St. Mary Medical Center, System Treatment Protocol

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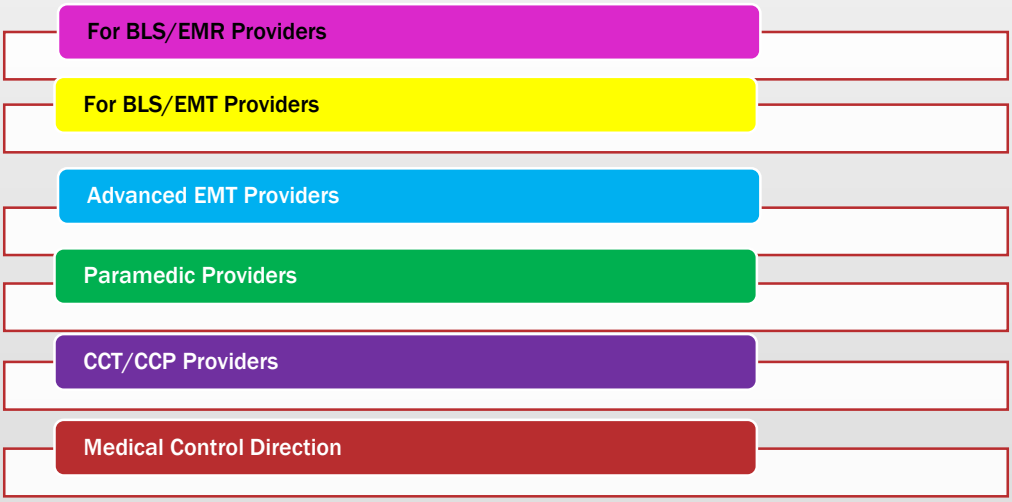
Color-Coded Protocol Format

Medical Directives (Protocol) Section

The treatment protocol section provides direction for the pre-hospital treatment of the majority of patients. Interventions are based upon certification levels and skill sets. The headings separating and designating interventions based on skill sets are illustrated below:



The treatments and procedures are outlined in chronological order. Although every patient contact and situation is different, the order of the steps should be adhered to as close as possible. It is understood that several providers may be providing care to a patient and interventions may be implemented simultaneously or at near simultaneous times or reordered based on situational needs.

CODE 1 Routine Medical Care

- 1. Perform Scene Survey and assure the safety of all personnel – Universal precautions
- 2. Preserve potential crime scene evidence
- 3. Reassure patient, provide comfort, and loosen tight clothing, place in position of comfort.
- 4. Assess for life threats - ABCDE
- 5. Secondary assessment (Physical exam and acquisition of vitals, including Sp02)
- 6. Determine need for ALS intervention, need for 12-lead acquisition and transmission.
- 7. Supplemental oxygen to maintain Sp02 > 95% 2-6 L/min nasal cannula - 10-15 L/min mask
- 8. Obtain SAMPLE and OPQRST history.

- 9 Perform EKG – And perform 12-lead if indicated
- 10 Obtain IV/IO access if appropriate, Attempt x 2-3. See IV Access Appendix.

- 11 Contact receiving hospital as soon as patient's condition permits. Transmit assessment information. Contact supervising hospital as needed.
- 12 Recheck vitals every 15 minutes for stable patients and every 5 minutes fo unstable patients and record on the run form with proper times noted.
- 13 Transport to the closest most appropriate hospital (Stroke Center, Chest Pain Center, Trauma Center, as applicable. Ensure to call the appropriate alert if indicated).

- 14 If medical direction is ever needed you may speak to a St. Mary Medical Center ER Physician at (219) 947-6252. Do not hesitate in calling for clarification/direction from the ER physicians.

Trauma Assessment
D= Deformity
C= Contusions
A= Abrasions
P= Puncture
B= Burns
T= Tenderness
L= Lacerations
S= Swelling

SAMPLE HISTORY
S= Signs & Symptom
A= Allergies
M= Medications
P = Past History
L= Last Oral Intake
E= Events Leading To Incident or Illness

Level of Consciousness
A= ALERT
V= VERBAL STIMULI
P= PAINFUL STIMULI
U= UNRESPONSIVE

Medical Assessment
O= Onset
P= Precipitating
Q= Quality
R= Radiating
S= Severity
T= Time
I= Interventions prior to EMS arrival

CODE 2 Radio / Cell Report

- 1. Name and unit number of provider.
- 2. ALS or BLS designation
- 3. Alert Criteria- STEMI, STROKE, TRAUMA, etc.
- 4. Age, Sex, and approximate weight of patient.
- 5. Chief complaint, to include symptoms and degree of distress.
- 6. Level of consciousness, orientation.
- 7. Vital signs (include pain scale)
- 8. Clinical condition: Focused and detailed patient assessment findings (only pertinent +/- findings)
- 9. History of present illness/injury.
- 10. History: allergies, medications, past history, last oral intake, events surrounding incident.
- 11. Treatment rendered and response.
- 12. Destination and ETA

▪Trauma

- 1. Name and unit number of provider.
- 2. Alert criteria
- 3. Age, Sex, and mechanism of injury.
- 4. Chief complaint, to include symptoms and degree of distress.
- 5. Level of consciousness, orientation.
- 6. Vital signs (include pain scale)
- 7. Focused and detailed patient assessment findings (only pertinent +/- findings)
- 8. Medical history: allergies, medications, past history, last oral intake, events surrounding incident.
- 9. Treatment rendered and response.
- 10. Destination and ETA.

▪Mass Casualty Incident

- 1. Name and unit number of provider.
- 2. Approximate number of victims and approximate triage levels: green, yellow, red, black.
- 3. Mechanism of injury.
- 4. Report any scene hazards.
- 5. Medical communication should utilize the IHERN radio frequency unless otherwise specified by local plans.

CODE 3 Accelerated Transport

- **Certain situations require treatment within minutes. These situations occur when a problem is discovered in the primary survey that cannot be rapidly resolved by field intervention.**

- **Only airway and initial stabilization procedures should be managed prior to transport.**

- **FURTHER EFFORTS AT STABILIZATION SHOULD BE PERFORMED EN ROUTE AND SHOULD NOT DELAY TRANSPORT.**

- **If circumstances demand hospital care for patient stability, rapid transport is indicated. Each case will be unique and compelling reasons must be documented. Notify receiving hospital of the situation so that preparations can be made. Primary resuscitative measures must be initiated. Contact receiving hospital/medical control ASAP.**

Examples include, but are not limited to:

- Inability to secure airway
- Severe head trauma
- Profound shock
- Respiratory failure
- Penetrating wounds to chest, neck, abdomen
- Trauma arrest
- Pediatric arrest

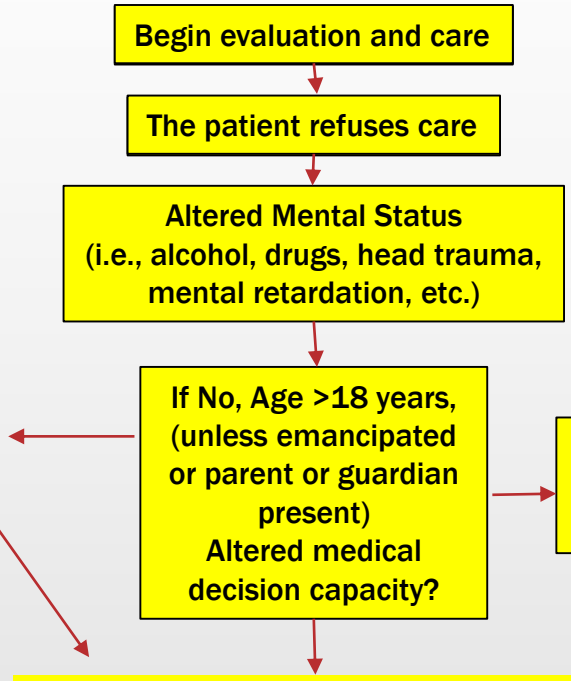
CODE 4 (a) Refusal of Service

Ingestion, injection, or inhalation of substances that may alter metal status does not necessarily mean the patient is intoxicated. The patient may still have the ability to make a sound medical decision.

Ability to make sound decisions:

- 1. Alert to person, place and time with GCS of 15?
- 2. No evidence or reasonable suspicion of suicide attempt or ideations.
- 3. No evidence of intoxication
- 4. Patient is able to communicate understanding of need for medical care and consequences of refusing care.

**If the patient is a danger to self or others, they lack the ability to make a sound medical decision



Refusals must be obtained by a minimum of an EMT Certification

- 1 Document situation in all cases of refusal and contact medical control as needed.
- 2. List the presence or absence of factors that enable refusal.
- 3. For refusals, initiate a refusal form. Obtain a full set of vital signs, if patient refuses, document the refusal.
- 4. List the consequences of refusal and have each refusing patient or guardian sign.
- 5. Each refusing patient should be evaluated and each should sign a refusal form.
- 6. If a patient wishes to refuse, and yet will not sign the refusal form, document the situation on the EMS report form.
- 7. All personnel who witness the event should sign the EMS report form.
- 8. Patients signature should be witnessed by family, friends, police,(EMS personnel when no one else is available).
- 9. For minors, attempt to contact parents or adult caregiver to inform them of situation. Obtain phone consent of refusal and document who you spoke with.

Code 4 (b) Refusal Of Service – Detainee/ Police Dept Holds

Upon request of Law enforcement patients may be transported via ambulance to the closest appropriate emergency room facility when patient is being detained. Patients are not to be transported to the jail or other nonmedical facility via ambulance.

Under the circumstance that patient needs to be restrained:
*Soft restraints
*In the extreme case that patient needs to be handcuffed, Police may restrain patient with cuffs but MUST accompany crew in the ambulance to the emergency department.
*In all circumstances, request that Law enforcement accompany crew to the emergency department by following behind.

*Code 34 Excited Delirium

Under the circumstance that the patient is under the influence:
*Crews may be requested to transport patient to ED for medical clearing due to patient having a BAC of 0.25 or higher.

Under the circumstance that patient is refusing to be transported:
*Patient cannot refuse transport under the circumstance that patient is being detained and will be transported to jail after being medically cleared.
*Patient cannot refuse transport if deemed a harm to self or others.
*Patient **can** refuse transport under the circumstance that patient will not be detained by Law Enforcement immediately following release from medical facility or detained at all.
*Refer to Code 4 for Refusal of Services
*Patient must be alert and oriented x4 and deemed of decision making capacity.
IN Addition,
*If patient is deemed intoxicated, patient must have someone willing to take responsibility of patient that is not themselves under the influence and sign refusal as witness.

CODE 5 Determining The Need For CPR

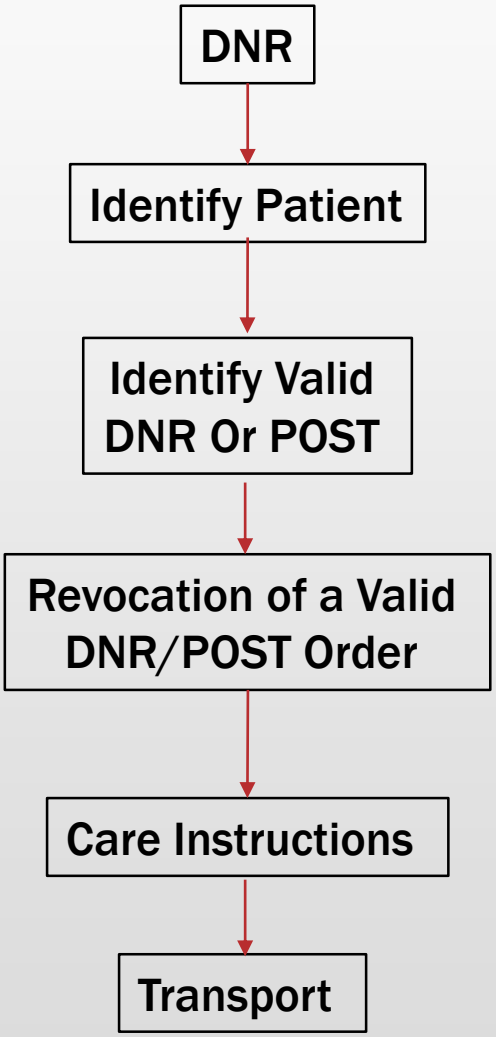
In the absence of pulse and respirations, resuscitation shall NOT be performed in the following situations:

- 1. Decomposition of body tissue
- 2. Rigor mortis: (general presentation 1-6 hours post mortem; the upper body will display rigor mortis prior to the lower extremities.)
- 3. Livor mortis: purple/blue discoloration seen in dependent tissues resulting from venous pooling
- 4. Severe traumatic injury, including, but not limited to:
  - -decapitation
  - -transection of torso
  - -crushing of head or torso
  - -severe head injury with exposed brain tissue
  - -charring of body
  - -additional injuries not compatible with life require on-line medical direction approval
- 5. Valid DNR or POST (see Code 6)

All other circumstances require the initiation of CPR per protocol

NOTE: If CPR has been initiated prior to EMS arrival, however, the patient meets the criteria listed in here in Code 5, resuscitation is not to be initiated by EMS personnel.
Contact Medical Direction for concerns or clarification.

CODE 6 Advanced Directives - - DNR and POST



Cause of action prescribed by a physician to withhold resuscitation measures on a victim of cardiac arrest, or a POST that may allow for comfort measures and non-transport for a terminal patient.

- **Pre-hospital personnel must verify the identification of the patient named in a valid DNR or POST**

- **Patient may be a regular person living at home, a resident of a long-term care facility, hospice patient, home care patient, inter-hospital transfer, or patient being discharged from the hospital.**

Must contain the following information:
1) DNR:
State form #49559 (Indiana State Form)
Signature of witness
2) POST:
Date of birth and signatures in section E and F
3) Both:
Patient name and signature (or legal representative)
Name and signature of attending physician
Effective Date

***The patient, physician who signed the DNR Order, or the consenting party to the DNR can verbally or physically destroy the DNR.**

A Living Will CANNOT be accepted or recognized by EMS Providers.
Contact Medical Control with any questions about DNR or POST

POST General Guidelines:

-Always perform a thorough assessment
-Always provide comfort care and compassion
-Review POST to determine extent of invasive measures requested by the patient. Confirm with patient if conscious. The patient may verbally request more treatment than indicated on the POST.
-Contact Medical Direction for refusals after invasive procedures or medication administration.
-Contact Medical Direction for any question or concerns.

DNR General Guidelines:

-Provide comfort care and compassion for the patient.
- Treat acute airway obstruction, even if intubation is required.
- Treat problems not specifically listed (i.e., atropine for symptomatic Bradycardia with pulses, 50% Dextrose for hypoglycemia).

CODE 7 Advanced Directives –Hospice Patient Transfers for Inter-facility or Facility to Home Patients Only

Identify Patient as an Inpatient hospice/palliative Care patient

↓

Clarify with staff/POA Regarding end of life Care and medical Interventions if needed

↓

Remember, DNR does not mean do not treat

↓

Obtain Copies of In-hospital DNR and Hospice Order

↓

If provided the above paperwork and confirmation of the Patients hospice status, you may honor the pts DNR status

To ensure safe and appropriate transfer of hospice and palliative care patients either from facility to facility or facility to home. Also to ensure that we are honoring the wishes of the patients regarding their end of life care.

- **Pre-hospital personnel must verify the identification of the patient named in a valid DNR and Hospice Order**
- **PLEASE UNDERSTAND THAT THIS PROTOCOL IS ONLY APPLICABLE TO PATIENTS ON AN INTERFACILTY TRANSFER OR A TRANSFER FROM A HOSPITAL/HOSPICE/PALLIATIVE CARE CENTER TO HOME. FOR PATIENTS AT A RESIDENCE, PLEASE REFER TO CODE 6.**

A Living Will CANNOT be accepted or recognized by EMS Providers.
Contact Medical Control with any questions about DNR or POST

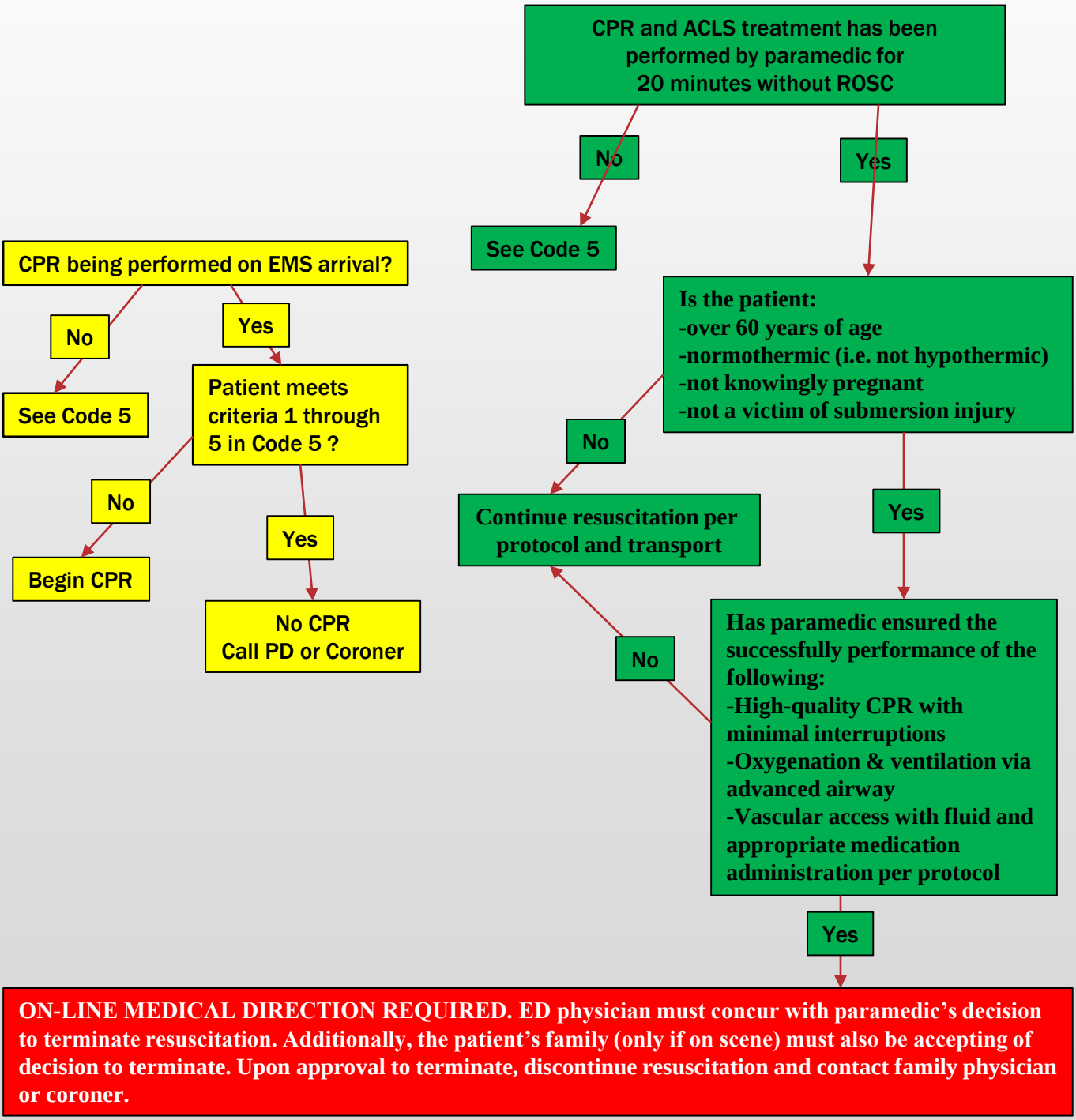
DNR/Hospice care may be revoked at any time by the POA or patient if they are alert and oriented x 4 and have decision making capacity

Hospice General Guidelines:

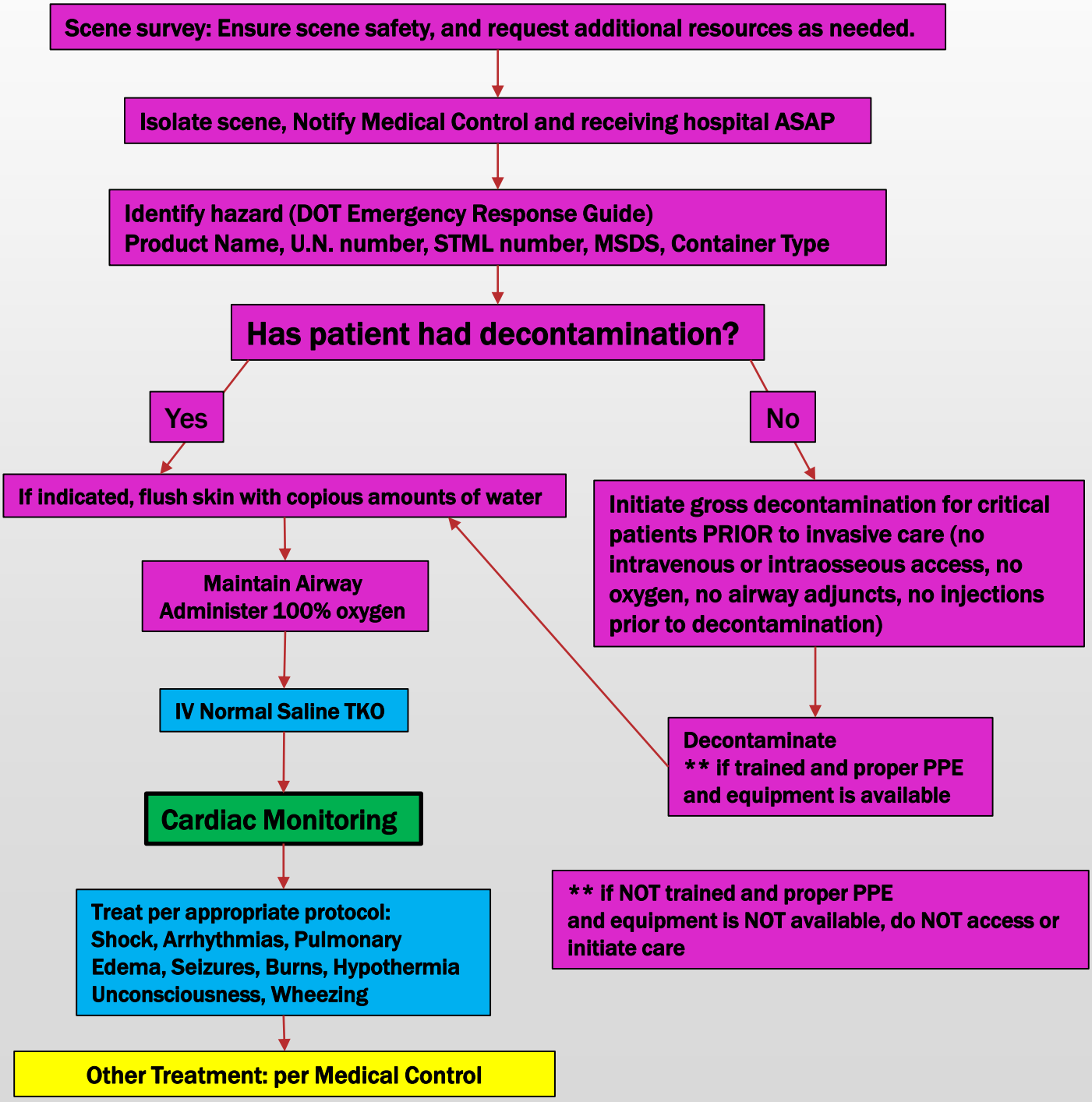
-Always perform a thorough assessment
-Always provide comfort care and compassion
-

If there are any questions or concerns, please do not hesitate to call medical control for guidance. 219-947-6252

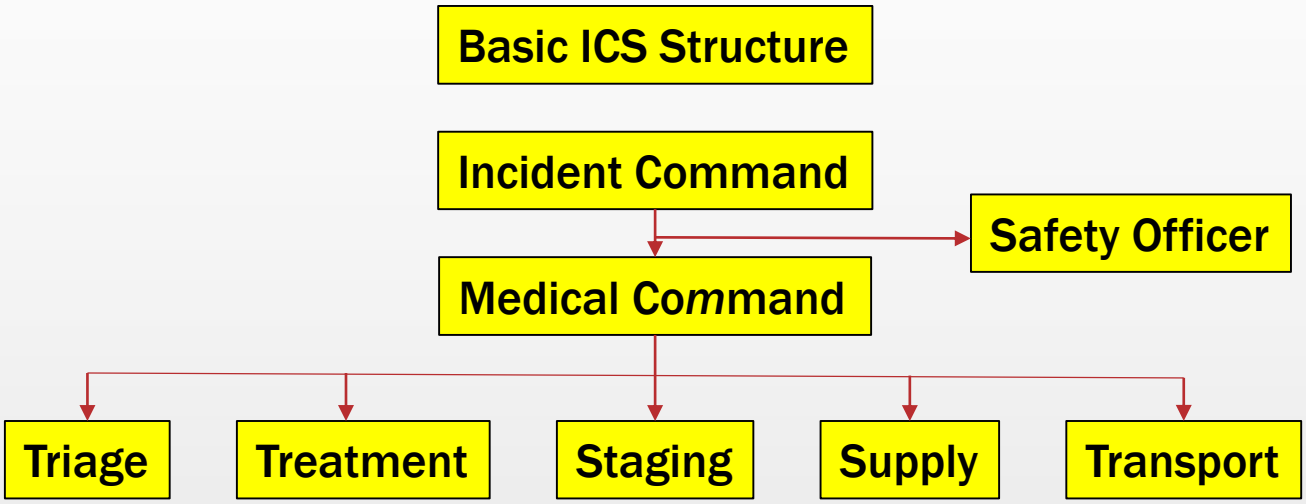
CODE 8 Field Termination of CPR



CODE 9 Hazardous Materials Response



Code 10 (a) Mass Casualty Incident Response Procedures

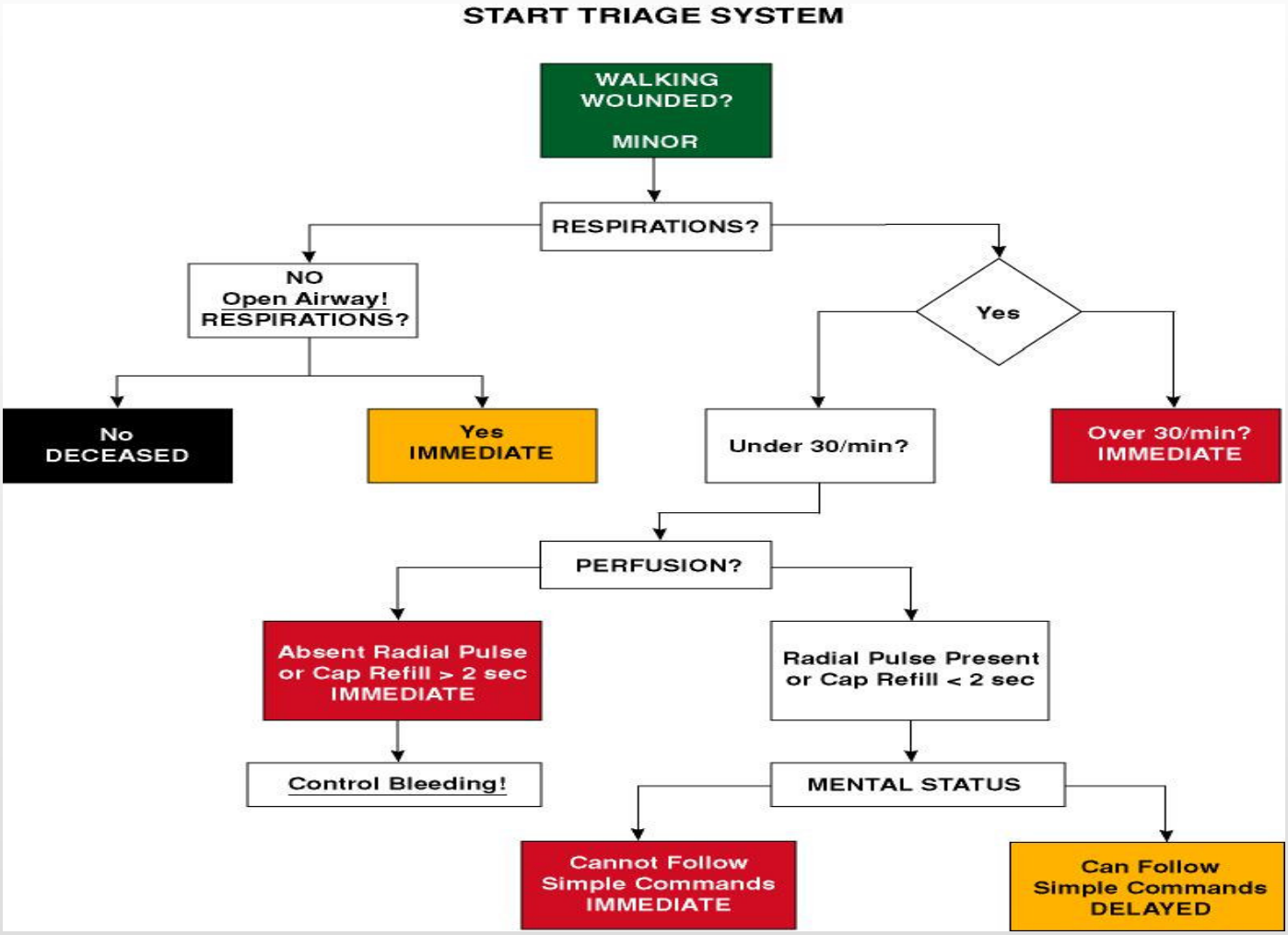


With this format, resources can be managed for any size incident, large or small. Medical communication should utilize the IHERN Radio frequency, unless otherwise specified by local plans.

