENTS IN EXTREMIS

INDICATIONS

- Cardiac arrest
- Severely unstable patient
- To access indwelling lines (PIC, Hickman, etc.), fistulas, or shunts when other sites not readily accessible

CONTRAINDICATIONS

- No blood return on access
- Known infection in line

EQUIPMENT

1. 5 ml sterile saline in 10 ml syringe
2. Alcohol wipes
3. Sterile gloves
4. 19 gauge straight needle 1" (for heparin caps)

PROCEDURE FOR SITES WITH HEPARIN CAP

1. Identify type of site and assess proper needle usage (1" needle would be the best as a 1.5" needle may puncture the catheter).

2. Use sterile gloves.

3. Wipe site with alcohol.

4. Attempt aspiration of blood. If blood return, attach IV tubing.

5. No blood aspirated, proceed to gently flush with 5 ml of sterile saline (if any resistance is met, stop procedure), if no resistance attach IV tubing.

6. Remove syringe barrel leaving needle in place and insert IV tubing tip; tape in place.

7. Regulate drip rate.

8. Inject drugs as needed through IV tubing parts.

Written: 9/93
Reviewed: 12/95; 4/98; 3/09; 5/11
Revised: 12/95; 3/09
MDC Approval: 10/7/93; 1/4/96; 4/98; 4/7/09
IDPH Approval: 10/20/93; 2/20/96; 1/99; 7/9/09
Implementation: 7/1/94; 5/1/96; 8/1/99; 1/1/10

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. Consider pain management as application of a tourniquet is likely to be painful.

3. 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.

4. 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.

5. Twist the windlass rod until *bright red bleeding has stopped and the distal pulse is eliminated*.

6. 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.

7. Secure the rod inside the clip with the strap.

8. Record time of tourniquet application.

9. Cover wound with appropriate sterile dressing and/or bandage. ***Do not cover tourniquet - the device must remain visible.***

10. Reassess and document absence of bleeding distal to tourniquet.

11. Remove any improvised tourniquets that might have been previously applied.

12. Prepare patient for transport and reassess effectiveness of the tourniquet every 10 minutes.

13. 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

Written: 8/13
Reviewed: 9/13
Revised:
MDC Approval: 9/3/13
IDPH Approval: 9/30/13
Implementation: 10/1/13

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. lightening, 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.

4. 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.

5. Secure/tape head to padding and long board across forehead and collar.

Written: 12/95
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LATEX ALLERGIC PATIENTS

INDICATIONS

- Patients with known sensitivity to latex
- Patients with onset of respiratory or dermatological signs and symptoms

CONTRAINDICATIONS

- None

EQUIPMENT

LATEX FREE products for:

1. AIRWAY:
   a. Oral/Nasal airways
   b. Suction catheters
   c. BVM/masks
   d. O_2 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 Communication 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 Atomization 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
ROSC	Return of Spontaneous Circulation
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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