The use of the S.T.A.R.T. triage system will help maintain the continuity of care and control of every victim, injured or uninjured. Every victim will be placed into one of the four Triage categories listed below with necessary information completed on the corresponding Triage tags.

Green	Yellow	Red	Black
Minor Injuries Uninjured	Burns Fractures Non-life Threats	Multi-System Trauma Head Injuries Chest Trauma Life-Threats	Dead Patients Non-salvageable Patients

CODE 10 (b) Adult - START Triage

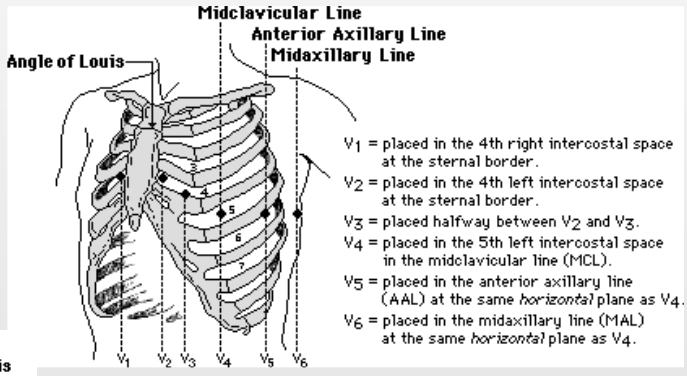


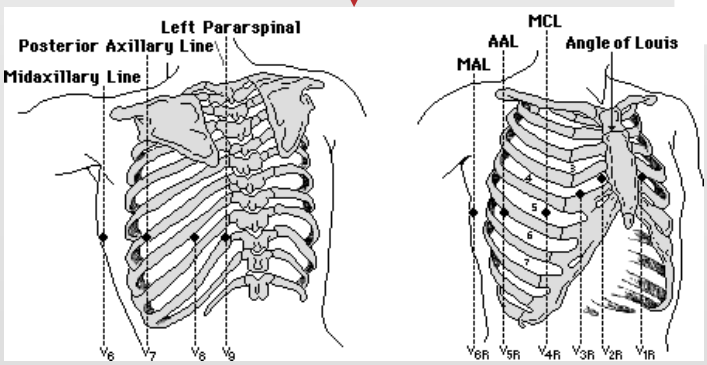
Green	Yellow	Red	Black
Minor Injuries Uninjured "Walking Wounded"	Burns Fractures Non-life Threats	Multi-System Trauma Head Injuries Chest Trauma Life-Threats	Dead Patients Non-salvageable Patients

Code 11 (a) Acute Coronary Syndrome (ACS)

12-lead acquisition, manual interpretation, and transmission to ED MD. Repeat as needed.

Consider 15 or 18 lead for inferior lead changes or when ST segment change is not seen in 12-lead



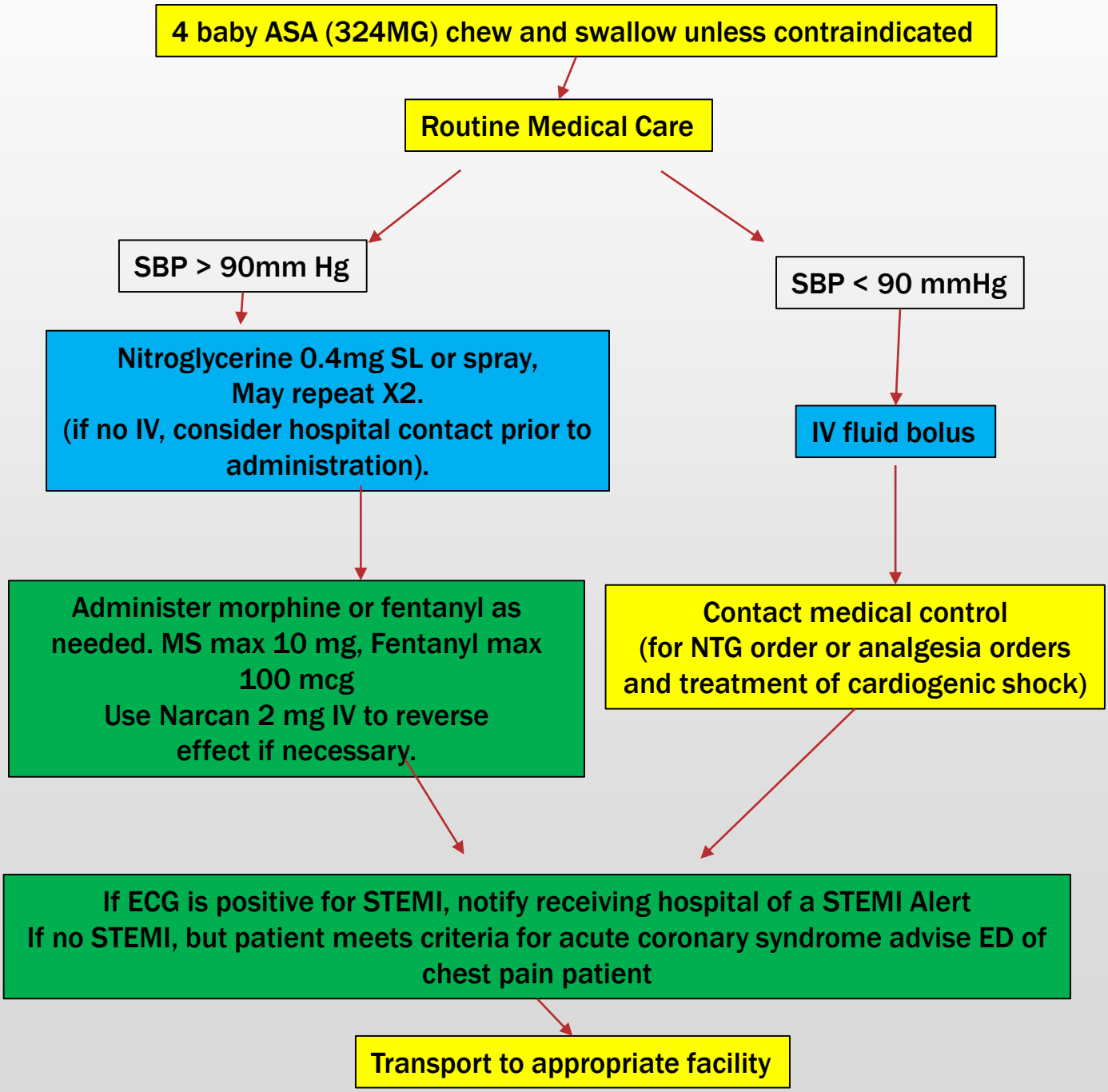


I Lateral	aVR	V1 Septal	V4 Anterior
II Inferior	aVL Lateral	V2 Septal	V5 Lateral
III Inferior	aVF Inferior	V3 Anterior	V6 Lateral

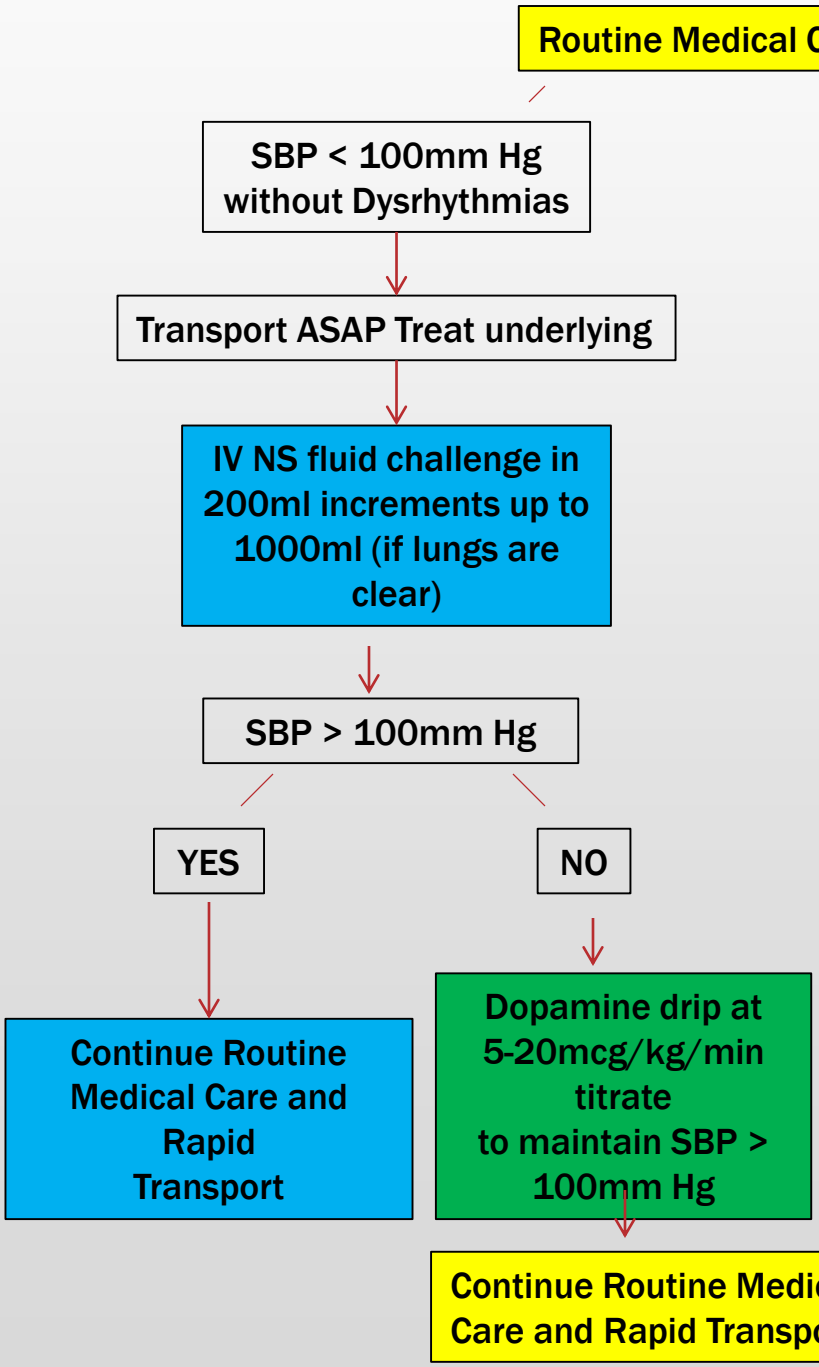
SITE	FACING	RECIPROCAL
SEPTAL	V1, V2	NONE
ANTERIOR	V3, V4	NONE
ANTEROSEPTAL	V1, V2, V3, V4	NONE
LATERAL	I, aVL, V5, V6	II, III, aVF
ANTEROLATERAL	I, aVL, V3, V4, V5, V6	II, III, aVF
INFERIOR	II, III, aVF	I, aVL
POSTERIOR	NONE	V1, V2, V3, V4

Treatment

Code 11 (b) Acute Coronary Syndrome (ACS) Treatment



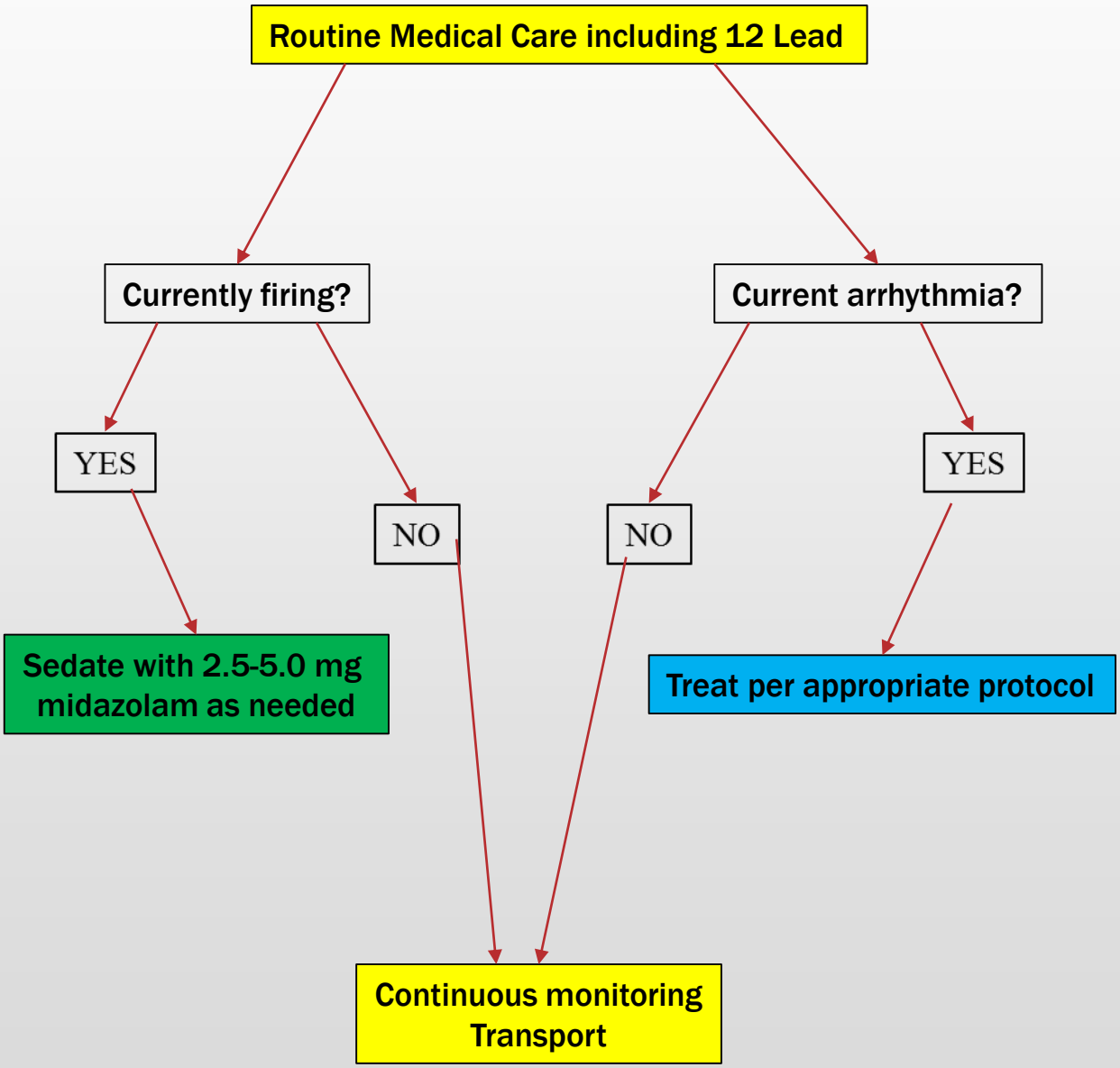
Code 12 Cardiogenic Shock



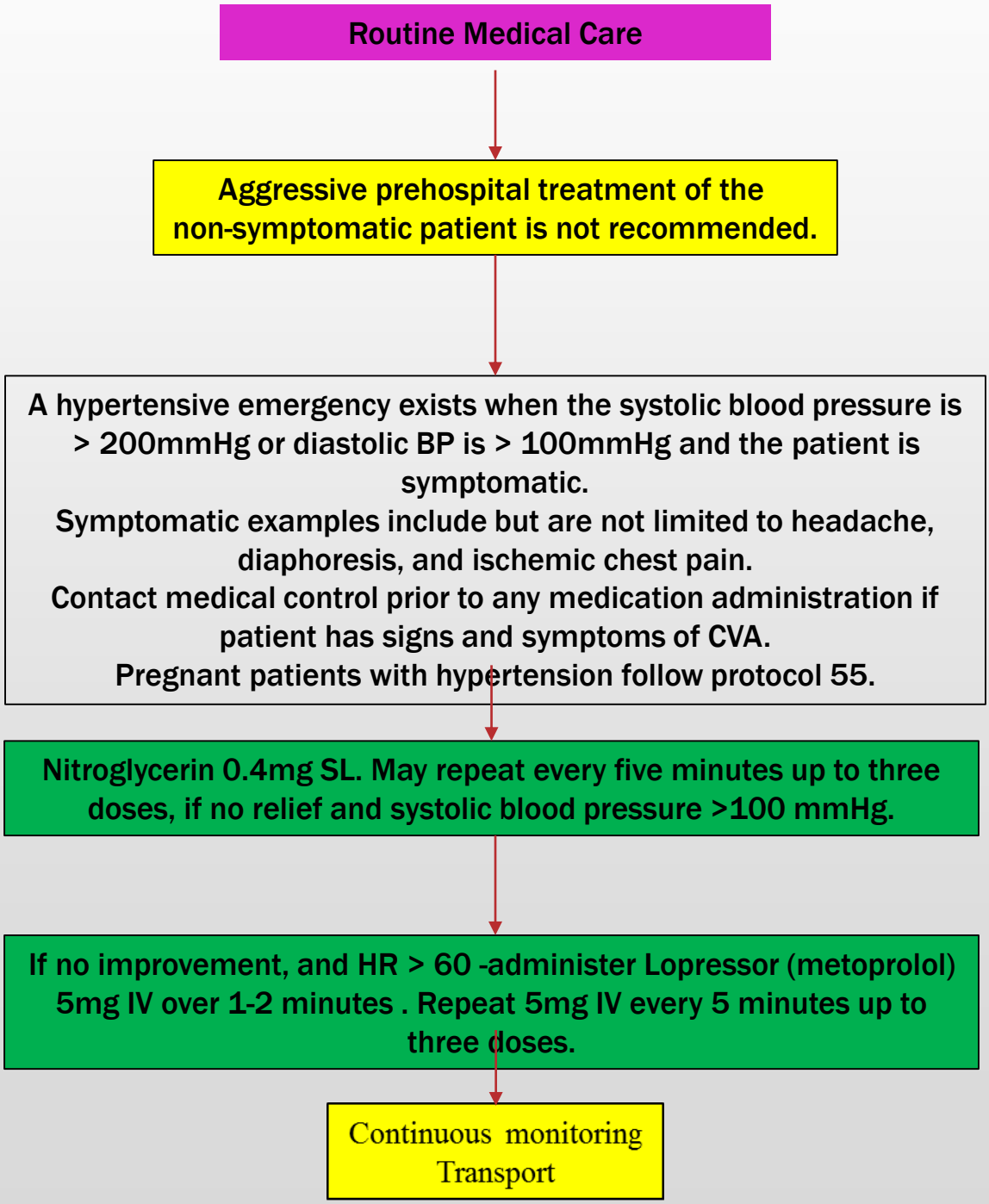
Dopamine Drip Chart
400mg/250ml D5W
Starting Drip Rate
(5mcg/kg/min)

Weight		
Lb	Kg	Hypotension
88	40	8gtts/min
99	45	8gtts/min
110	50	9gtts/min
154	70	13gtts/min
176	80	15gtts/min
198	90	17gtts/min
209	95	18gtts/min
220	100	19gtts/min
253	115	22gtts/min

Code 13 Implanted Defibrillator



Code 14 Hypertensive Crisis



Code 15 Asystole or PEA

Assess and Maintain CAB's
Begin CPR within 10 seconds of finding pulses absent

ECG Monitor
(Confirm asystole in 2 leads) Advanced airway & ventilate with 100% Oxygen ETCO2 monitoring if available
Establish IV/IO access

Consider possible causes and treatments:

**Administer Epinephrine 1mg/10mL(1:10,000)
1mg IVP/IO
May repeat every 3-5 minutes

Consider Sodium Bicarb Administration 0.5-1.0mEq/kg IVP/IO for extended down time

Consider termination of CPR if appropriate (see code 8)

Transport

*IO insertion may be considered if no other IV access is available

Possible Causes & Management:

Advanced EMTs

Hypoxia:
Confirm tube placement
Pre-oxygenate with 100% Oxygen

Hypovolemia:
Administer IV/IO bolus 20ml/kg

Overdose:
Administer Naloxone 2mg IV/IO push
Consider D50 if hypoglycemic

Paramedics

Tension Pneumothorax:
Perform needle decompression

Electrolyte imbalance (Dialysis Patient):
Consider CaCl 10ml IV/IO push
Consider Sodium Bicarb 0.5-1.0mEq/kg IVP/IO
Consider D50 if hypoglycemic
Consider Magnesium Sulfate 1—2 gm IVP/IO

Acidosis:
Confirm adequate airway tube placement
Pre-oxygenate with 100% Oxygen
Consider Sodium Bicarb 0.5-1.0mEq/kg IVP/IO

Hypothermia:
Passive rewarming
Active rewarming

Code 16 Ventricular Fibrillation /Pulseless V-Tach

Assess and Maintain CAB's
Begin CPR within 10 seconds of finding pulses absent

Defibrillate at maximum joules (360j monophasic or biphasic 200j) resume CPR immediately

Rhythm after first 5 cycles of CPR?

Persistent VF/VT

CPR

Airway ETT, NV Airway , ETCO2, vascular access

Epinephrine-1:10,000 (1mg/10mL) 1mg IVP/IO or 2mg ETT every 3-5 mins.

Defibrillate at maximum joules & Non-visualized Airway

Amiodarone 300 mg IVP/IO
Repeat Amiodarone 150mg IV/IO
OR
Initial Lidocaine 1-1.5mg/kg IVP/IO Repeat Lidocaine @ 0.5 – 0.75mg/kg Continue drug-shock-drug-shock sequence

Consider Magnesium Sulfate (see insert)

Asystole or PEA
Refer to Code 15

***Magnesium Sulfate:** Inject 1 gram into 50mL normal saline bag with 60gtt tubing and infuse at wide-open rate over 5-10 minutes

***Lidocaine Drip:** (premixed) (2 gm/500ml) 60 gtt tubing =

Drops/min =	15	30	45	
60 mg/min =	1	2	3	4

*Amiodorone: Mix 300mg/50ml .9NS w/60gtt tubing Run @ 10gtts/min for 60mg/hour dosage.

Return of Spontaneous Circulation

Optimize ventilation and oxygenation

-Maintain SpO2 > 94% -Consider advanced airway and ETCO2 monitoring -Do NOT hyperventilate

Anti-arrhythmic therapy for previous VF/VT only if Rx previously given IVP: Lidocaine drip-begin at 2mg/min, titrate to effect or Amiodarone drip in 50mL bag w 60 gtt

Treat hypotension (SBP < 90mmHg)
-IV/IO bolus -Consider treatable causes -12-lead ECG

If patient does NOT follow commands consider induced hypothermia

Transport

Code 17 Bradycardia

Routine Medical Care including 12-lead

Hemodynamically Unstable Patient (Signs of hypo-perfusion and/or altered mental status)

Replace fluid if hypovolemic

Administer Atropine 0.5-1.0mg IV/IO May repeat every 3-5 min (max dose 0.04mg/kg or 3.0 mg total)

*if patient deemed critical go directly to pacing

Consider External Pacing at rate of 70, increase mA until capture, then set at 10mA higher

Sedate if conscious: Versed 2.5 – 5 mg IV (Contact medical control for additional sedation)

Dopamine 5mcg/kg/min IV/IO Drip to maintain SPB > 90mm Hg (See chart)

Alert and Hemodynamically Stable

Continue monitoring

Transport

Dopamine Drip Chart
400mg/250ml D5W Starting Drip Rate (5mcg/kg/min)

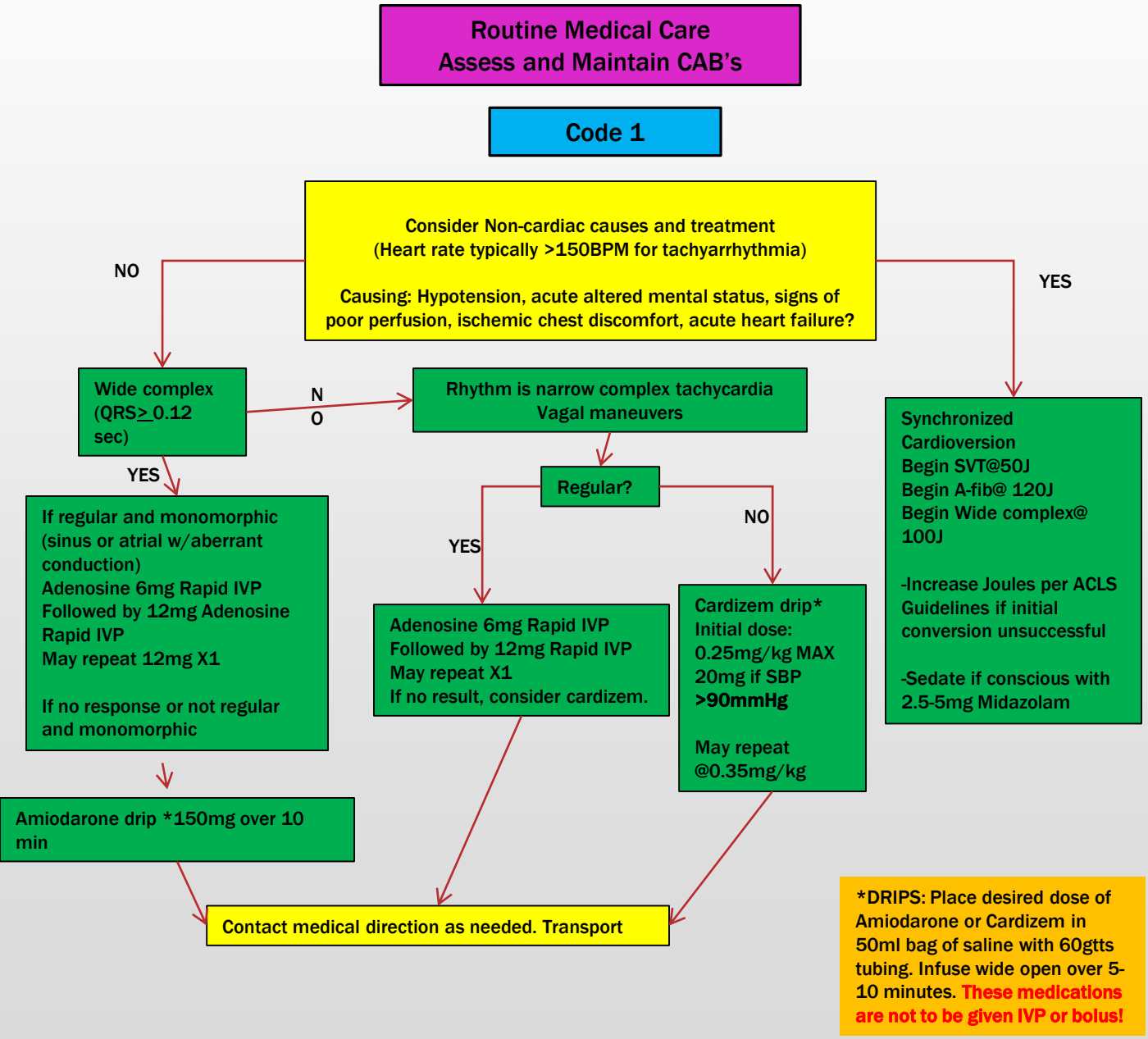
Weight Lb	Kg	Hypotension
88	40	8gtts/min
99	45	8 gtts/min
110	50	9gtts/min
154	70	13gtts/min
176	80	15gtts/min
198	90	17gtts/min
209	95	18gtts/min
220	100	19gtts/min
253	115	22gtts/min

-Signs of hypoperfusion include: severe chest pain, severe SOB, SBP < 90mm Hg, diaphoresis, altered mental status

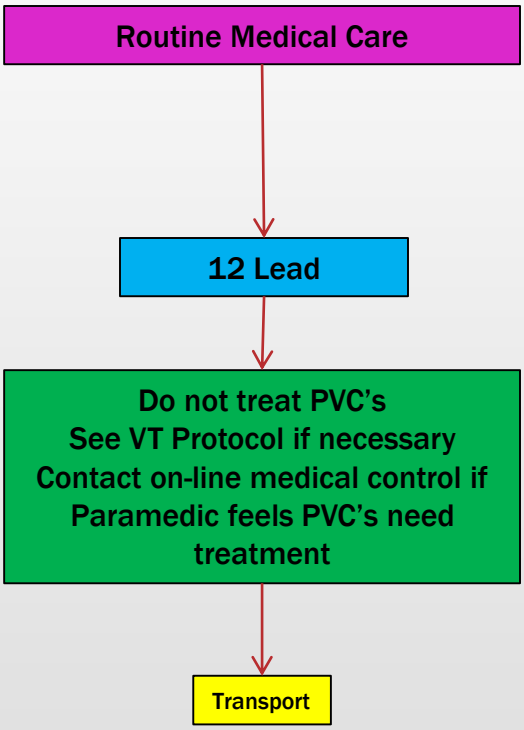
-Do not delay pacing while awaiting for Atropine to take effect if patient is symptomatic.

-Do not give atropine to patient with high end heart blocks (Mobitz II or complete heart block)

Code 18 Tachycardia



Code 19 Premature Ventricular Contractions

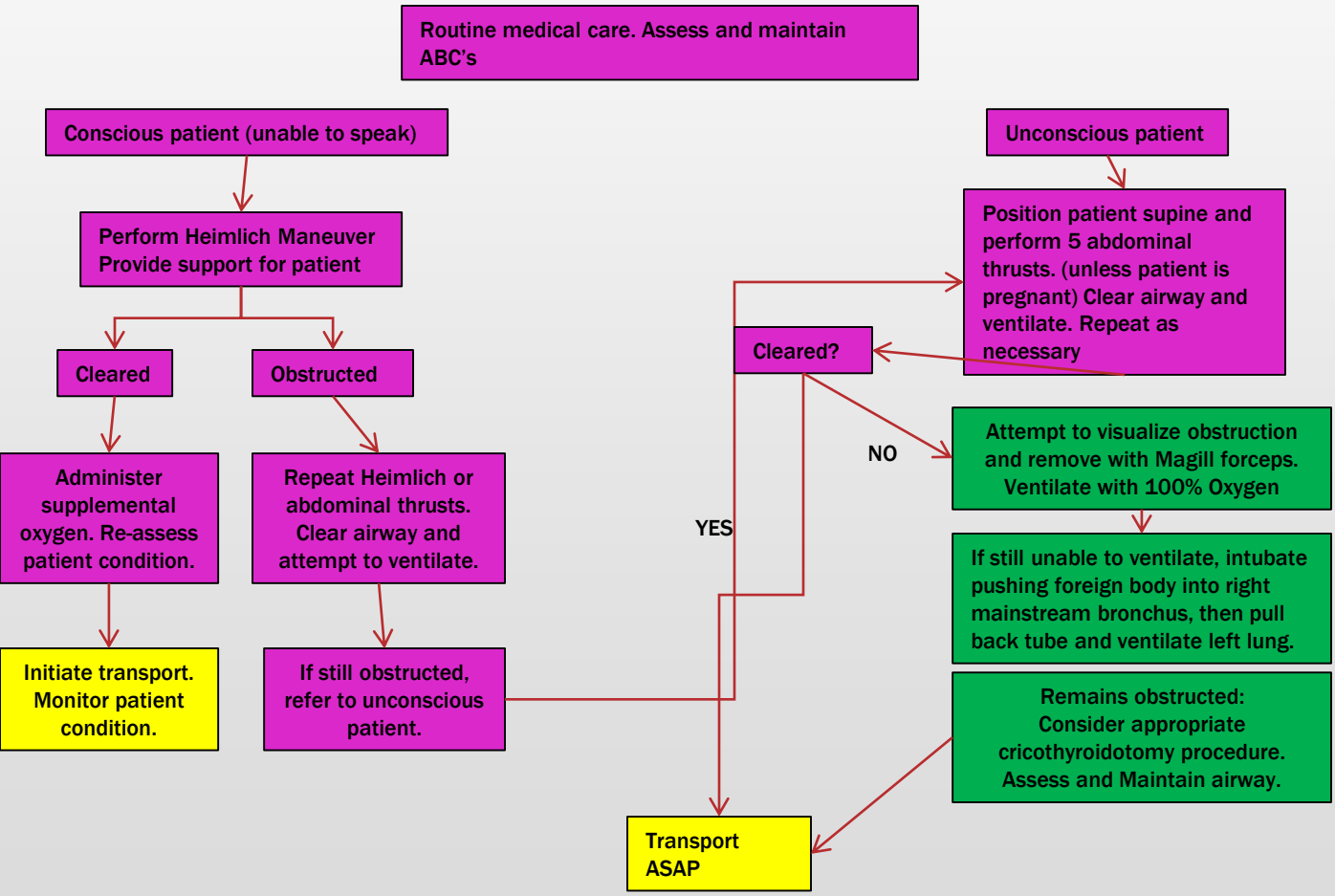


Code 20 EMD Weapon (Taser) Injuries
electromuscular disruption

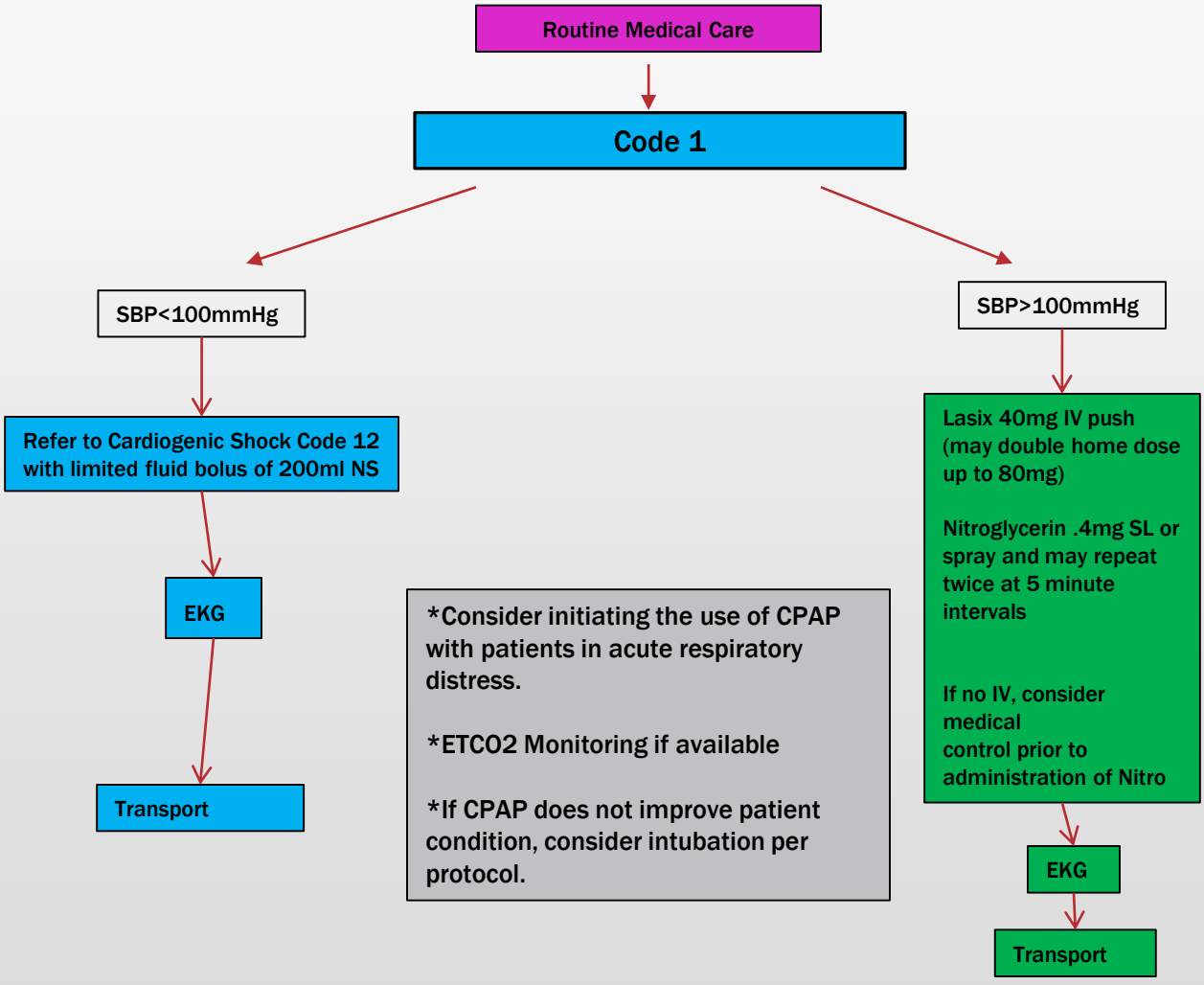
This protocol is intended to provide guidelines for care of patients following the use of electromuscular disruption (EMD) weapons (e.g., the X26 TASER®). For situations involving altered level of consciousness, significant secondary trauma or other medical problems, follow the applicable protocol(s).

- Assure the scene is secure. Use of this type of weapon to subdue a violent person implies he/she was a risk to him/herself or others.
- Evaluate and treat for secondary injuries/altered level of consciousness as indicated.
- In the event of cardiovascular, respiratory ,or neurologic involvement secondary to electromuscular disruption. Treat and transport patient as indicated.
- Stabilize dart(s) in place and transport patient to ED if the dart(s) is/are embedded in the eyelid/globe of eye, genitalia, or face/neck.
- Darts in other locations may be carefully removed by gently pulling backwards in the same plane as they entered the body. Assure the dart is intact and no portion of the dart remains inside the patient's skin.
- Provide the darts to law enforcement officers.
- Control minor bleeding and clean the wound area(s) with alcohol and/or povidone-iodine solution. Cover with an adhesive bandage.
- If all darts are out, any minor bleeding is controlled, and no other injuries or symptoms exist, EMS transport is not indicated and a refusal may be obtained.

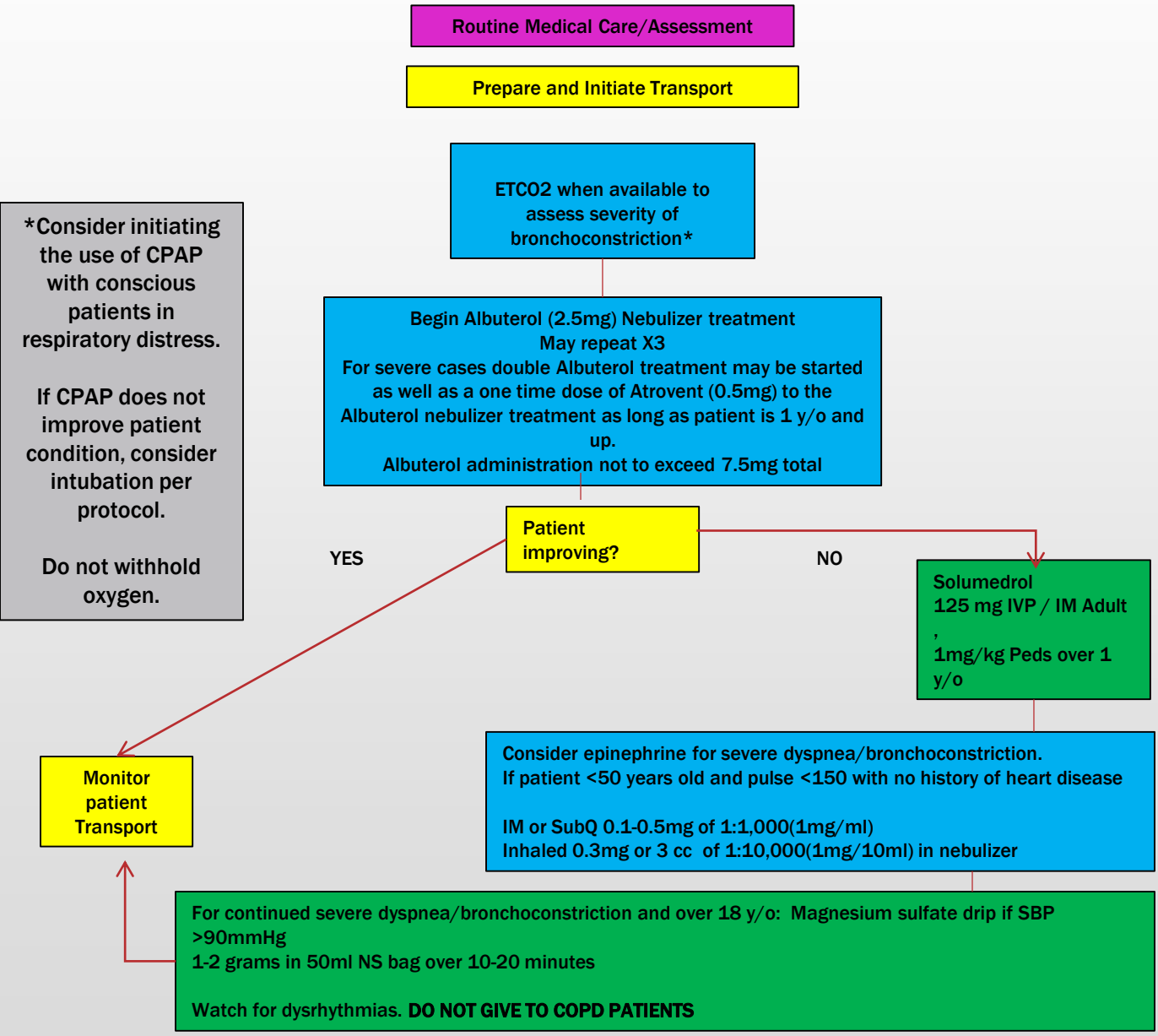
Code 21 Airway Obstruction



Code 22 Pulmonary Edema



Code 23 Dyspnea with Wheezing



Code 24 Medication Assisted Intubation

Indications:

1. Patients with actual or potential airway compromise due to altered mental status, GCS less than 8.
2. Patients whose combativeness and agitation threatens the airway or spinal cord stability.
3. Patients who demonstrate a high probability of airway compromise for any reason prior to, or during transport.
4. Patients requiring ventilator assistance or airway protection.
5. Benefits outweigh potential risks.
6. Use of a video laryngoscope is highly advised

Premedicate:

1. Lidocaine: 1.5mg/kg IV/IO (utilize for patients with increased ICP due to brain injury)
2. Atropine: 0.5mg IV/IO for adult patient's with bradycardia

Anesthesia Induction:
Etomidate 0.3mg/kg IV/IO
Wait 60 seconds after administering to introduce paralytic

For Trauma, Burns, ICP, Stroke follow Rocuronium Protocol

Administer Succinylcholine 1.5 mg/kg (150 mg max) IV push
Please wait 30-60 seconds before attempting intubation
Onset 45-60 seconds, Duration 4-12 minutes • Contraindicated in malignant hyperthermia history and known or suspected hyperkalemia (new renal patients)

If Succinylcholine contraindicated:
Ketamine 2 mg/ kg
Rounded to the nearest mg . IVP slow over 3-5 minutes

Administer **Rocuronium** 1 mg/kg (100 mg max) IV push.
Please wait 60 seconds before attempting intubation
Onset 60 seconds, Duration 60-90 minutes

Post intubation sedation:

1. Midazolam 2mg IV/IO increments unless patient is hempostodynamically unstable.
2. Etomidate 0.3mg/kg IV/IO may be utilized one time for intubation sedation.
3. Ketamine 2mg/kg over one minute may be utilized one time for intubation sedation
4. Consider pain management with patients with high probability of pain and normal sedation is not working adequately. Follow pain management protocol where indicated.

WT #/Kg	Etomidate .3 mg/Kg Max = 30 mg	Succinylcholine 1.5 mg/Kg Max = 150 mg	Rocuronium 1mg/kg Max=100mg	Ketamine 2mg/Kg Max = 200 mg	Fentanyl 2 mcg/Kg Max = 200mg
120# / 55 Kg	17 mg	83 mg	55mg	110 mg	110 mcg
140# / 64 Kg	19 mg	96 mg	64mg	128 mg	128 mcg
160# / 73 Kg	22 mg	110 mg	73mg	146 mg	146 mcg
180# / 82 Kg	25 mg	123 mg	82mg	164 mg	150 mcg
200# / 91 Kg	27 mg	137 mg	91mg	182 mg	150 mcg
220# / 100 Kg	30 mg	150 mg	100mg	200 mg	200 mcg
240# / 109 Kg	30 mg	150 mg	100mg	200 mg	200 mcg
260# / 118 Kg	30 mg	150 mg	100mg	200 mg	200 mcg
280# / 127 Kg	30 mg	150 mg	100mg	200 mg	200 mcg
300# / 136 Kg	30 mg	150 mg	100mg	200 mg	200 mcg

Medication Assisted Intubation (RSI)
Indications and Contraindications

Lidocaine:
Indications: Pre-medicate for ICP prior to intubation 1.5 mg/kg IV/IO
Contraindications: Allergy

Etomidate:
Indications: Initial sedation prior to paralytic at .3 mg/kg
Wait 60 seconds before administering paralytic
May repeat initial dose for post intubation sedation
Contraindications: Sepsis, head injury, renal failure, hypotension.
Consider use of Ketamine at 2mg/kg for sedation.

Succinylcholine:
Indications: Paralytic at 1.5 mg/kg max dose of 150 mg.
Onset 45-60 Seconds, Duration 4-12 mins
Contraindications: Burns, Multisystem Trauma, ICP, Stroke, Malignant Hyperthermia, Multiple Sclerosis.

Rocuronium:
Indications: Paralytic at 1mg/kg max dose of 100mg
For use in Multisystem Trauma, ICP, Stroke, Burns
Onset of 60 seconds, Duration of up to 60 mins
Be mindful that patient will need continued sedation support
Contraindications: Hypersensitivity

Ketamine:
Indications: Sedation at 2mg/kg max dose of 250mg for initial sedation when Etomidate is contraindicated and/or post intubation sedation.
*Increases cardiac output, bronchodilation.
Contraindications: Allergy, Malignant Hyperthermia

Versed:
Indications: Post intubation sedation 2.5 -5 mg
Contraindications: Allergy, Hypotension

Fentanyl:
Indications: 2mcq/kg for pain management pre-sedation/post intubation sedation
max dose of 200mcq

Code 25 Allergic Reaction/Anaphylactic Shock

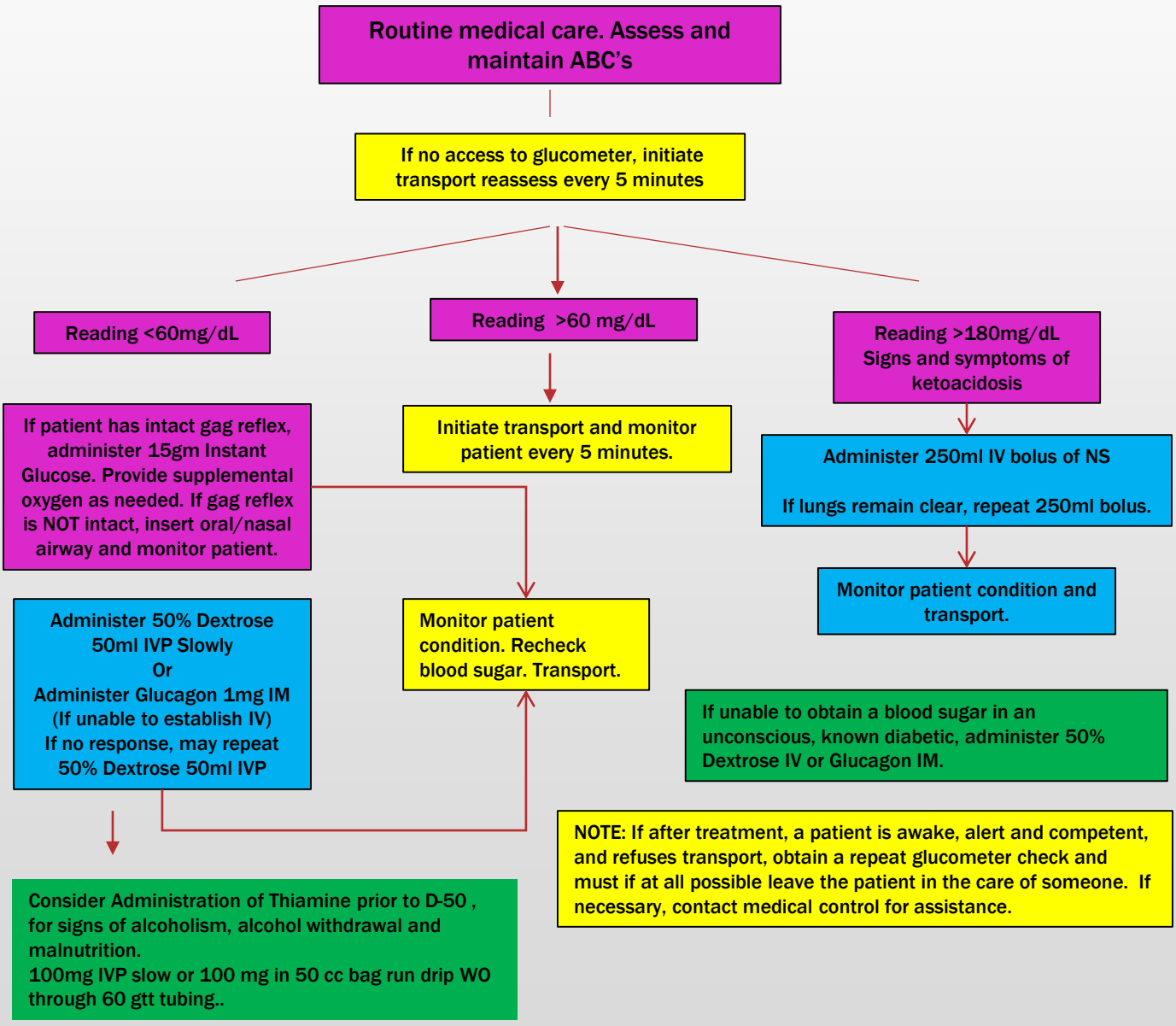
Routine medical care. Maintain ABC's

Mild condition Local swelling, itching, hives, rash	Moderate condition Mild respiratory signs and symptoms, normotensive	Severe Condition Respiratory distress, altered mental status, hypotensive
Apply cold packs to affected area if not contraindicated	Apply high flow oxygen, assist ventilations if necessary	Epi-Pen or Epi 1:1,000 subQ (0.5ml) or IM
Transport	If wheezing or respiratory symptoms, Albuterol Nebulizer. May add .5mg Atrovent x1 if not contraindicated.	IV bolus 200ml increments, 1,000ml max.
Monitor for changes in severity and notify receiving facility	Call for ALS/Advanced	If severe respiratory distress, Consider repeat Epinephrine with medical control authorization
	Consider Epinephrine (1:1,000) 0.3 -0.5ml subQ or IM	Benadryl 25-50mg slow IVP, IO, or IM
	Transport	Dopamine drip (see chart)
		Be prepared for intubation or cricothyrotomy
		Transport

Dopamine Drip Chart 400mg/250ml D5W
Starting Drip Rate (5mcg/kg/min)

Weight Lb	Kg	
88	40	8gtts/min
99	45	8 gtts/min
110	50	9gtts/min
154	70	13gtts/min
176	80	15gtts/min
198	90	17gtts/min
209	95	18gtts/min
220	100	19gtts/min
253	115	22gtts/min

Code 26 Diabetic Emergencies



Code 27 Drug Overdose/Poisoning

Routine Medical Care
Manage ABC's
Contact Poison Control when needed
800-222-1222

Code 26 for Diabetic Emergencies

Narcotic: Morphine, Demerol, Heroin, Methadone, Codeine, Fentanyl, Vicodin, Hydrocodone, Dilaudid, Darvon, etc.

Tricyclic Antidepressant: Elavil, Triavil, Norpramine, Tofranil, Pamelor, Sinequan, Ludiomil, Desyrel, Anafranil, Endep, Doxepine, Imipramine, Trimipramine, Surmontil, Amoxapine, Ascendin, Despramine, Nortriptyline, Aventyl, Vivactil

Benzodiazepines: Halcion, Ativan, Centrax, Doral, Restoril, Versed, Valium, Xanax, Librium, Klonopin, Dalmane, Rophynol

Beta Blocker: Enderal, Corgard, Lopressor, Atenolol, Labetalol, Propanolol

Calcium Channel Blocker: Cardizem, Procardia, Calan, Verapamil, Isoptin, Adalat, Diltiazem

Obtain random blood sugar

Remember the goal of Narcan is to restore respirations and manage airway, not necessarily to restore full consciousness. Rapid Administration of Narcan has been linked to patient aggression, vomiting, pulmomary edema and cardiac abnormalities.

Treat per suspected overdose/Poisoning
Consider administration of Activated Charcoal
- Monitor closely
- Do not induce vomiting

Contact medical control for permission to Administer activated Charcoal*
Adult dose: 50gm
Pediatric dose: 1 gm/kg

Narcotic Opioids- (respiratory depression, pinpoint pupils
Narcan (naloxone) 2mg IN (nasal), 1 mg in each nare

If after 3-5 minutes there is no response, dose may be repeated x1

EMTs may administer 2 mg IM/IN

Narcotic: (respiratory depression, pinpoint pupils)
Narcan (Naloxone): 0.4-2mg (IV, IM, IN) SLOWLY to a maximum of 12mg

Signs of hypoperfusion? IV wide open

Call medical control for additional orders.

Endotracheal intubation if necessary to protect airway

Organophosphate poisoning: Atropine 2mg IV/IO every 5 minutes

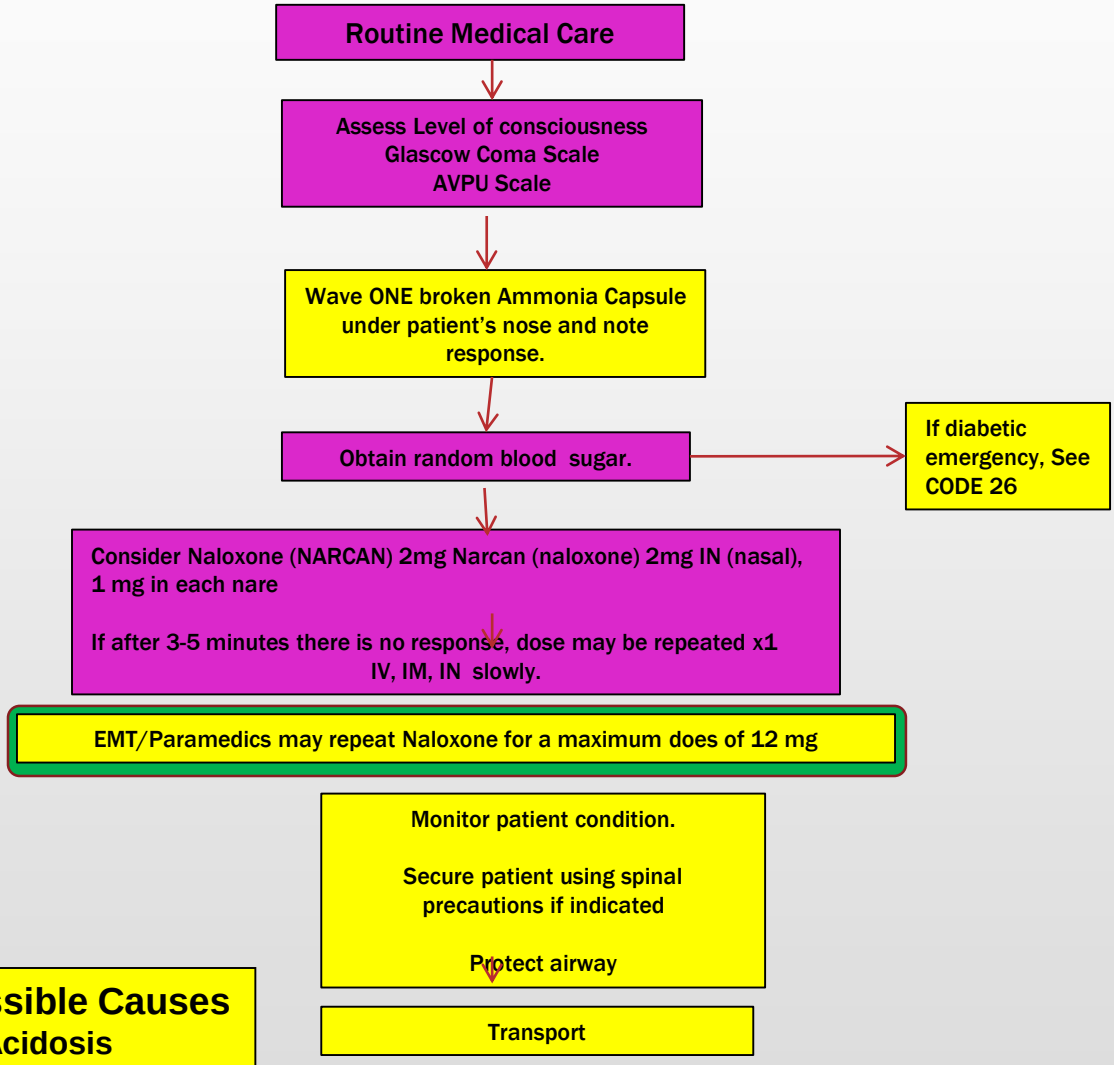
Tricyclic Antidepressant: Sodium Bicarb 1-2 amps IV/IO

Beta Blocker: Glucagon 2mg IV/IO/IM

Calcium Channel Blocker: Calcium Chloride 1 gram IV/IO

Contact medical control for further orders → Transport

Code 28 Coma and Altered mental (No Trauma History)



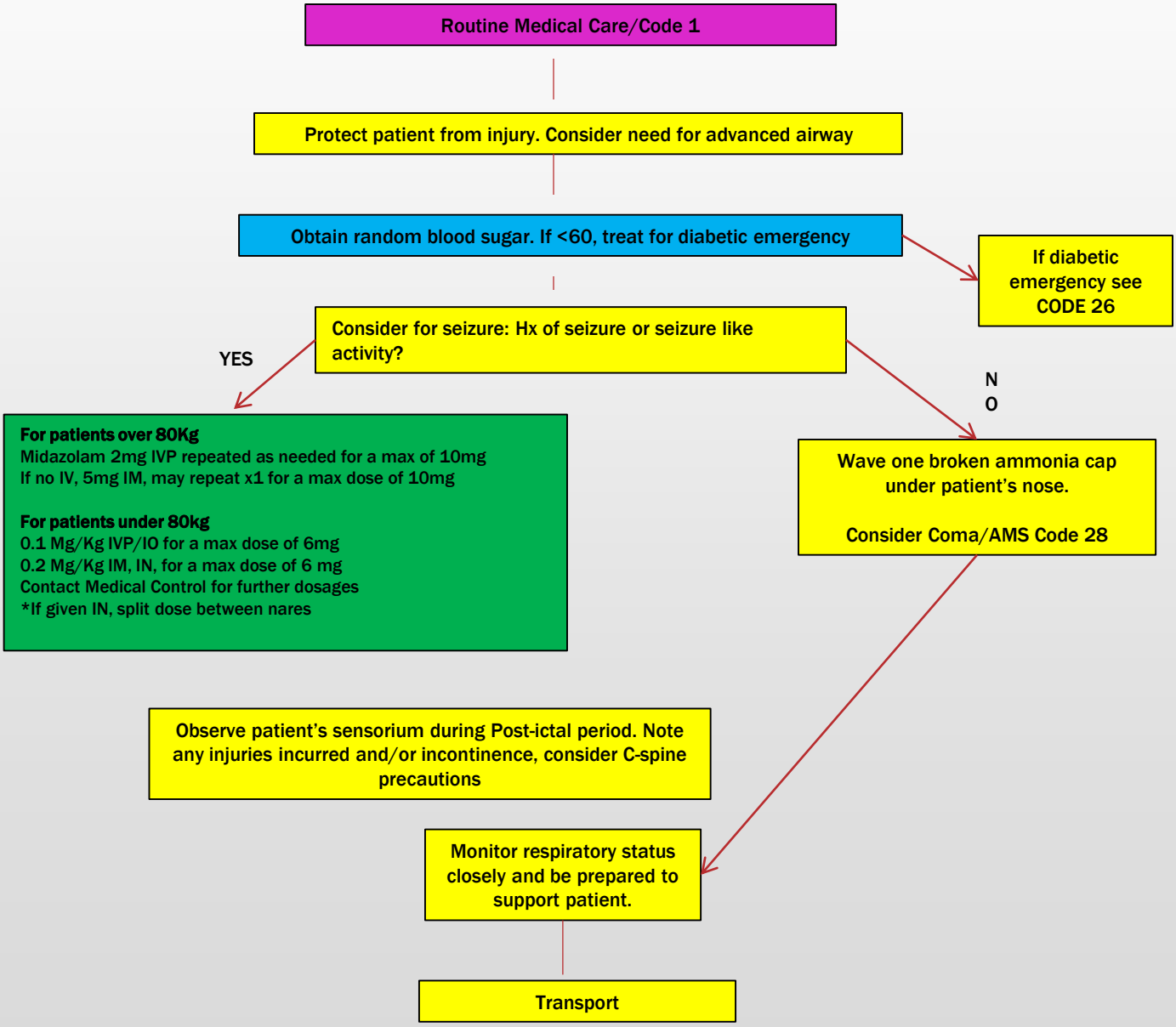
Identify Possible Causes

A = Alcohol; Acidosis
E = Endocrine Emergencies
I = Insulin
O = Over Dose
U = Uremia

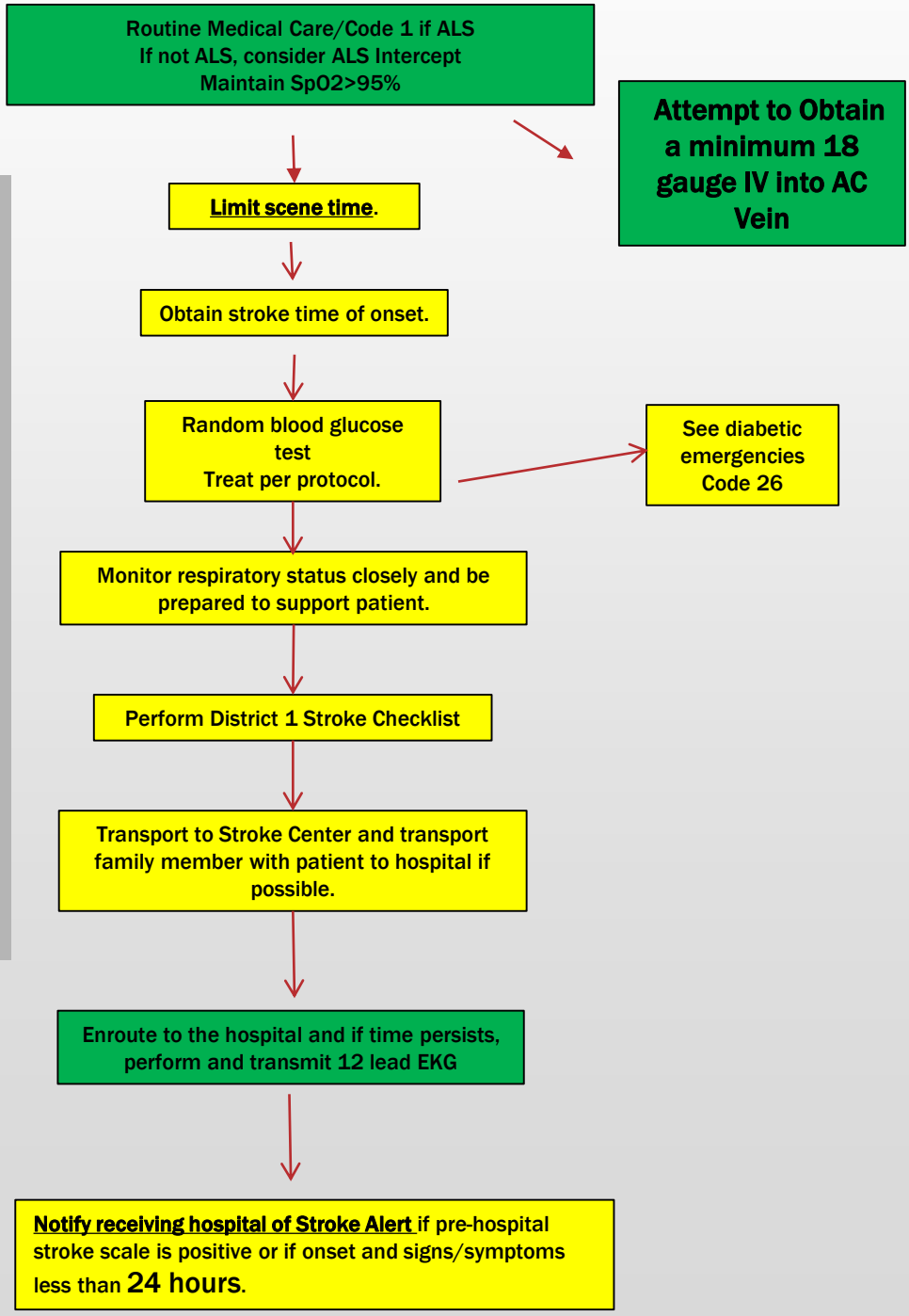
T = Trauma; Tumor
I = Infection
P = Psychiatric Emergencies
S = Stroke; Sepsis

Consider Administration of Thiamine prior to D-50 , for signs of alcoholism, alcohol withdrawal
And malnutrition. 100mg IVP slow or 100 mg in 50 cc bag run drip WO through 60 gtt tubing..

Code 29 Seizures



Code 30 Stroke/"Brain Attack"



Pre-hospital Stroke Screen

1.Facial droop (ask patient to show teeth or smile).
Normal-Both sides of face move equally well.
Abnormal-One side of face doesn't move as well as the other.

2. Arm Drift
Normal-Both arms remain steady
Abnormal-One arm doesn't move at all or drifts down

3.Speech Have the patient say "You can't teach an old dog new tricks."
Normal-Clear speech
Abnormal-Patient slurs words, says wrong words ,unable to speak

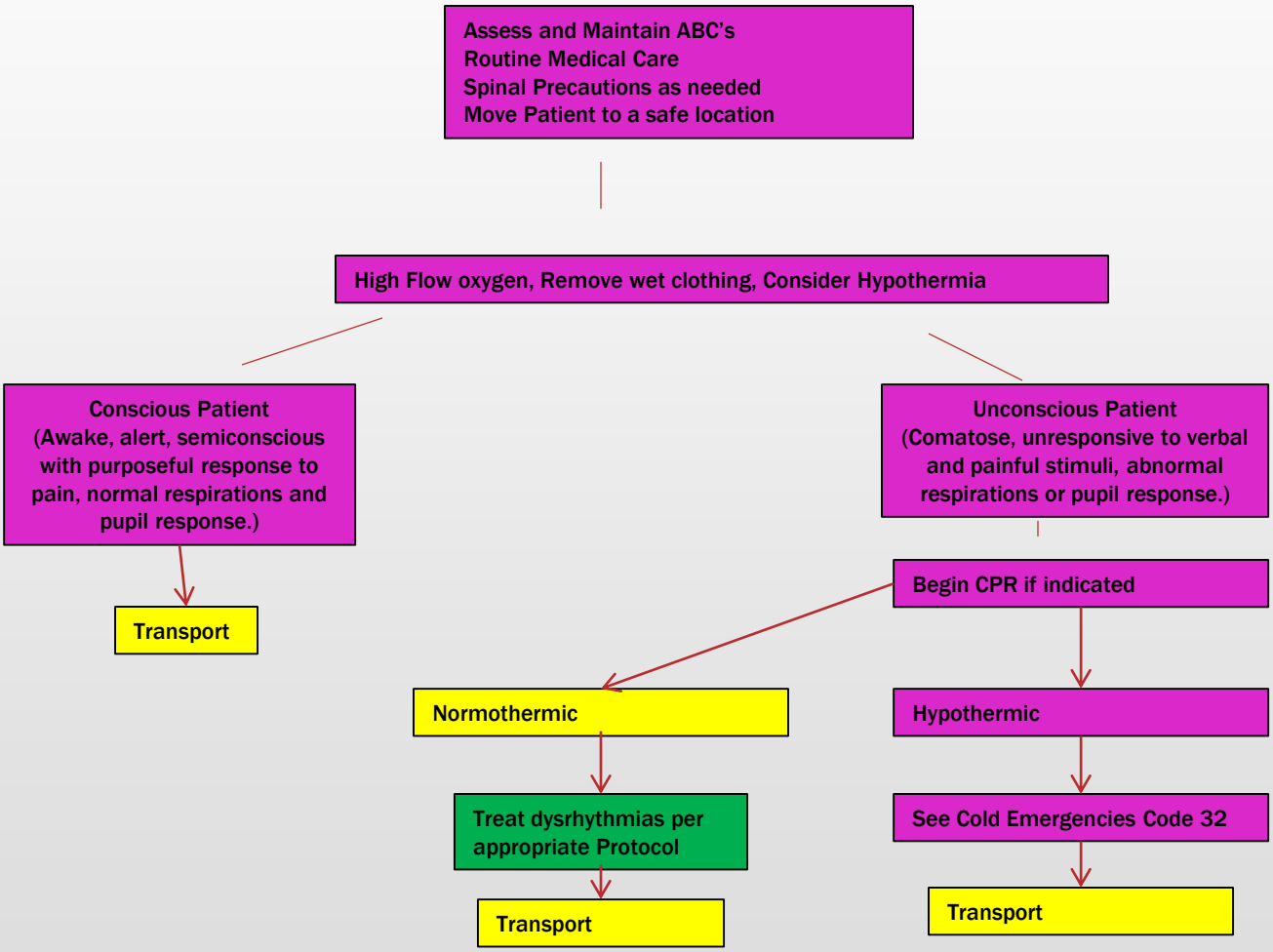
4. Glucose level

5. Symptom duration.

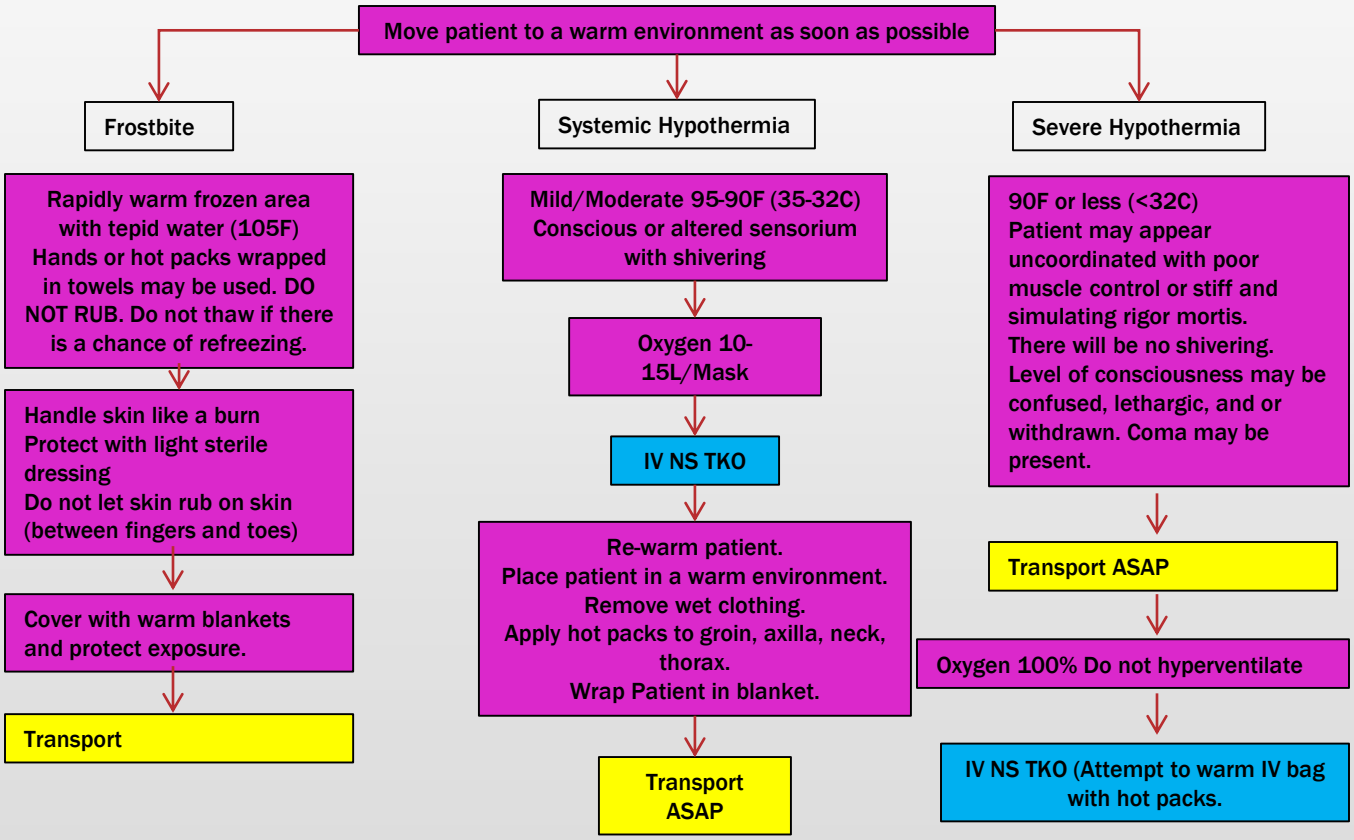
6. Hx of seizures?

7. Anticoagulant therapy? (coumadin, ticlid, etc.)

Code 31 Drowning/Near Drowning



Code 32 Cold/Hypothermia Emergencies



*NOTE: Assess pulse for 30 seconds before beginning CPR. Begin CPR only if rhythm is asystole or V-fb. DO NOT GIVE ANY DRUGS. May attempt defibrillation at 360 Joules if V-fib. Handle patient gently to avoid precipitating V-fib.

At discretion of Physician or Nurse on radio: Morphine Sulfate 2-10mg IVP

CODE 33 HEAT EMERGENCIES

Move patient to a cool environment

Initial Medical Care & Assessment

Heat Stroke

Heat Cramps or Tetany (IV may not be necessary) Allow for oral intake of water or electrolyte replacement fluids

Remember – trainers may initiate ice bath for min of 20 minutes prior to transport, goal is 1 degree Fahrenheit per 3min drop

Heat Exhaustion or Syncope IV NS rapid rate

Place patient in supine position with feet elevated Trendelenberg

100% 02 Manage Airway

Do not massage cramped muscles

Rapid cooling while preparing IV

Remove as much clothing as possible to facilitate cooling

IV NS boluses (200ml) up to 1000ml -or- SBP>100 (check lungs after each bolus)

Seizure precautions (Code 29 if seizures)

Position with head elevated unless contraindicated

Transport

Initiate rapid cooling: Remove as much clothing as possible. Cool packs to lateral chest wall, groin, axilla, carotid arteries, temples, and behind knees and/or sponge with cool water or cover with wet sheet and fan body. Wet head if possible, avoid shivering.

CODE 34 PSYCHOLOGICAL EMERGENCIES

- I. Purpose/Definition

- Given the magnitude of the problems of abuse and violence in our society, early detection of domestic violence victims, appropriate legal and social service referrals and the delivery of timely medical care are essential.

- Domestic violence is a pattern of coercive behavior engaged in by someone who is or who was in an intimate relationship with the recipient. These behaviors may include: repeated battering, psychological abuse, sexual assault or social isolation such as restricted access to money, friends, transportation, healthcare or employment. Typically, the victims are female but it must be recognized that males can be victims of abuse as well.

- II. Domestic Violence Indicators

- While sometimes the specific history of abuse is offered, many times the victim of abuse, (either out of fear or because of the coercive nature of the relationship or out of the desire to protect the abuser) will not volunteer a true history but instead ascribe injuries to another cause. Therefore, an appropriate review must be undertaken with respect to patients presenting with injuries: -That do not seem to correspond with the explanation offered. -That are of varying ages. -That have the contour of objects commonly used to inflict injury (i.e. hand, belt, rope, chain, teeth, cigarette) -During pregnancy

- Other factors include: -Partner accompanies patient and answers all questions directed to patient. -Patient reluctant to speak in front of partner. -Denial or minimalization of injury by partner or patient. -Intensive, irrational jealously or possessiveness expressed by partner.

- Physical injuries commonly associated with domestic violence:

- Central injuries, specifically to the face, head, neck, chest, breasts, abdomen, or genital areas. -Contusions, lacerations, abrasions, stab wounds, burns human bites, fractures (particularly of nose and orbits), and spiral wrist fractures. -Complaints of acute or chronic pain without tissue injury -Signs of sexual assault -Injuries or vaginal bleeding during pregnancy, spontaneous or threatened miscarriage -Multiple injuries in different stages of healing

- Direct impact of domestic violence on pregnancy may include:

- Abdominal trauma leading to abruption, pre-term labor, and delivery -Fetal fracture -Ruptured maternal liver, spleen, uterus -Antepartum hemorrhage -Exacerbation of chronic illness

CODE 34 PSYCHOLOGICAL EMERGENCIES (CONT'D)

- III. Approaches for Interviewing the patient

- The goals of the physical examination are to identify injuries requiring further medical intervention and to make observations and collect evidence that may corroborate the patient's report of abuse. A thorough physical examination is essential to uncover hidden injuries or compensated trauma. If the patient reports sexual assault, the sexual assault protocol should be followed:
- Always interview the patient in a private place, away from anyone accompanying them to the ED. Questioning the patient in front of the batterer may place the patient and any children in danger.
- You may be the first person or professional to acknowledge the abuse. It is important that you convey your concerns about what has happened to the patient to the Emergency Physician and Nurse.
- When interviewing, do not ask patients if they were battered or abused (many battered persons do not consider themselves in this light). Instead, you can ask the patient:
- "Have you had a fight with someone?" "Did anyone hurt you?" "Many times we have seen these types of injuries in patients who are hurt by someone else, did someone hurt you?" "I am concerned that someone may be hurting you or scaring you, can you tell me what has happened?"
- Most battered persons feel very shamed and humiliated about what has happened to them. It is important to acknowledge that you understand how difficult it is to talk about what happened.
- Most battered persons will minimize the abuse or blame themselves for what happened. It is important that you repeatedly reinforce that no one deserves to be hurt no matter what they may or may not have done.
- Questions/attitudes Not to ask/Express: -What keeps you with a person like that? -Do you get something out of violence? -What did you do at the moment that caused them to hit you? -What could you have done to avoid or defuse the situation?
- IV. Practice
- Treat obvious injuries: transport -Report your suspicion and supporting findings to the Emergency Department Physician and on the prehospital report form. -If the patient refuses transport, make appropriate referral and documentation on run sheet. -Document your findings on the prehospital report form: -Presenting condition. -Any suspicious indicators. -Physical exam including any evidence of abuse. -Treatment rendered.

If you have any questions as to whether or not you think a patient needs to be transported, for example a patient who routinely cuts themself with no intention of committing suicide, CONTACT MEDICAL CONTROL for further instructions and clarification.

CODE 35 EXCITED DELIRIUM SYNDROME

Scene Safety Retreat and contact law enforcement as needed to ensure safety of crew and patient
Identify and treat underlying, reversible medical causes (hypoglycemia, shock, etc)

Attempt to calm patient via verbal de-escalation tactics but do not delay patient care in obvious EDS

Restraints as indicated per situation in accordance with standard of care

If patient remains with signs and symptoms of excited delirium and weighs > 45 kg, sedate:

- Haloperidol 5mg IM/IN
- Diphenhydramine 50 mg IM

- After waiting 3-5 minutes, if patient is not adequately sedated you may administer Midazolam 5mg IM/IN

Post sedation care:
Vascular access and IVF administration of 500mL to 1000mL.
Supplemental oxygen.
Continuous oximetry. Ensure SpO2 > 95% at all times
12-lead ECG. Watch for long QT interval.
Blood glucose level assessment; treat hypoglycemia

Transport and contact medical direction for further treatment orders, as needed.

Sympathomimetic overdoses (cocaine, PCP, 'bath salts,' 'white lightening', 'bliss', meth, "spice:, MDPV, MDMA, ecstasy, Flakka, etc) may result in life-threatening hyperthermia with hypovolemia due to dehydration; if hyperthermic, cool patient and provide fluid resuscitation. "NOT A CRIME" analysis Naked or removing clothing Objects (throwing,punching) Tough, does not feel pain, Acute onset, confused Resistant Incoherent speech Mental health history EMS, early care. Haloperidol and midazolam may safely be mixed in the same syringe for IM administration. **DO NOT mix diphenhydramine with any other medications, as precipitate may form due to chemical reaction**. Haloperidol is pregnancy category C and midazolam category D- do NOT give these medications to a known pregnant patient; consult medical direction for management options.

CODE 36 ABDOMINAL EMERGENCIES

Routine Patient Care Position patient for comfort Assess pain level

Administer 0.9% Normal Saline Bolus 250-500cc

If nausea and/or vomiting occur Consider Zofran 4 mg ODT

If nausea and/or vomiting occur Consider Zofran 4 mg IV/PO / ODT

Monitor patient condition If continued pain and SBP greater than 100mmHg, may administer analgesic

Transport

* Analgesic Alternative

Patients with right flank pain and history of kidney stones with no contraindications may receive Toradol 30mg IV.
If unsure, contact medical control

CODE 37 PAIN MANAGEMENT

Routine Patient Care Position Patient for Comfort Assess Pain Level (0-10) Appropriate splinting, ice, positioning

Indications

1. Extremity injury (including hip and shoulder injury)
2. Back or flank pain
3. Burns
4. Chest Pain
5. Crush Injuries
6. Minor Traumatic Injuries

CONTACT MEDICAL CONTROL FOR OTHER INDICATIONS OR UNSURE OF DOSAGE

Contraindications

Contact Medical Control prior to administration of pain medication if any of the following are observed:

1. Altered level of consciousness, any etiology
2. Hypotension, auscultated BP less than 90 mmHg
3. Respiratory compromise, hypoxemia
4. Mechanism of injury meeting multi-system trauma criteria
5. Pregnancy
6. Known allergy or hypersensitivity to pain medication
7. ***Toradol may only be given to patients 15-70 years old, no renal/dialysis patients, no diabetics, no NSAID/ASA allergies and is contraindicated in patients on blood thinners***.

May administer Toradol 30 mg IV / IM

May repeat Toradol 30 mg With Medical Order

May administer:

1. Toradol 30 mg IV /IM
2. Morphine Sulfate 2-4 mg slow IV / IO every five (5) minutes until pain resolved, or to a total of 10mg in adults. Burn patients up to a maximum of 20 mg.

OR

Fentanyl 50-100 mcg slow IV / IO (200mcg Max)

Ketamine Adult 0.2 mg/kg over 1 minute with a max dose of 30 mg. May not repeat. **Ketamine is not to be used in pediatric patients.**

3. May administer MORPHINE SULFATE 5 – 10 mg IM or FENTANYL 50-100mcg IM (200mcg Max) if appropriate.
4. Weight based dosing of morphine is 0.1 mg/kg IV for patients <15 y.o.

CODE 38 Sepsis/Septic Shock

Assess and maintain ABCs
Routine Medical Care
Consider Appropriate PPE per infection control guidelines

Administer Oxygen to maintain SPO2>94%

Establish Code 1/Obtain 12 lead EKG

Initiate Sepsis Protocol and Sepsis alert if any of the following criteria are met

1. Patient has suspected infection
2. Patient must have ETCO2 of <or= 25
3. Two or more of the following
    1. Temperature of >100.4 or <96.8
    2. Heart Rate of >90BPM
    3. Respiratory Rate >20
    4. Systolic Blood Pressure of <90

Yes

No

If not in acute pulmonary edema or CHF, Initiate 0.9 Saline Bolus of 1 Liter to a Maximum of 2 L

Refer to appropriate protocol

If fluid bolus is ineffective as evidenced by inability to Obtain systolic BP over 100 or MAP of 65,

Consider

Dopamine 5mcg/kg titrated until systolic bp is 100 or maximum
Dose of 20mcg/kg

Notes for Intubation

1. ***DO NOT USE*** *etomidate due to renal insufficiency*
2. ***DO NOT USE*** *versed due to negative impact on blood pressure*
3. ***USE*** *Ketamine 2mg/Kg*
4. ***USE*** *Succynnocholine 1.5mg/kg max dose or 150mg*

CODE 39 ROUTINE TRAUMA CARE

Assess Scene Safety (Consider Crime Scene)

Primary Patient Assessment

Resuscitation: -Secure & maintain airway - Perform spinal immobilization as indicated - Transport as soon as possible performing treatment enroute -Vascular access; maintain SBP > 90mmHg -Evaluate ECG -See analgesia insert

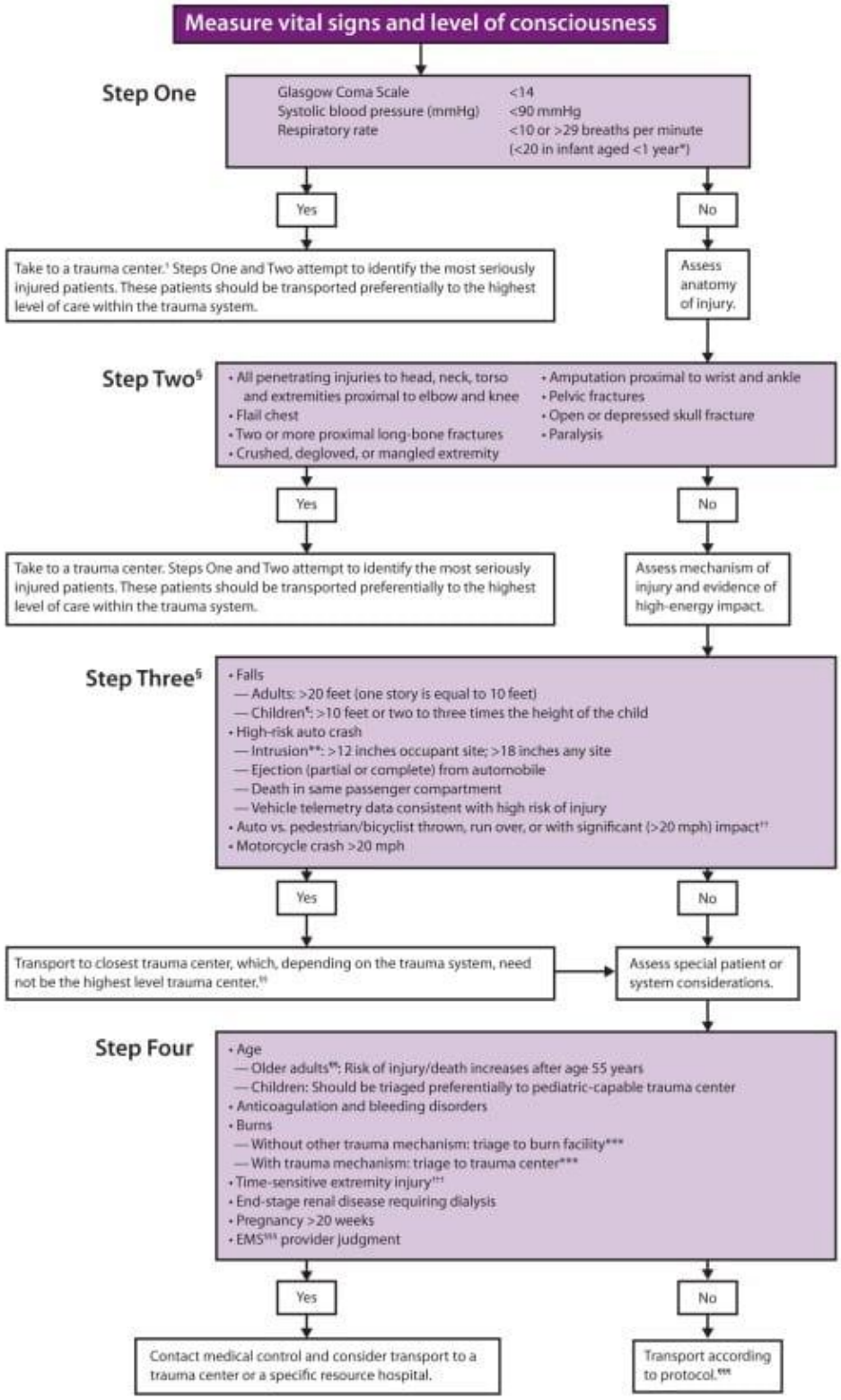
1) Airway: - secure with c-spine precautions - remove foreign bodies - provide 100% oxygen
2) Breathing: - assess rate: depth; and adequacy - note & manage JVD & tracheal deviation - inspect, palpate, auscultate, and percuss the chest
3) Circulation: - stop life threatening hemorrhage - assess peripheral pulses -check capillary refill
4) Disability: - AVPU Score - motor & sensory exam - pupillary size and reactivity
5) Expose: - fully expose patient - log roll to evaluate back for injuries

Secondary Patient Assessment: -Vital Signs -Systematic head-to-toe exam -Obtain SAMPLE History -Contact hospital as soon as patient's condition permits, transmit assessment information and await orders. Refer to appropriate protocol if unable to contact medical control -Re-assess patient

Note to Pre-hospital Personnel: - In a combative or uncooperative patient, the requirement to initiate initial trauma care, as written, may be altered or waived in favor of rapidly transporting the patient for definitive care. Document the patient's actions and behaviors which interfered with the performance of any assessment and/or interventions. - Initiate Trauma Alert for the following mechanisms of injury:

- ☐ ejection from motor vehicle
- ☐ death in same passenger compartment
- ☐ falls greater than 20 feet
- ☐ pediatric falls of greater than 3 times the height of the patient
- ☐ pregnant patient of greater than 24 weeks gestation

CDC Trauma Triage Guidelines



Code 40 Suspected Spinal Cord Injury

Guidelines for deference of Cervical Spine Immobilization

- No reported or suspected loss of consciousness
- No complaints of head, neck, or back pain
- Meet criteria to consent to refuse medical care as outline in code 4
- No neuro deficits i.e. numbness, tingling, confusion
- Must be less than 70 and greater than 15 years of age
- Must not have history of osteoporosis or other skeletal injuries
- No midline cervical tenderness upon exam
- No significant MOI or obvious distracting injury(high speed collision, penetrating wounds, dislocations, electrocutions, high impact blunt force trauma to the head.

If patient doesn't tolerate board, or no back pain or deficits; transport with collar only is an alternative.

*Please note: These are guidelines. If there is any question for the potential of a cervical spine injury, the patient should be boarded and collared.

Routine Trauma Care

↓

Secure airway with C-spine precautions. (in-line intubation, digital, etc.)

↓

Immobilize patient using backboard, c-collar, blanket rolls or similar device, and secure patient to long board as determined necessary upon patient assessment.

↓

Monitor for signs of shock (low BP, normal HR or relative bradycardia)

↓

If no motor or sensory deficit, record as such and transport.

↓

Vomiting precautions – Have suction ready. Be prepared to roll patient if needed.

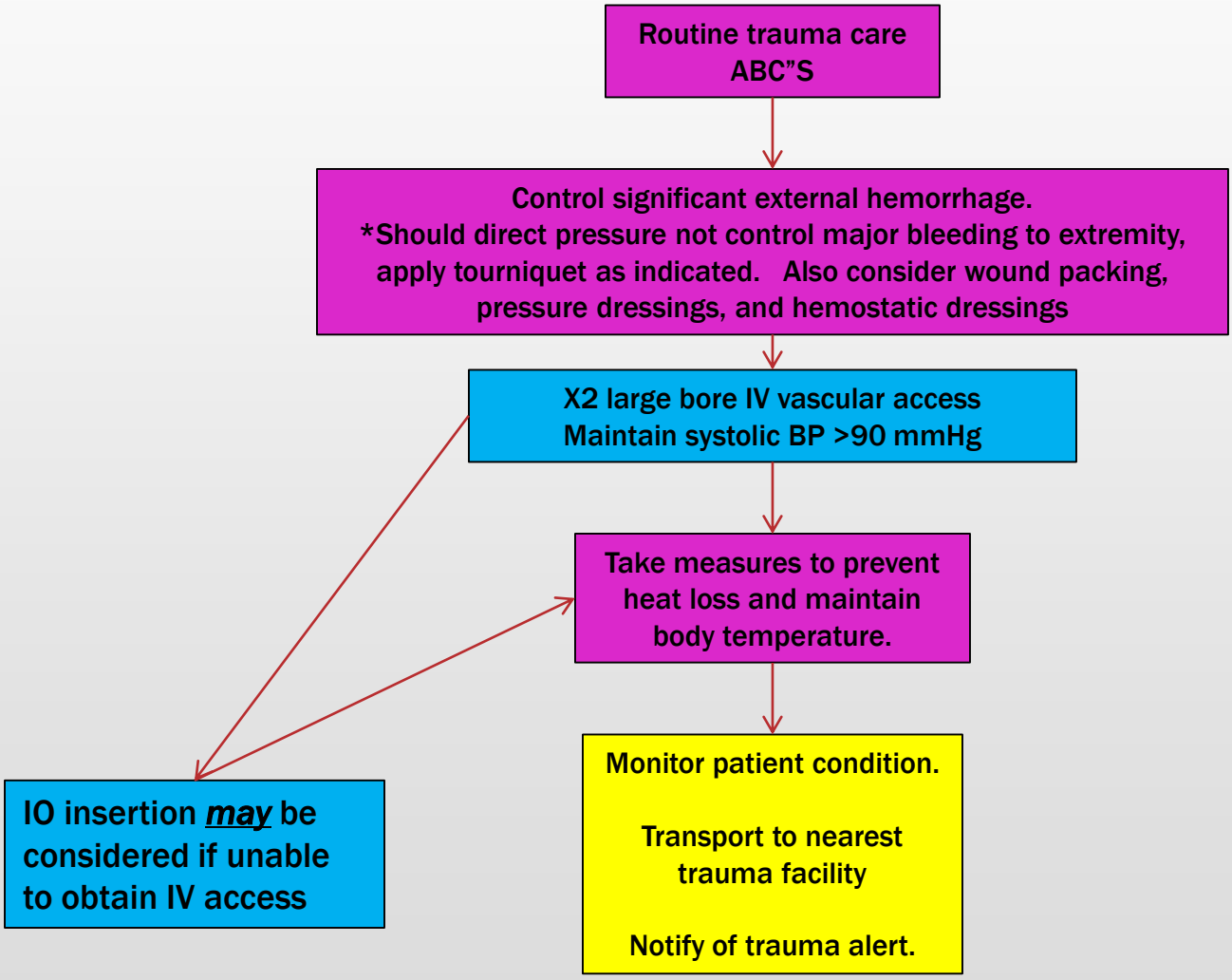
↓

Transport to appropriate facility and call appropriate alert.

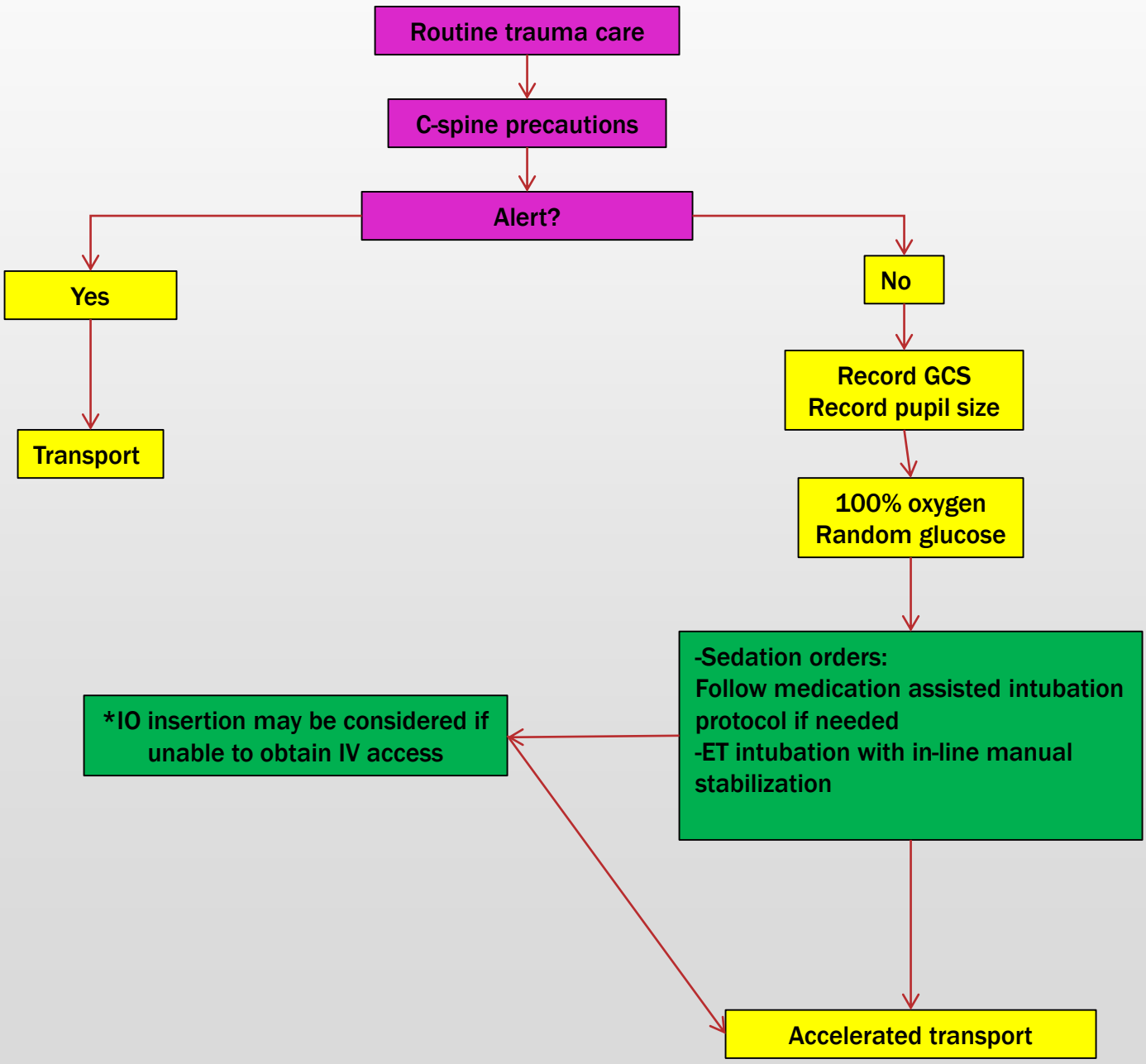
Note to prehospital providers:
Suspect spinal injury in patients with:

1. Any head, neck, or facial trauma
2. Decreased or altered level of consciousness
3. Suspected deceleration injuries
4. Complaints of neck or back pain
5. Physical findings suggesting head, neck, or back injuries

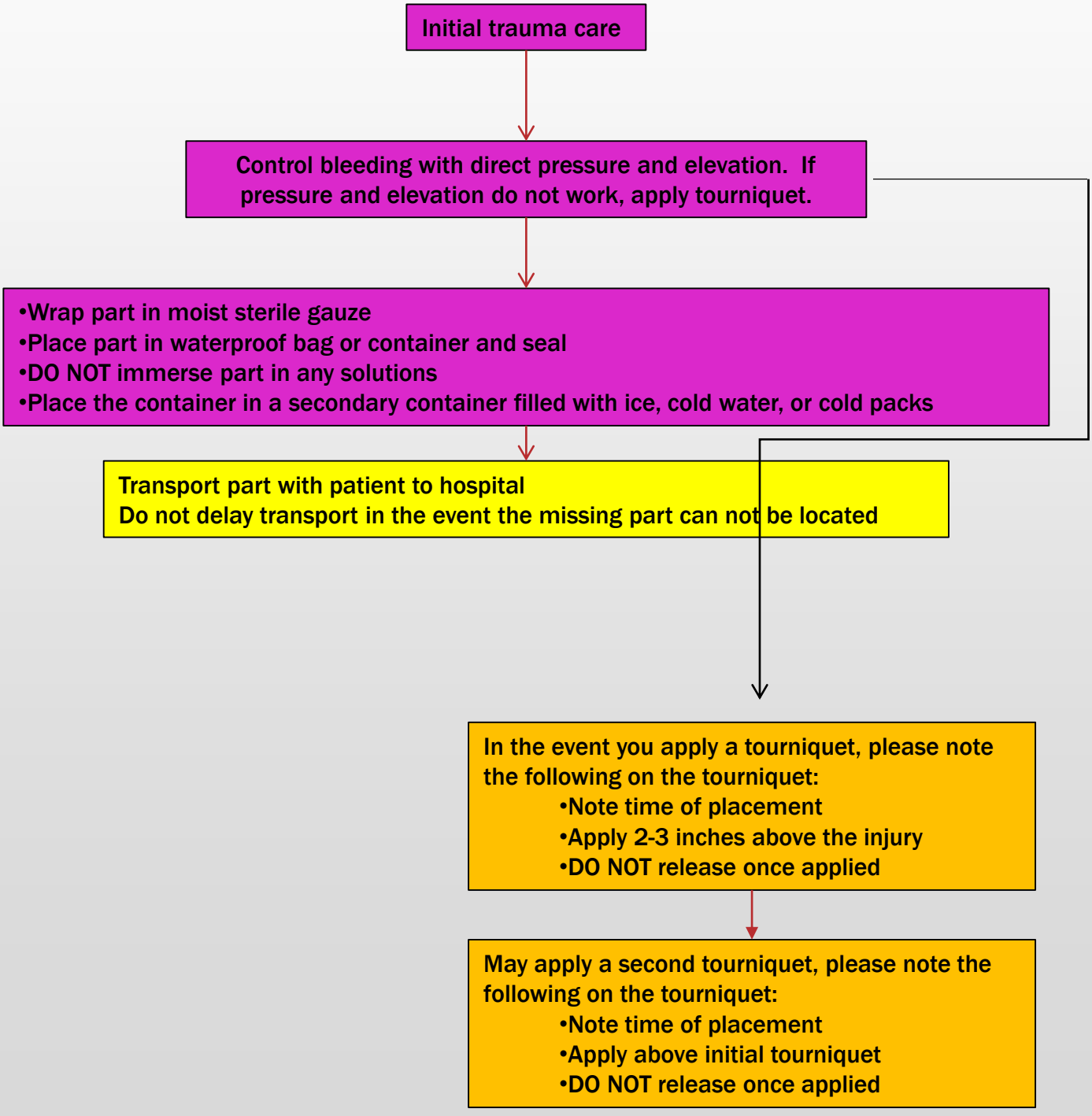
Code 41 Hemorrhagic Shock



Code 42 Head Trauma



Code 43 Amputated and Avulsed Parts



Code 44 Burns

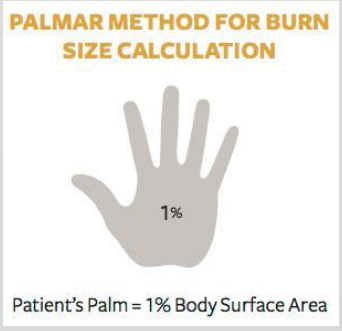
Initial Management
- Scene safety
- Remove patient from source
- Routine medical/trauma care
- Maintain ABC's
- Remove non-adherent clothing
- Remove jewelry
- Estimate body surface area
- Contact medical control as needed.

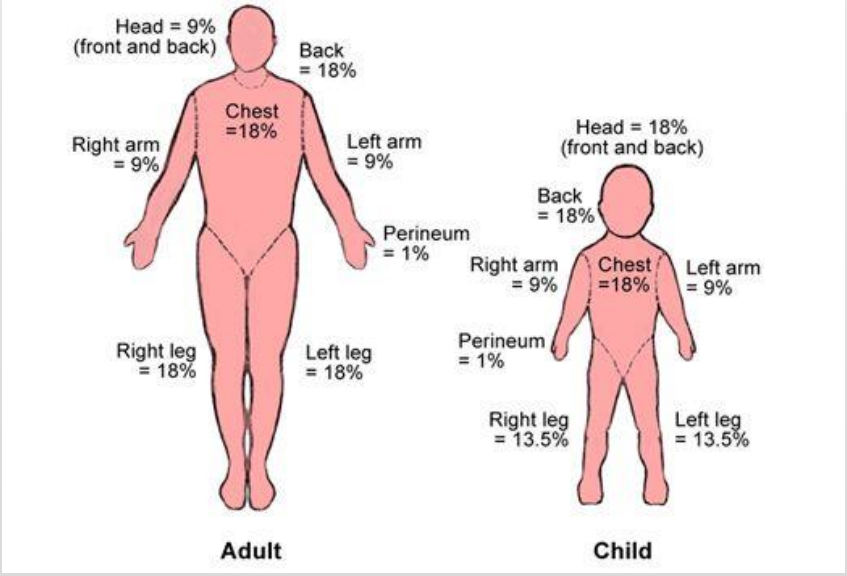
Chemical Burns:

HAZMAT? Consult Emergency Response Guidelines
- Dilute with copious amounts of water or saline if indicated
- Prevent hypothermia
- Contact medical control with type and amount of chemical
- Transport STAT

<10% BSA*
Dilute with tepid water
Cover with sterile wet dressing or burn dressing

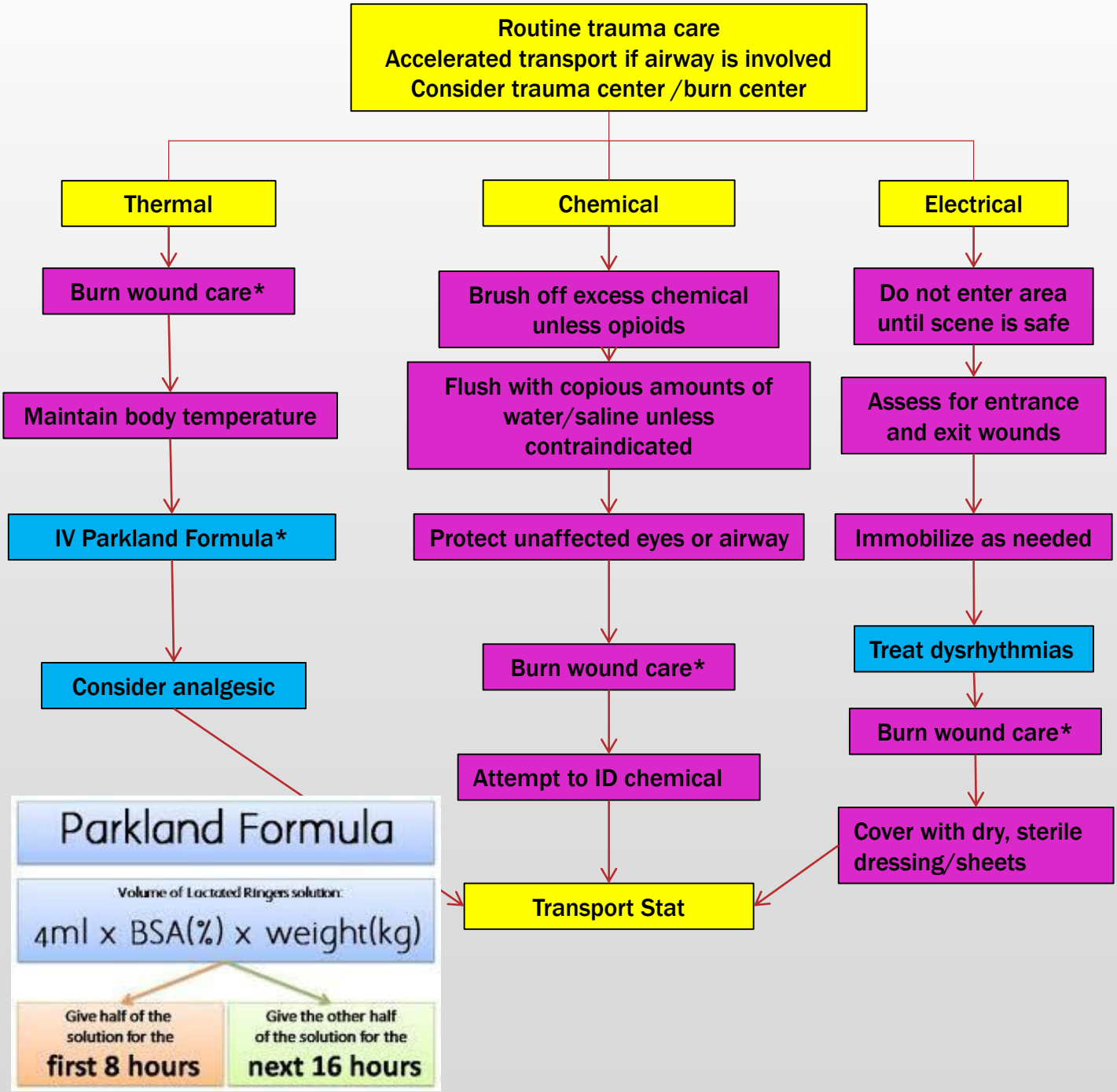
>10% BSA*
Cover with sterile sheet
Do not apply ice, ointments, creams. Do Not break blisters.
Transport STAT





Continued

Code 44 Burns (continued)



Code 44 Burns (continued)

1. Assessment
   - ABC's – rapid transport if airway involvement
   - Neurovascular status
   - Depth of burn (partial vs. full thickness)
   - Percentage of burn ("Rule of 9's")
   - Visual acuity if indicated

2. Intervention
   - Stop the burning process
     - Cool with tepid saline/water until skin temperature is normal
     - Remove jewelry and clothing (do not removed adhered clothing)
     - Do not use ice or ice water

   - Wound care
     - Wear gloves/mask if 2nd or 3rd degree burns
     - Do not break blister or use dressings that will stick to burn
     - Do not apply ointments or cream
     - Cover cooled skin with appropriate dressing
       - If 1st degree burn <10% BSA, dress with sterile dry dressing
       - If 2nd or 3rd degree burn or >10% BSA, dress with sterile dry sheets/dressing

   - Analgesia
     - Morphine sulfate in 2mg increments up to 20mg IVP or Fentanyl 50-100mcg slow IVP (may repeat to 200mcg max)
     - Contact medical control for pediatric dosing and/or for greater than 10mg MS in adult

CODE 45 Crush Injuries

Assess and maintain ABCs
Routine Medical Care
Spinal Precautions as needed or as possible

High flow oxygen, remove wet clothing, consider hypothermia

Establish Code 1 as soon as possible using 2 large bore IVs, EJs, or IOs

Prior to removal of patient from entrapment in prolonged extrication

1. Consider activation of flight
2. If unable to establish vascular access, consider temporary tourniquet on affected limb with a maximum of two tourniquets
3. Coordinate time of release with rescue personnel
4. Administer 1 Liter Saline bolus via vascular access
5. Apply cardiac monitor and obtain tracing prior to and during treatment
6. Anticipate Crush Syndrome and possible cardiac arrest upon extrication

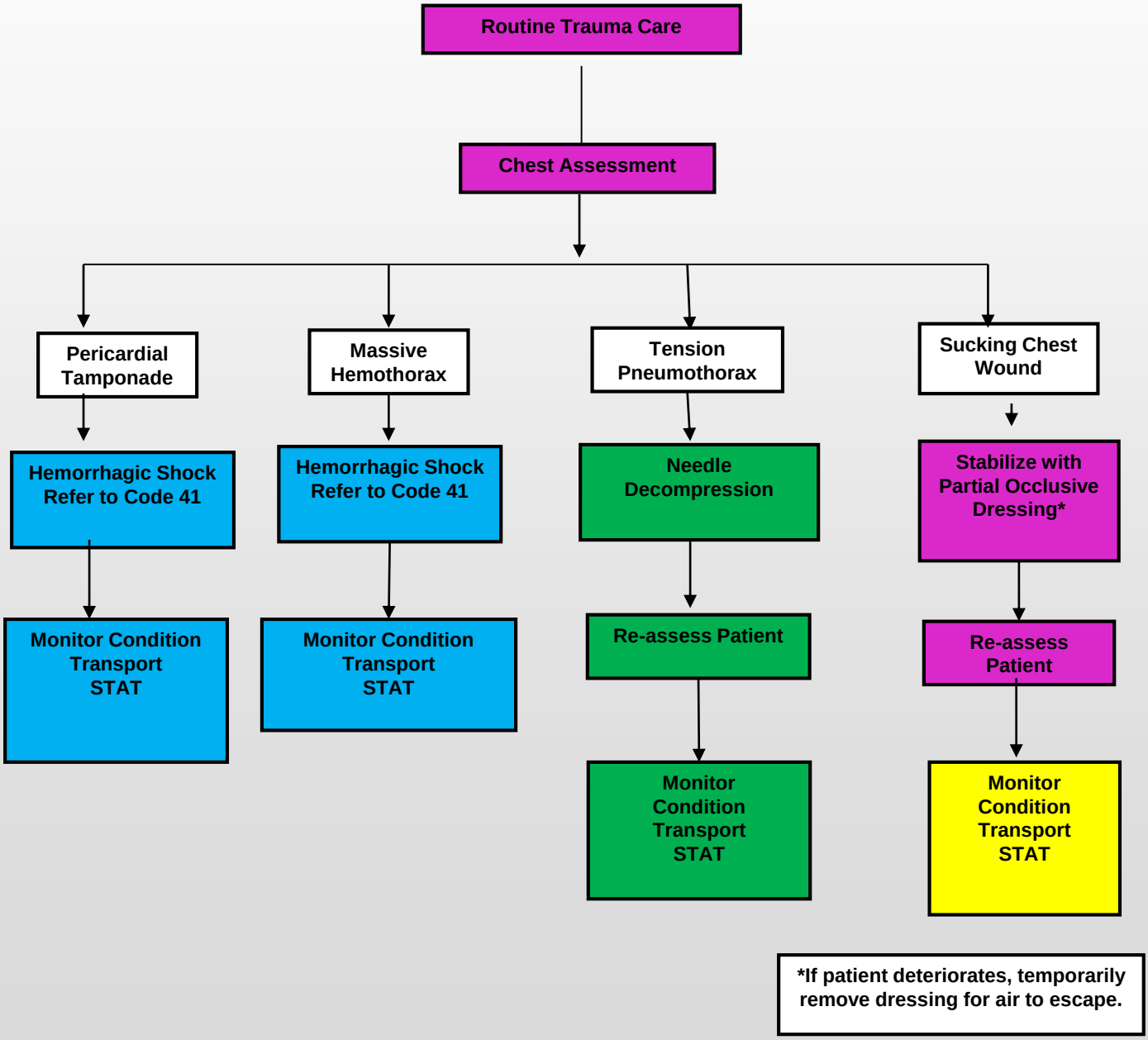
Contact medical control and advise of crush injury/trauma alert

After removal of patient from entrapment in prolonged extrication

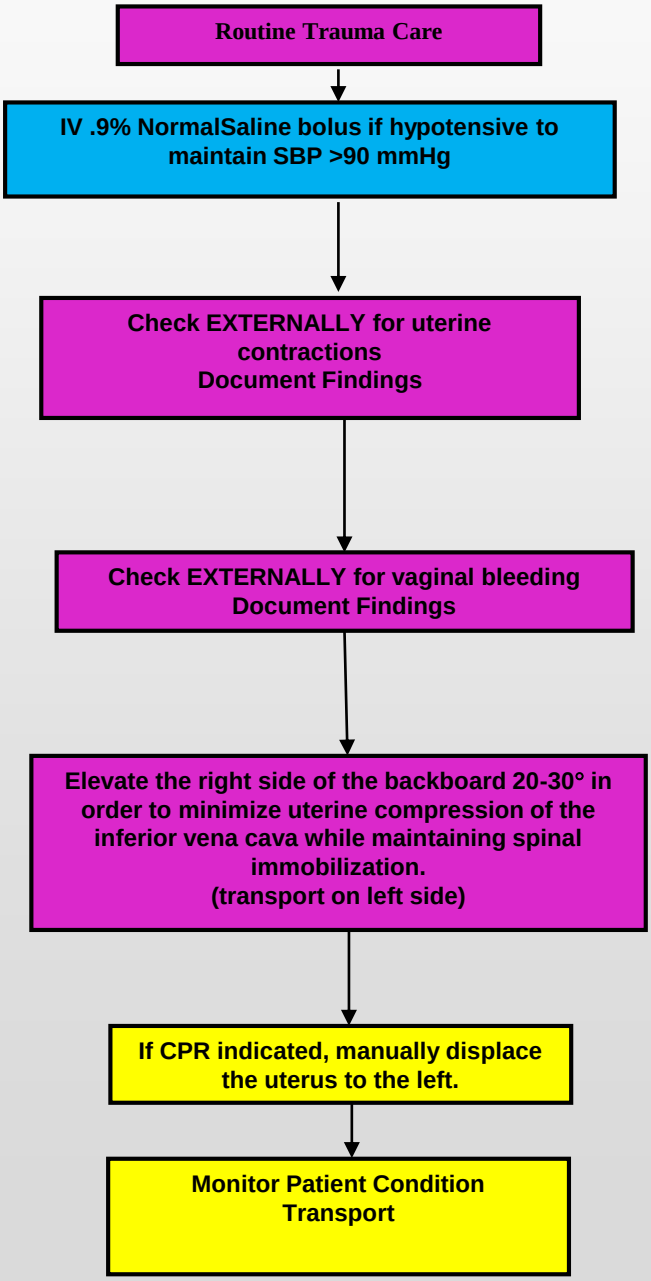
Contact medical control and discuss administration of 50 meQ of Sodium Bicarbonate Bolus via vascular access

1. Watch Monitor closely and observe for onset of tall peak T waves or widened QRS complexes greater than 0.12
2. If time permits, 12 lead EKG and consider serial ekgs
3. Consider Pain Management Code 37
4. Consider Transport to certified Trauma Center
5. Maintain IV fluids thoughout transport. DO NOT SALINE LOCK THESE PATIENTS

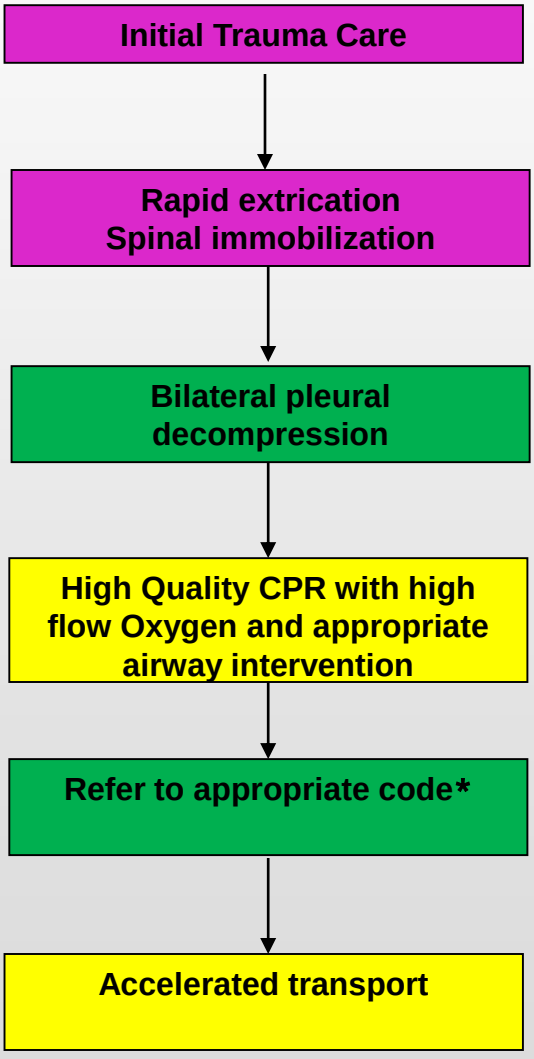
Code 46 Chest Trauma



Code 47 Trauma Care in Pregnancy

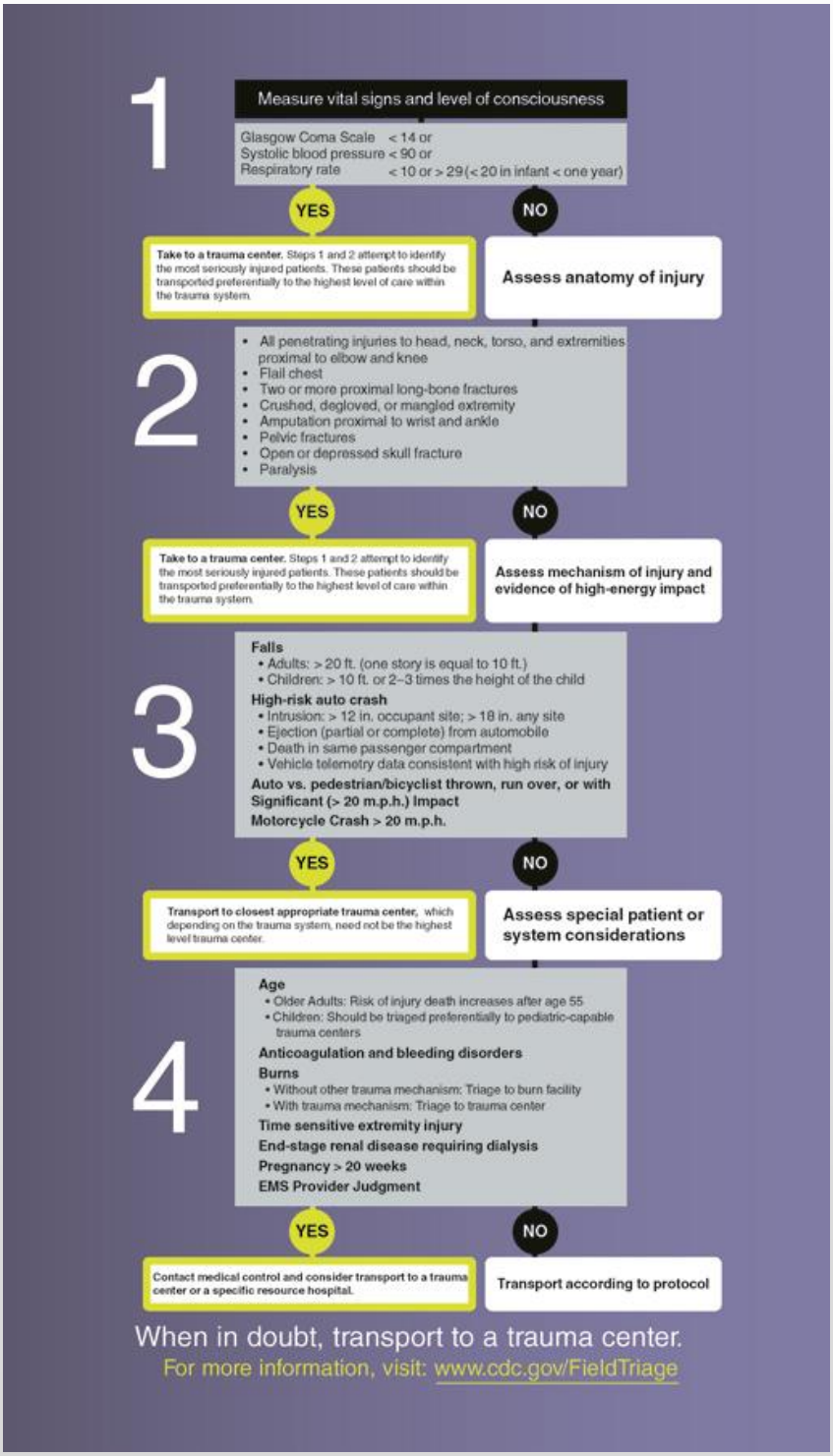


Code 48 Trauma Arrest

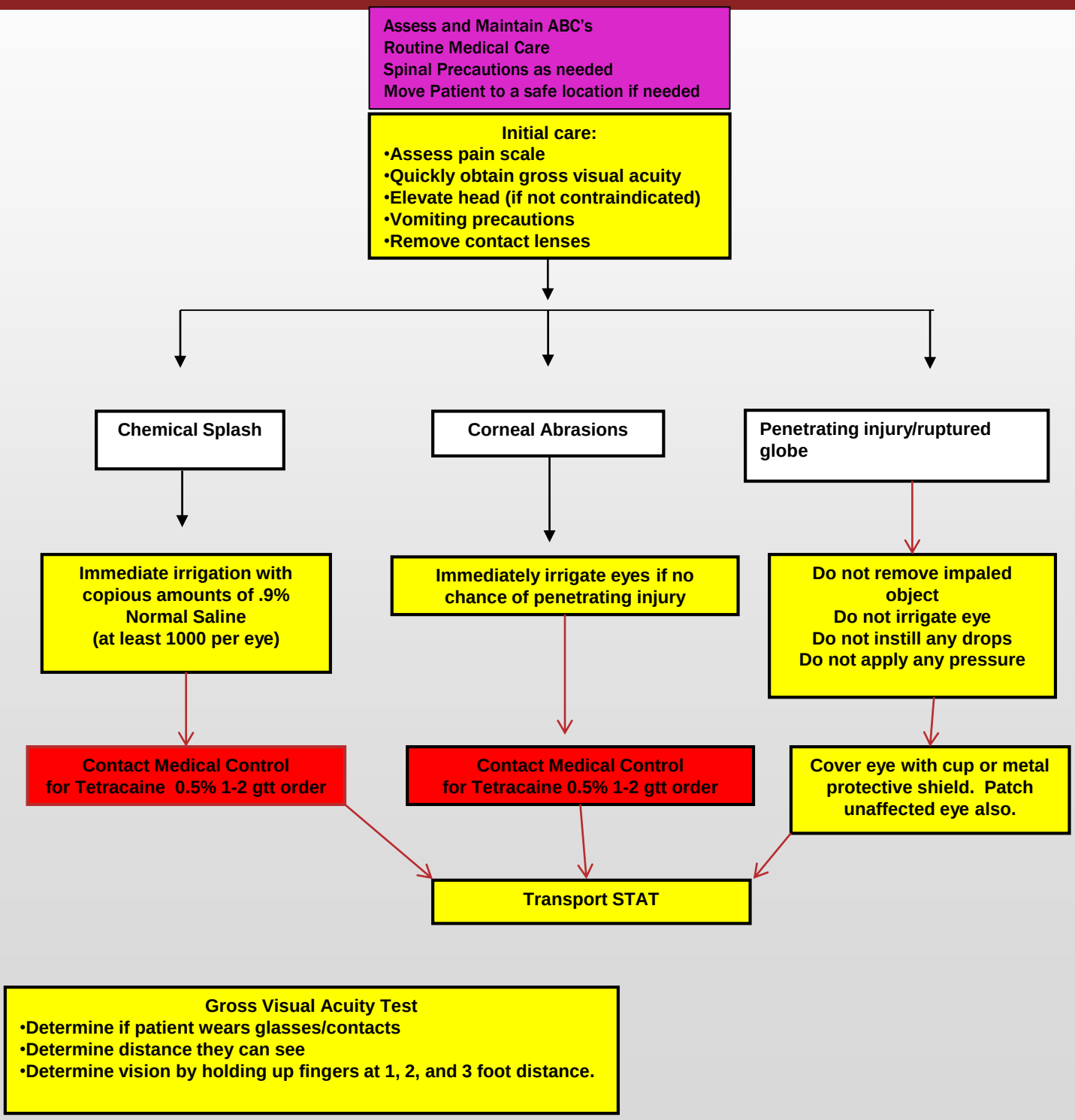


- Give EPI via ETT if no IV
- Do not delay transport to in initiate IV
- May attempt IVx2 enroute
- IO insertion may be considered

CDC Field triage Guidelines



Code 49 Ophthalmic Emergencies



Code 50 Emergency Childbirth

Routine Medical Care

Obtain history and determine if there is adequate time to transport:
Number of pregnancies (Grava), number of live births (Para)
Due date
How far apart are the contractions
Duration of contractions
Length of previous labors – in hours
Bag of waters intact or time since membrane rupture
High risk concerns – Drug use, multiple births, amniotic fluid color

If mother is hyperventilating encourage slow deep breathes.
Administer oxygen 15 liters/mask

Prepare for delivery if any of the following are present:
- Bulging perineum
- Crowning
- Involuntary pushing with contractions
- Contractions less than 2 minutes apart

Do not attempt to restrain or delay delivery

Place mother in a supine position, put on sterile gloves, open OB pack and drape mother's abdomen and perineum

Delivery

Cord around neck

Normal Presentation

If unable to loosen and remove cord from around infant's neck, clamp x2 and cut between clamps
Continue as with normal delivery

Control delivery of head so it does not emerge too quickly. Support infant's head as it emerges and protect perineum with gentle hand pressure. Tear amniotic membrane if it is still intact and visible outside vagina. When infant's head delivered, suction and maintain airway. As shoulders emerge, guide head and neck downward to deliver anterior shoulder. Support and lift head and neck slightly to deliver posterior shoulder. Remainder of infant delivery should occur with passive participation. Maintain a firm hold on the baby.

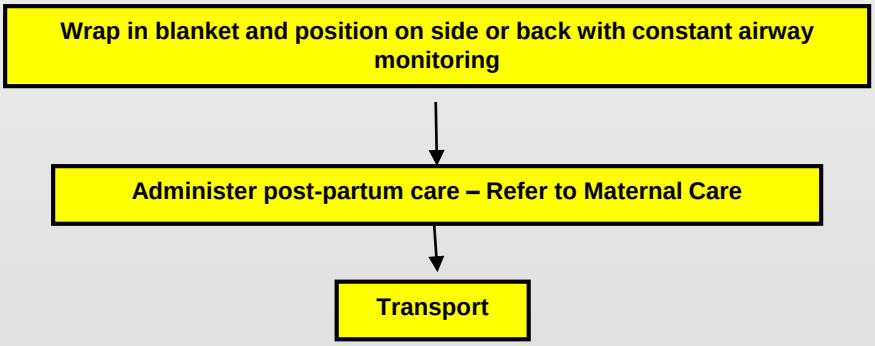
Continued

Code 50 Emergency Childbirth (Continued)

Record APGAR score at 1 and 5 minutes post-birth

APGAR SCORE

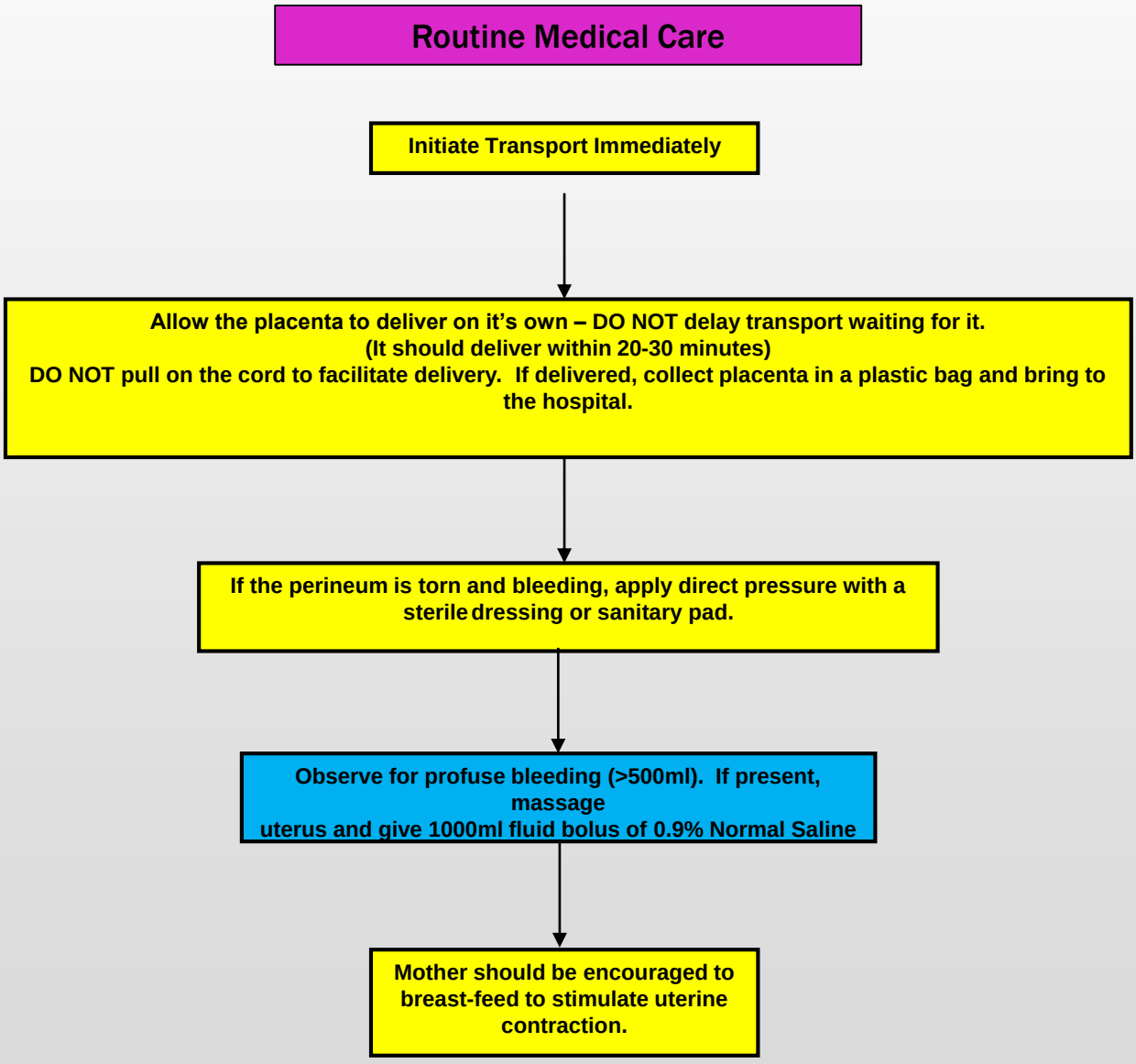
	0	1	2
Appearance	Blue/Pale	Body Pink Ext. Blue	Completely Pink
Pulse	Absent	<100/min	>100/min
Grimace	No Response	Grimace	Cough
Activity	Limp	Some Flexion	Very Active
Respirations	Absent	Slow	Good Cry



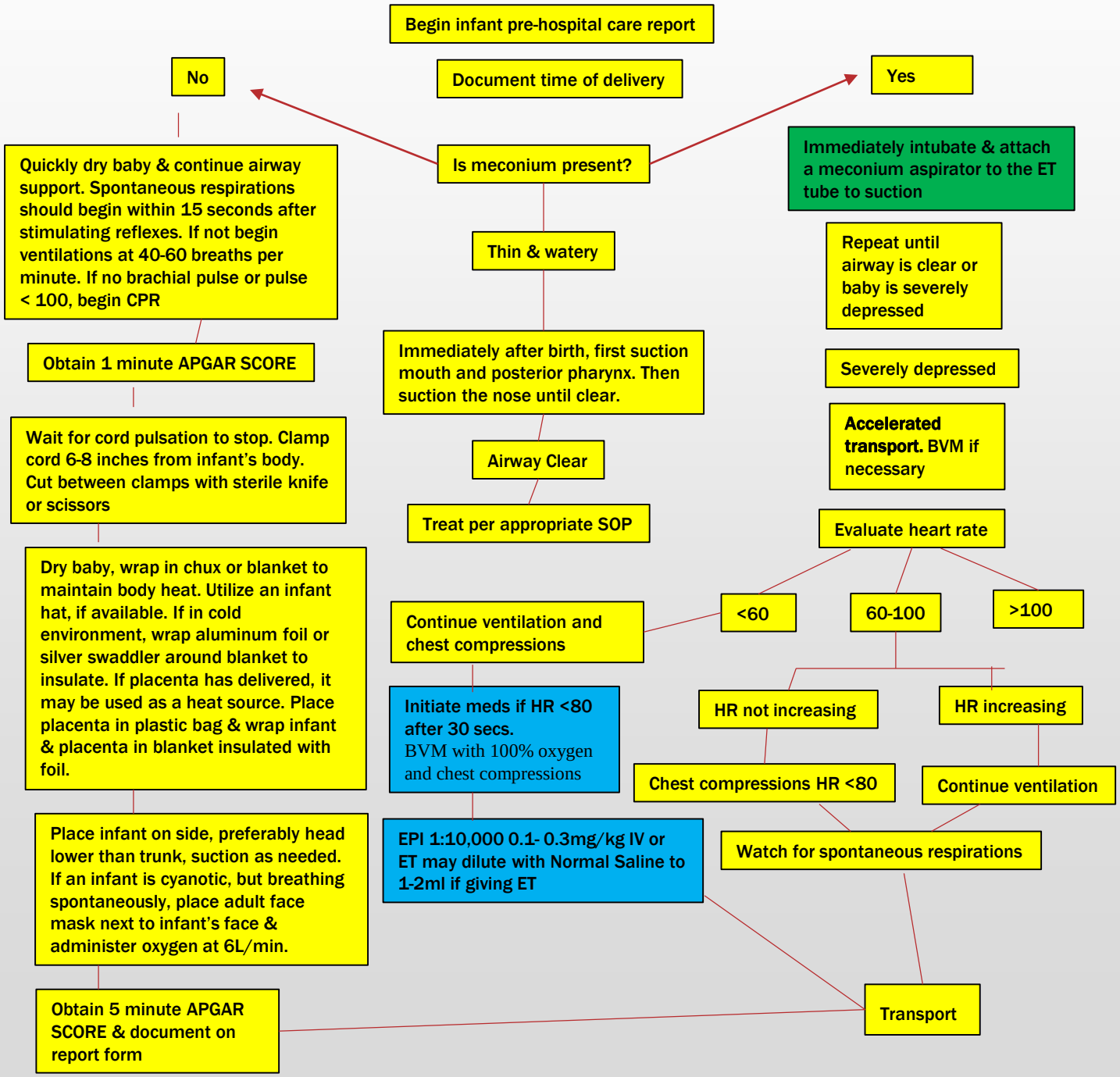
Documentation

- Time of delivery
- Sex of infant
- Appearance of amniotic fluid (if known), especially if it is green or brown
- Unusual circumstances
  - Cord wrapped around baby's neck
  - Other than normal presentation
- Time placenta was delivered
- Appearance of placenta (bring to hospital)
- Any infant resuscitation initiated
- Infant response to resuscitation efforts
- Condition of mother and infant

Code 51 Maternal Care



Code 52 Newborn Care



Code 53 Prolapsed Cord

Routine Medical Care

initiate transport immediately

100% oxygen

Elevate mother's hips

Place gloved hand in vagina between pubic bone and presenting part with cord between fingers and exert counter pressure against presenting part

Keep exposed cord moist and warm

Transport ASAP/ Keep hand in position while enroute

Notify receiving hospital as soon as possible and give ETA

Code 54 Breech Birth

Routine Medical Care

initiate transport immediately

Never attempt to pull baby from vagina by legs or trunk

As soon as legs are delivered, support baby's body wrapped in towel

After shoulders are delivered, gently elevate trunk and legs to aid delivery of head (if face down). Head should deliver in 30 seconds. If not, reach two gloved fingers into the vagina to locate infant's mouth. Press vaginal wall away from baby's mouth to form an airway and apply gentle pressure to mother's fundus. Maintain this position until delivery or arrival at hospital.

Code 55 Pre-Eclampsia or Toxemia

Routine Medical Care

Initiate Transport Immediately
HANDLE PATIENT GENTLY

100% Oxygen by mask

Routine Medical Care: Handle patient gently

Place mother on her left side

Minimal CNS stimulation

Seizure Precautions

If seizures occur:
Versed 2 mg increments IV push until seizure stops, max 10 mg

At discretion of Physician/Radio Nurse:
For prolonged geographical transport, consider magnesium sulfate 2gm/50ml 0.9 Normal Saline IV over 10 minutes. Monitor patient's respiratory status as this may cause respiratory depression.

Code 56 Third Trimester Bleeding

Routine Medical Care

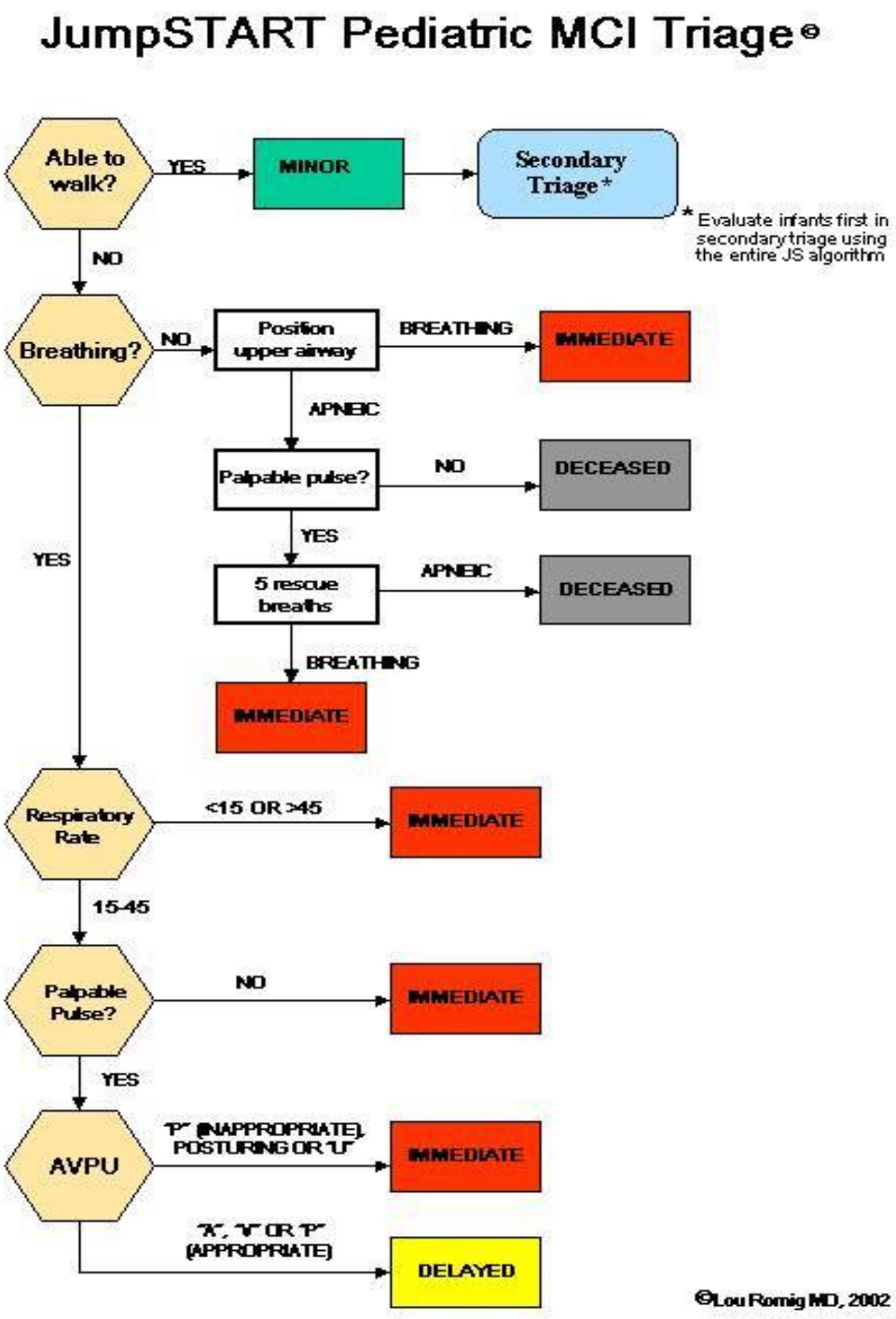
initiate transport immediately

IV 0.9% Normal Saline, run to maintain SBP > 100mm Hg, 100% oxygen, place mother on her left side

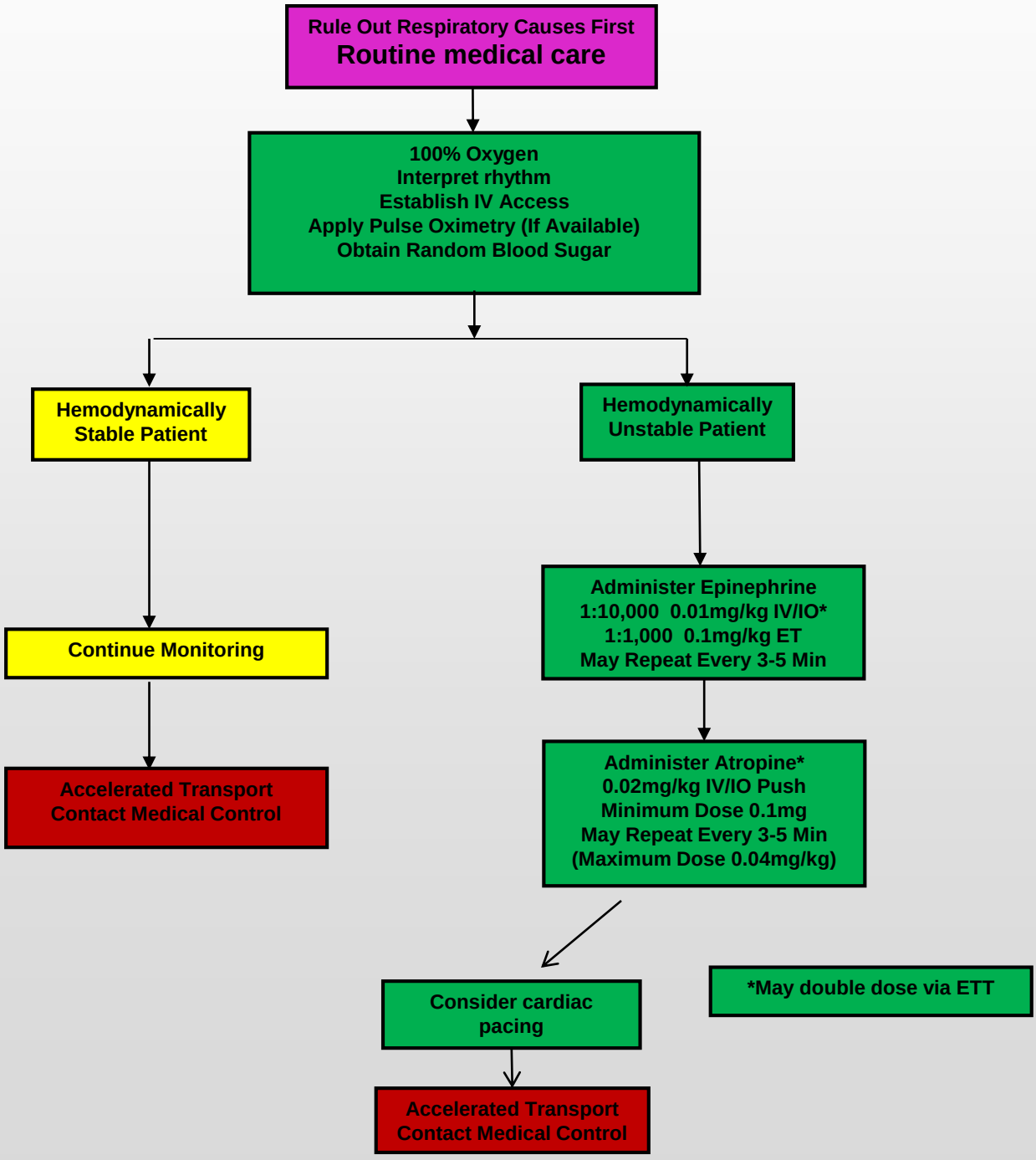
Note type and amount of bleeding and/or discharge. DO NOT place gloved hand in vagina to check for bleeding. Palpate uterus externally for tonicity

Notify Medical Control of ETA enroute

Pediatric Jump START (Triage)



Code 60 Pediatric Bradycardia



Code 61 Pediatric VF/Pulseless VT

Note to Prehospital Personnel:
Acidosis in children is primarily a problem of ventilation and oxygenation. Bicarbonate administration should be reserved for unobserved arrests or for prolonged resuscitations of 10 minutes or longer.

Assess & Maintain ABC's
Initiate CPR
Deploy AED
Re-assess Patient Condition
Secure Airway & Hyperventilate With 100% Oxygen

Defibrillate up to 3 Times (As Needed)
2J/kg; 4J/kg; 4J/kg or biphasic equivalent
Establish IV/IO Access

Pulses Present

Monitor Patient Condition
Administer Lidocaine
1mg/kg IV/IO Push Slowly
Establish Lidocaine Drip
1-2 mg/min

Monitor Patient Condition
May Repeat Bolus or Increase Drip if PVC's Persist
Initiate Transport
Contact Medical Control

Maintain ABC's
Re-assess Patient Condition
100% Oxygen – Rapid Transport

Pulses Absent

Administer Epinephrine
•IV/I0 – 0.01 mg/kg (1:10,000) 1.ml/kg)
•ETT – 0.1 mg/kg (1:1,000) (0.1 ml/kg)

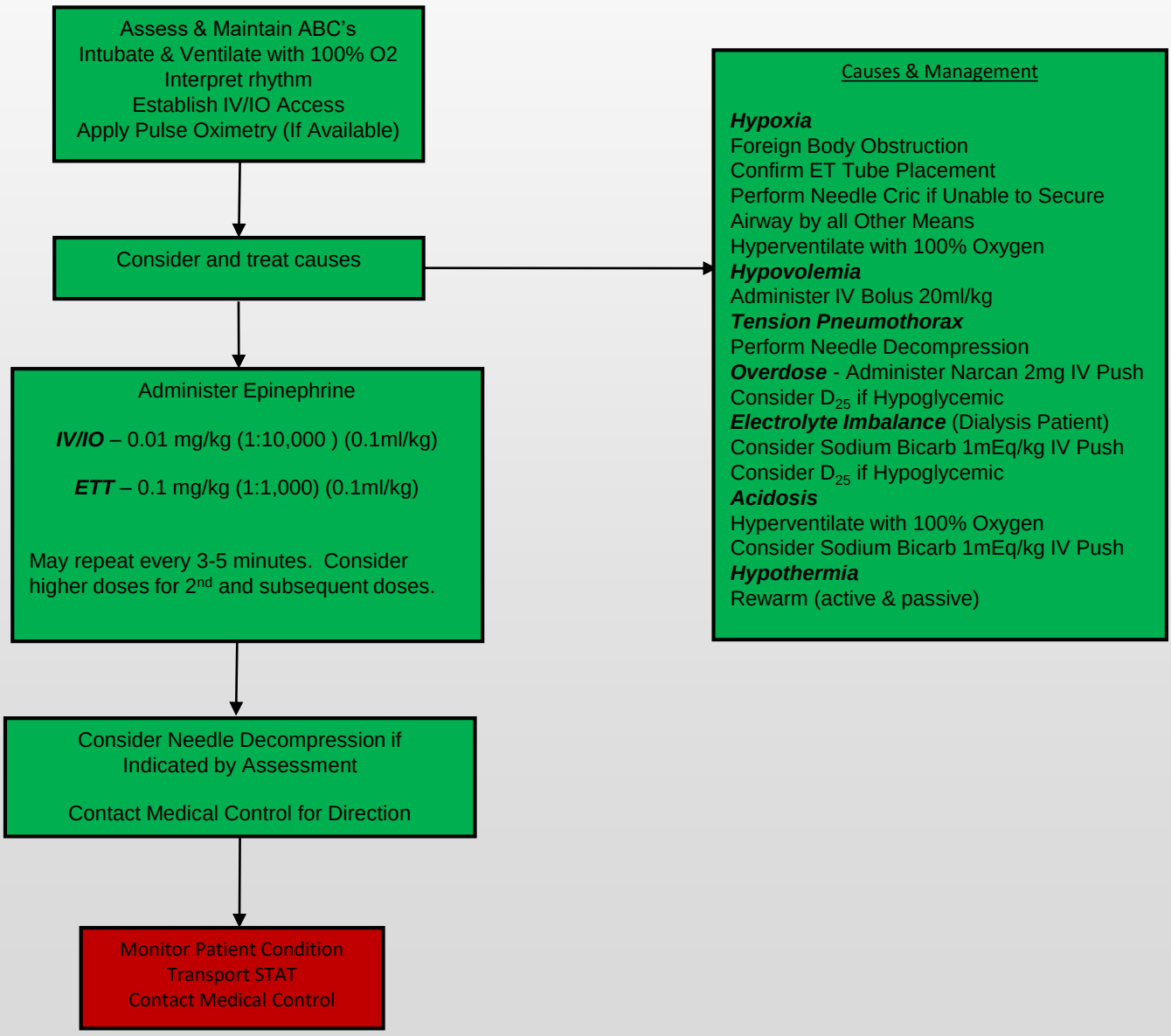
Defibrillate at 4J/kg

Administer Lidocaine Bolus
(1-1.5mg/kg IV/IO Push)
May Repeat .5-.75mg/kg Every 3-5 Minutes
(Maximum Dose 3mg/kg)

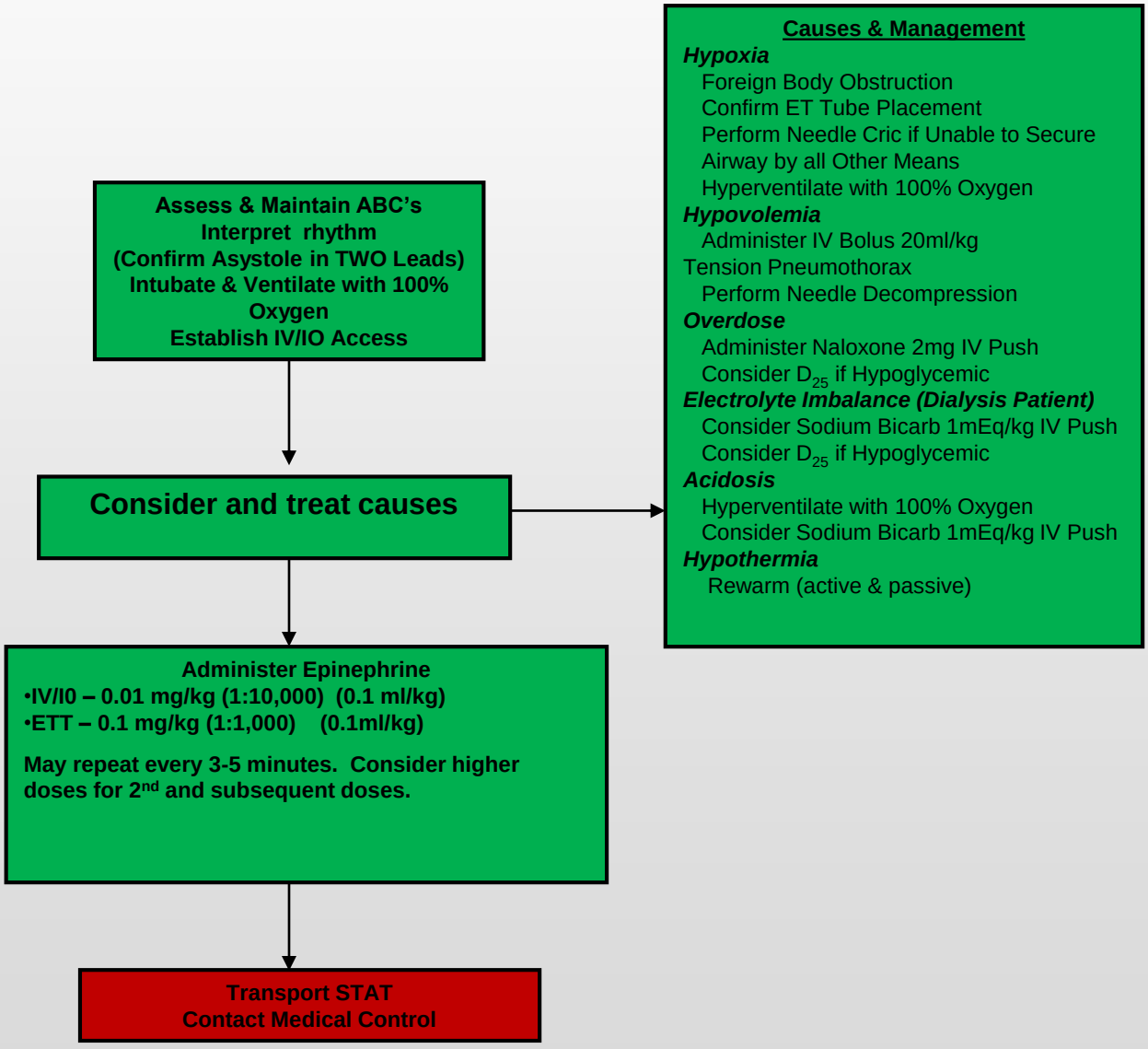
Continue CPR as Indicated
Monitor Patient Condition
Initiate Transport
Contact Medical Control

***Defibrillate after medications are circulated for 30-60 seconds**
Epinephrine: Repeat every 3-5 minutes as needed.
Consider higher dose for 2nd and subsequent doses.
Lidocaine: Repeat every 3-5 minutes Max 3mg/kg
Follow ET Medication Administration with 2ml Saline to Facilitate Absorption

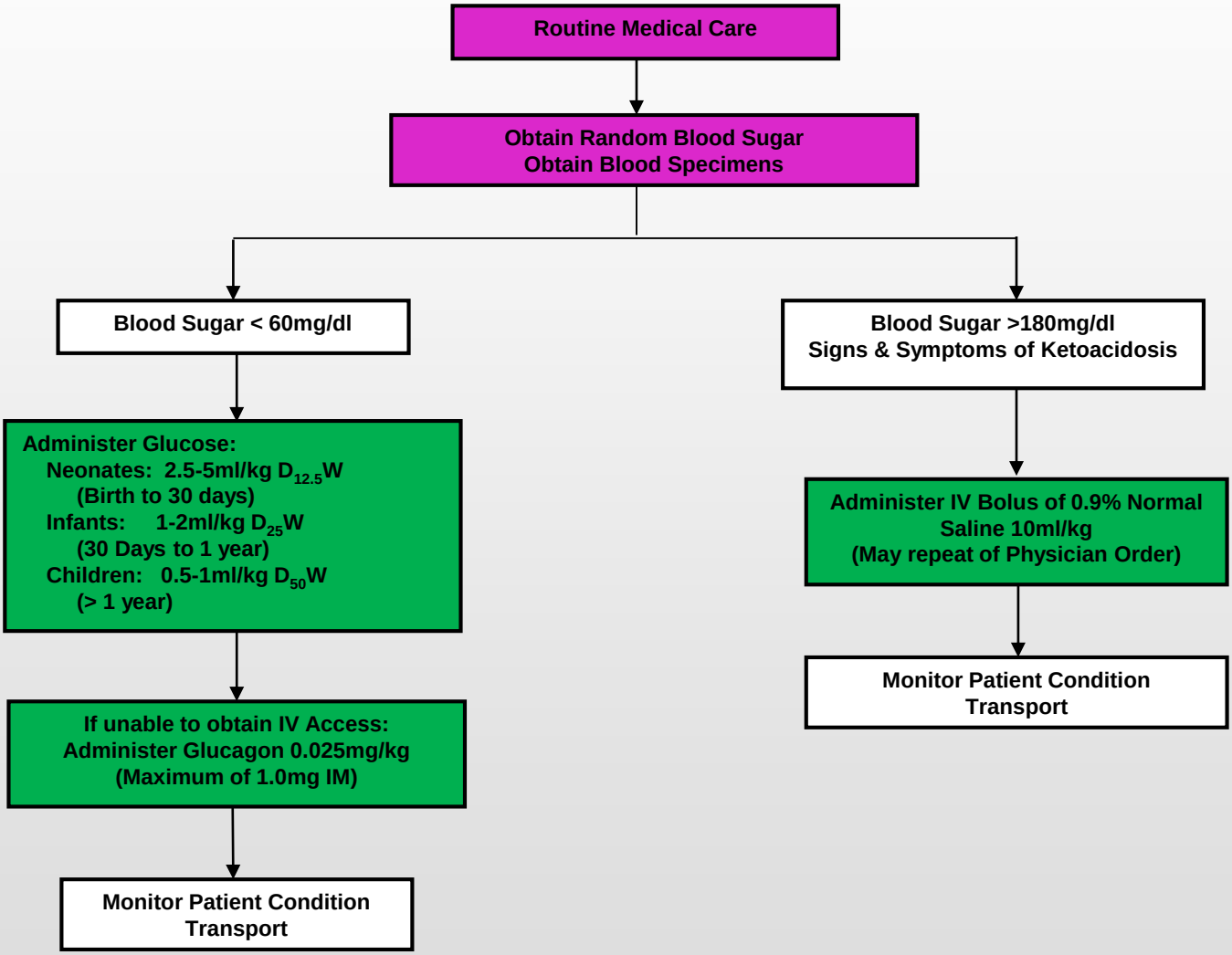
Code 62 Pediatric PEA



Code 63 Pediatric Asystole



Code 64 Pediatric Diabetic Emergencies



Code 65 Pediatric Seizures

Routine Medical Care
Protect patient from injury

Obtain Random Blood Sugar

If Diabetic Emergency
Refer to Code 64

Obtain Temp if able

If Febrile Seizure: remove outer clothing. Cool with tepid towel. Keep head wet.
Do not induce shivering.
Consider Tylenol 15 mg/kg Oral up to 1 gram

If seizure activity lasts > 2-3 minutes:

Administer Midazolam 0.2mg/kg IM, IO, IN (Maximum of 5mg)

OR

Midazolam IVP - 0.1 mg/kg slow IV push. Maximum of 2mg.
Call medical control for a repeat dosage.

Monitor and support respiratory status

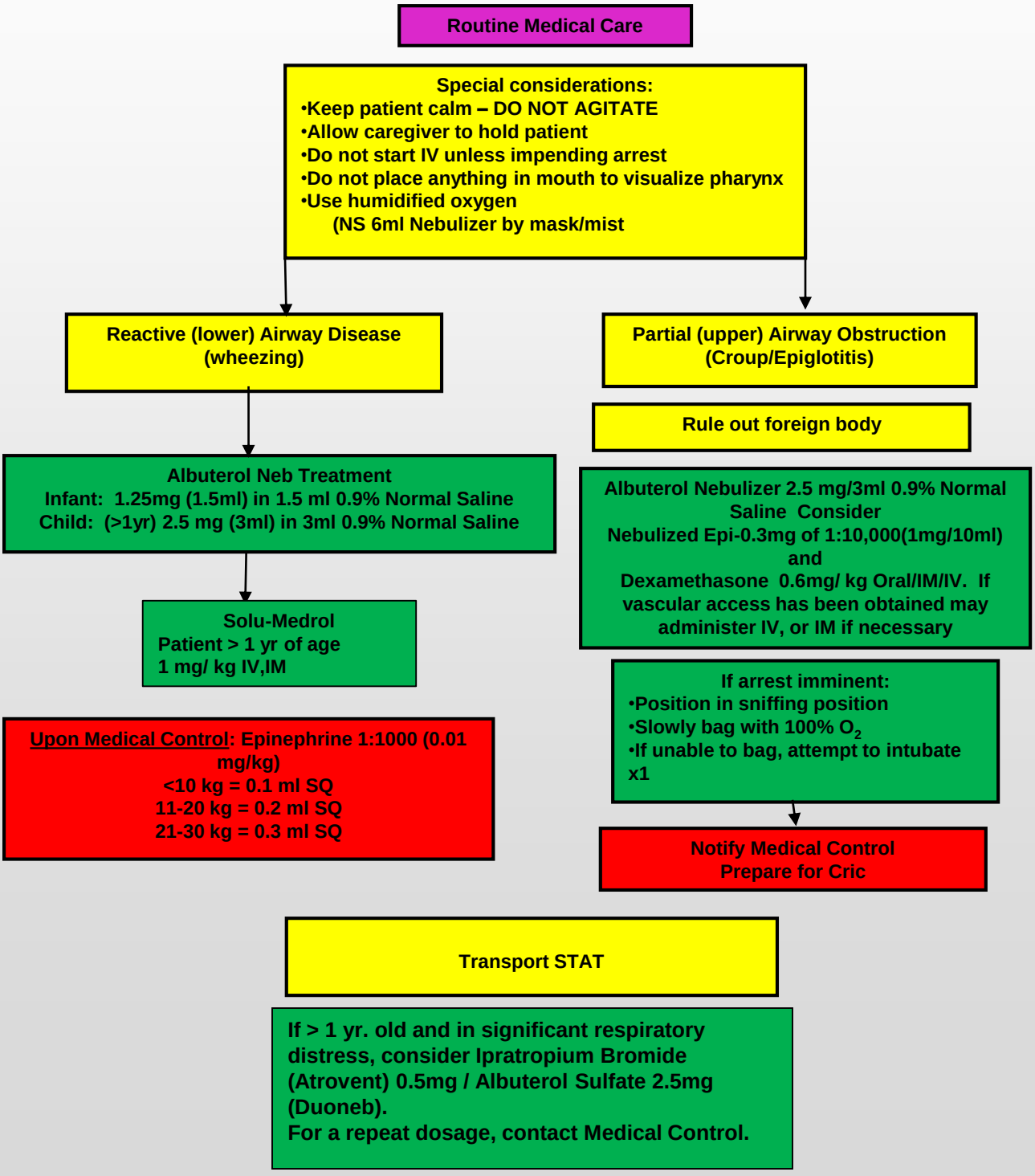
Observe patient's sensorium during Postictal period.
Note any injury or incontinence.

Monitor Patient Condition
Transport

Acetaminophen Dosage Chart

Lbs	mg	ml
5-6.5	40mg	1.25 ml
6.5-8	48mg	1.5 ml
8-10.5	64mg	2 ml
10.5-13	80mg	2.5 ml
13-16	96mg	3 ml
16-20.5	120mg	3.75 ml
20.5-26	160mg	5 ml
26-32	192mg	6 ml
32-41	240mg	7.5 ml
41-53	325mg	10 ml
53-65	400mg	12.5 ml
65-90	480mg	15ml
90 and over	650mg	20ml

Code 66 Pediatric Respiratory Distress



Code 67 Pediatric Allergic Reaction/Anaphylaxis

- Routine medical care* Remove source of exposure ABC's; Rapid transport if airway involvement, Cryotherapy to bite or sting

Note: Use adult dose of Epi> 30 kg.

Mild (Local reaction)

Continuous observation for airway involvement

Transport

Moderate (Generalized reaction)

If no respiratory involvement, give Benadryl 1 mg/kg IM or slow IVP

If respiratory involvement* give Epinephrine 1-1,000 0.15mg IM or SubQ

or Epinephrine (1:1000) SQ or IM (Max single dose 0.5ml) and Albuterol nebulizer and Medrol PRN

Transport

Severe (Cardiopulmonary Compromise)

If respiratory involvement* give Epinephrine 1-1,000 0.15mg IM or SubQ

Epinephrine (1:1000) 0.01 mg/kg IM or Epinephrine IV/IO (1:10,000) 0.01 mg/kg Repeat as needed

Fluid bolus 20 ml/kg Repeat as needed

Benadryl 1 mg/kg slow IVP

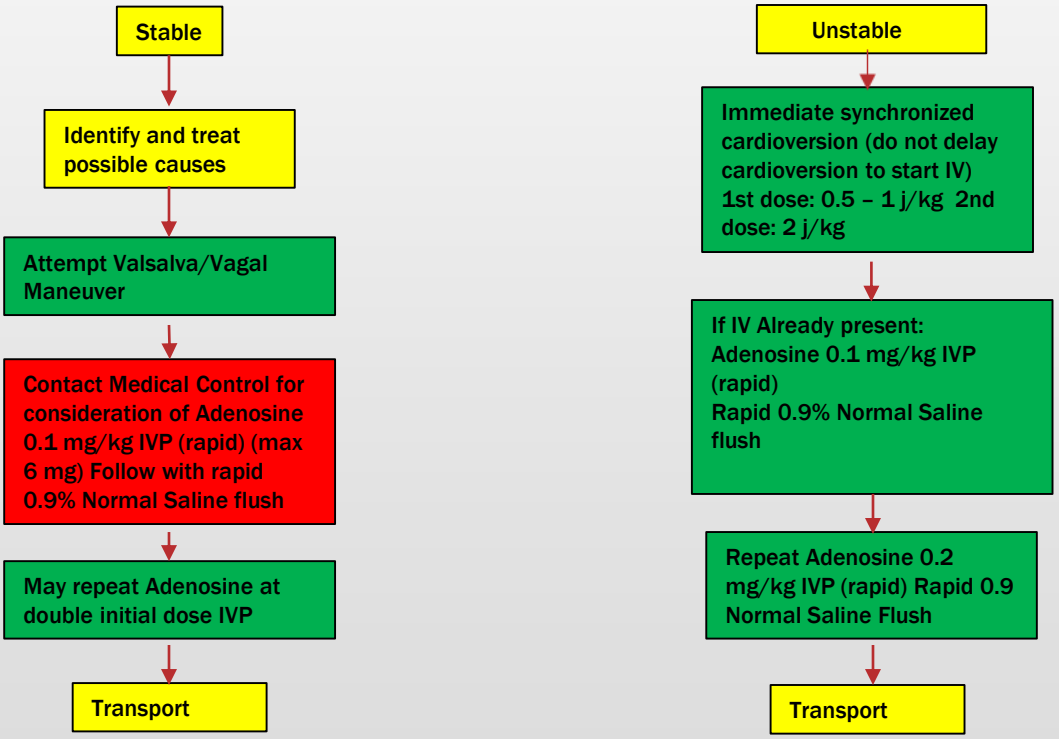
Continuous Albuterol nebulizer

Transport

*Contact Medical Control as needed; avoid medication administration in same extremity as insult.

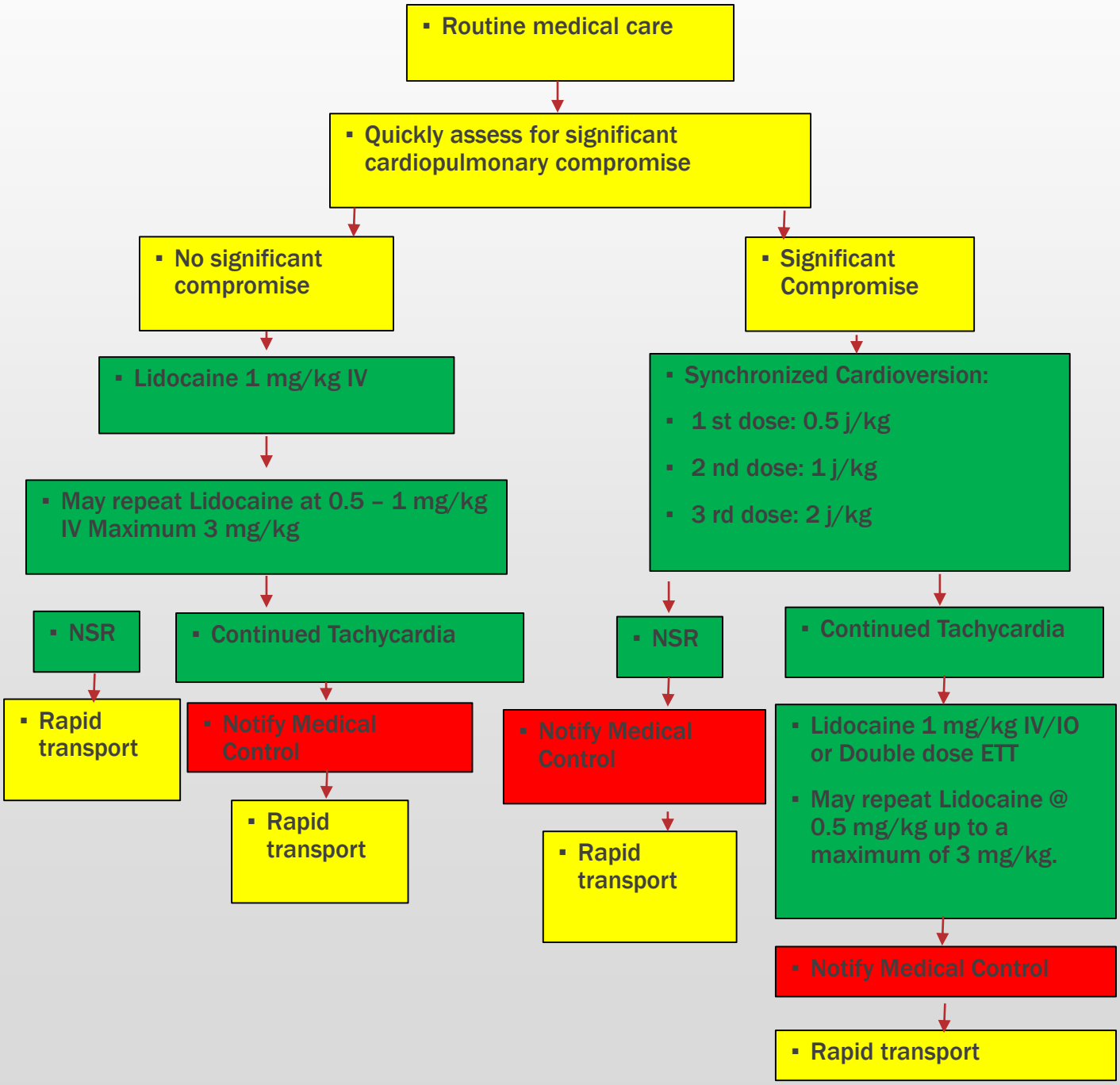
Code 68 Pediatric Narrow Complex Tachycardia

- Routine medical care



**Rate >220 Infants
Rate > 180 children

Code 69 Pediatric Wide Complex Tachycardia (with pulses)



Code 70 Pediatric Altered Level of Consciousness/Unconscious

- Routine medical / Trauma care

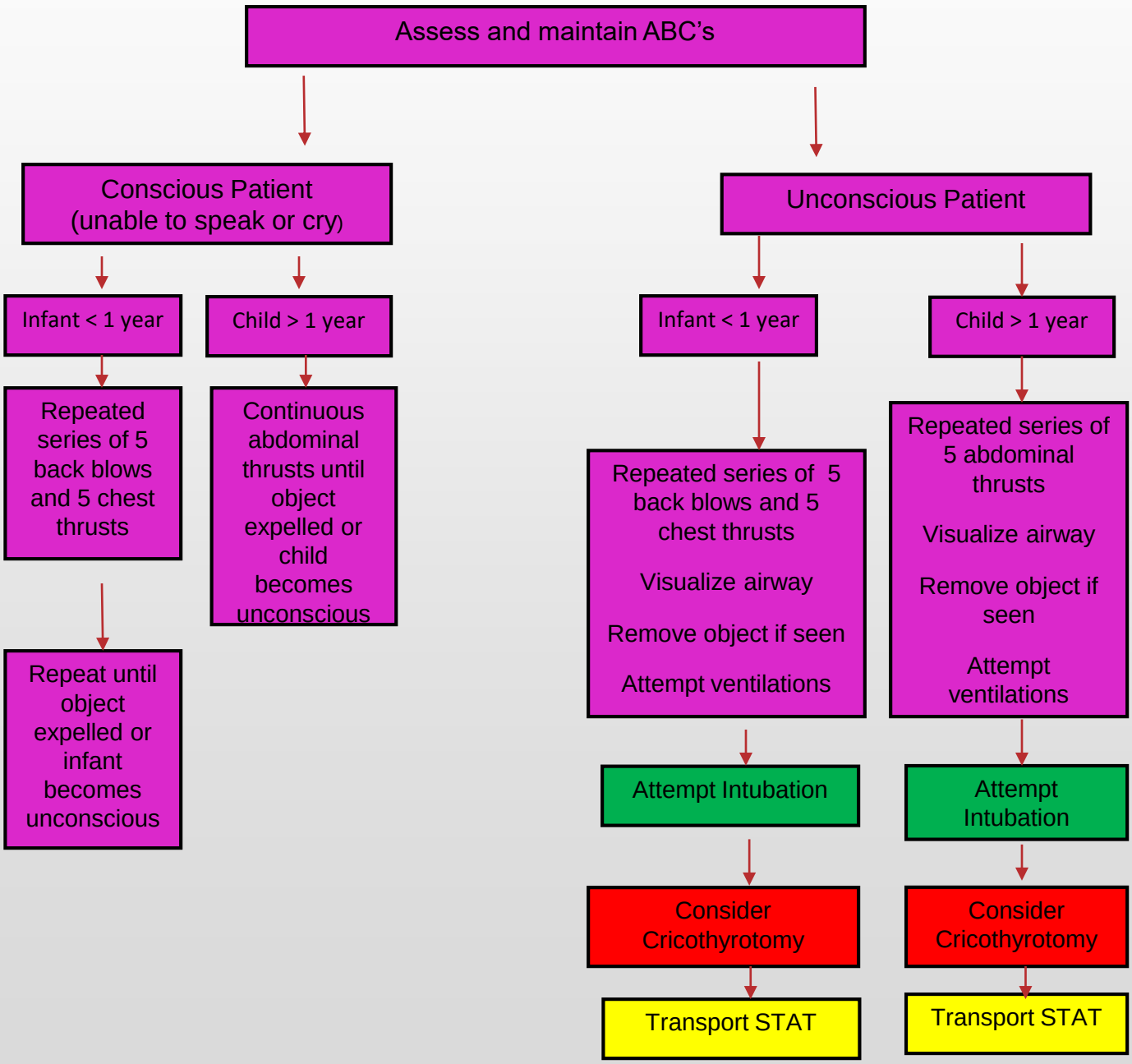
If Pediatric Patient is unconscious/unresponsive with no detectable pulse, immediately begin CPR and notify ALS and apply AED/follow instructions

- Consider hypoglycemia – see Code 64

- Consider ACUTE narcotic exposure If decreased respiratory effort and suspected narcotic overdose:
- Narcan (Naloxone)
- if < 20 kg, give 0.1 mg/kg Narcan IV, IO, IM or .2mg/kg ETT
- if > 20 kg, give 2 mg Narcan IV, IO, IM, ET Maximum dose = 2 mg.

- Transport

Code 71 Pediatric Airway Obstruction



Advanced Life Support Appendices

St. Mary Medical Center
EMS Program

Table of Contents

Standard Operating Procedures and Communication with Medical Control

Standard Operating Procedures

- The following Standard Operating Procedures (SOPS), or protocol, are to be used for all patients requiring pre-hospital care within the St. Mary Medical Center EMS supervising system.
- It is the understanding and direction of the EMS Medical Director that these SOP's (protocol) will be initiated for all patients upon assessment (and consent). **Under no circumstances shall Emergency Pre-hospital Care be delayed while attempting to establish contact with Medical Control. The only limitation to the SOP's is performance of procedures "requiring Medical Control" or "at the discretion of Medical Control." Those procedures are not considered standing orders and require contact with Medical Control.**

Communication with Medical Control

- Medical Control at the Supervising Hospital (SMMC) and its affiliate hospital(s) is available 24 hours a day from the EMS Director's designee (ED physician or ED nurse). Consultation is expected when the appropriate clinical decision is not obvious or various alternatives are being considered. Consultation is expected when a patient or family request non-standard intervention or refusal of a recommended intervention. Medical Direction directs with best judgment at the time, given the information available.
- ED nurses may give orders only as outlined per protocol. The physician only may give direction that varies from the SOP's.

Medical Control on Scene

General Guidelines

- 1. Medical control at the scene of an emergency should fall to the most knowledgeable and experienced (healthcare) provider of “pre-hospital emergency care” present.

- 2. When on-line medical control is available, the paramedic must take all appropriate orders from the on-line physician.

- 3. When on-line medical control is not available, the paramedic may relinquish responsibility to the intervening physician.

  - a. The intervening physician properly identified
  - b. The intervening physician will accept responsibility
  - c. The intervening physician is **willing to accompany the patient in the ambulance to the hospital when treatment differs from protocol**.
  - d. The physician is willing to document all interventions on the EMS run sheet.

- 4. In no circumstance, except under medical control, may the paramedic perform outside the scope of the written protocol (i.e. the paramedic may not take direction outside of protocol from a non-affiliated intervening physician.)

- 5. In no circumstance may the paramedic perform outside the scope of practice.

- 6. The paramedic is responsible for all of his/her interventions, including deviation from standard protocol, refusal of base station orders and/or practicing outside of scope of practice.

- 7. Any deviation from protocol or refusal of base station orders requires an MIC incident report and audit/review of the call.

Radio Report, Guidelines

General Guidelines to Report

- 1. Be brief and concise
- 2. Identify unit and level (BLS or ALS)
- 3. Patient age, sex, approximate weight
- 4. Degree of distress
- 5. Chief complaint (one brief sentence as to why you were called)
  - Events that led to the call
  - Pertinent +/- complaints
- 6. Assessment findings (brief)
  - Level of consciousness/orientation (GCS)
  - Skin color and moisture
  - Vitals (P,R, B/P, pain level)
  - Pertinent +/- findings
- 7. History (pertinent only)
- 8. Treatment rendered and response
- 9. Request/repeat orders
- 10. ETA

General Guidelines for Short Report*

- 1. Call ASAP
- 2. Identify unit, level (BLS or ALS) and ETA along with possible alert (Cardiac/Stroke/Trauma)
- 3. Identify situation and any scene hazard
- 4. Identify number of victims and number of each triage level (green, yellow, red, black) if MCI
- 5. For single victim:
- Age, sex
- LOC, orientation (GCS)
- Chief complaint and degree of distress
- Initial impression (perceived acuity)
- Apparent life threats
- Vitals
- Major interventions (including resuscitation)
- *** May use short report for multiple patients, BLS transport with normal findings, or critical situations with limited manpower.**

Refusal of Care/Transport (1 of 3)

General Guidelines

- 1. Competent, adult (or emancipated minor) patients may refuse care when:
  - they have been fully informed of their condition.
  - they have been fully informed of needed treatment.
  - they have been fully informed of possible complications.
  - they have been fully informed of the consequences of refusal.
  - they fully comprehend the information.
  - they sign a release.
  - they have been fully informed of how to obtain emergency care later in the even they change their mind.

- **Note: No refusal may be accepted on behalf of a patient unless it is the patient's legal guardian.**
- 2. Competency may be impaired in patients that:
  - are mentally challenged.
  - are psychologically impaired.
  - are drug/alcohol impaired.
  - have sustained head trauma.
  - have sustained serious blood loss.
  - are chemically impaired.
  - are hypoxic.
  - have abnormal metabolic conditions (diabetic).
  - are too young or old to comprehend.

- **Note: Document criteria used for determination of competency.**
- 3. Consent is implied when the patient:
  - is unconscious.
  - is in clear and immediate danger of life, limb or health.
  - is not able to consent because of competency issues.
- 4. EMS may not refuse to evaluate/transport a patient.
- 5. EMS may not treat and release on-scene (unless patient refuses transport).
- 6. Always act in the best interest of the patient.
- 7. Consult Medical Control when in doubt or situation is unclear.
- 8. An EMS record must be generated on **all evaluated patients.**

Refusal of Care/Transport – Continued (2 of 3)

Initial Management

- 1. Begin evaluation and care.
- 2. If patient refuses:
  - Assess competency and mental status.
  - Assess medical decision making capability.
  - Assess minor status.

- **Adult, competent* refusal**
- 3. Inform patient of his/her condition, possible complications, risks of refusal, needed treatment, and access to emergency care if needed later.
- 4. Have patient sign refusal statement (document on form if patient refuses to sign form).
- 5. Have witnesses sign the refusal statement.
- 6. Document reason for refusal and all information given to the patient.
- 7. Recommend transport again.
- 8. If no significant risk to the patient exists per EMS evaluation, terminate the encounter.
- 9. Consult Medical Control if needed.

- **Adult, non-competent* refusal**
- 3. Deny refusal.
- 4. Enlist law enforcement if necessary.
- 5. Notify Medical Control.

- **Note: EMS personnel are prohibited to use physical restraint unless the patient is an immediate threat to himself or others, or upon direction of Medical Control.**

Refusal of Care/Transport – Continued (3 of 3)

- **Minor (<18), competent* refusal**
- 3. If emancipated, refer to “Adult, competent refusal.”
- 4. If not emancipated, attempt to reach parent.
- 5. If unable to reach parent, and patient is competent teen, consult with Medical Control.
- 6. If unable to reach parent, and patient is too young to understand the issues, notify Medical Control.
- 7. Do not allow un-emancipated minor to sign a refusal statement without consultation with Medical Control.

- **Minor (<18), non-competent* refusal**
- 3. Deny refusal.
- 4. Enlist law enforcement if necessary.
- 5. Attempt to reach parents.
- 6. Notify Medical Control.

- **Note: EMS personnel are prohibited to use physical restraint unless the patient is an immediate threat to himself or others, or upon direction of Medical Control.**
- *In regard to patient refusals:
- **Competence: Competence implies the patient possesses the capacity to make a decision concerning medical care if he/she has the ability to appreciate all relevant facts to reach a rational (even though not necessarily reasonable) judgment. Patients should generally be alert, oriented and able to clearly express their understanding of the situation and risk involved in refusing care. Sobriety is not required, but these patients must be scrutinized closely. Criteria used for determining competency must be documented on the EMS record for all refusals.**

Crime Scene Response

The primary duty of EMS is to render medical care to sick or injured patients. Law enforcement is in charge of the crime scene and evidence. EMS should adhere to the direction of the police in all matters relevant to evidence collection.

- 1. Always assess scene safety
- 2. Request law enforcement if not already present.
- **Note: Police are to be notified in all cases where a crime, suicide, attempted suicide, accidental death, or suspicious fatality has occurred.**
- 3. Do not delay evaluation and transport pending police arrival unless:
  - Safety of the medic/patient is in jeopardy.
  - Patient refuses care.
  - Patient meets criteria for scene death.
- 4. Do not contaminate scene/evidence
  - Park where directed by police.
  - Remove anything you brought to the scene (dressings, packaging, wrappings, etc.).
  - Do not alter scene. Notify police if unavoidable.
  - Avoid unnecessary contact with objects at the scene.
- 5. Wear gloves
  - Do not wash or clean patient's hands.
  - Do not wash or clean any body area which has sustained bullet wounds.
  - Do not cut clothing through bullet holes, tears, damaged or stained areas of clothing.
  - Do not cut through or untie knots used in hanging (unless unavoidable to free airway).
  - Leave impaled objects in place.
  - Do not handle weapons.
- 6. Preserve evidence
  - Be aware that bullets may be hidden in clothing of patients, especially heavy winter clothing.
  - Check your vehicle/stretcher after transport for items of evidence.
  - Any discovered items are to be turned over to police. Document time, evidence and police badge number on EMS record.
  - Document observations at the crime scene as soon as possible. Include name and identification number of law enforcement.
- 7. Assist law enforcement
  - Confirm arrest status of patient.
  - Document arrest status, officer's name and identification number.
  - Request police accompaniment for arrested patients.
  - **Handcuffed patients must be accompanied by police.**
  - Do not remove handcuffs unless medically necessary for the safety of the patient.
  - Comply with any local guidelines your PD may have.

Withholding CPR

- EMS are required to immediately initiate CPR on all patients with clinical signs of death except in the following cases:
  - Valid DNR or P.O.S.T. is presented and applicable
  - Decapitation
  - Rigor mortis without hypothermia
  - Widespread dependent lividity
  - Skin deterioration or decomposition
  - Mummification

- Notify coroner and local police. Coroner: **755-3265 (give # where you can be reached)**
- Once initiated, resuscitative efforts are to be continued until one of the following occurs:
  - Effective spontaneous circulation and ventilation have been restored.
  - The patient is endorsed to others of at least equal training, skill and certification.
  - The rescuer can no longer continue due to physical exhaustion.
  - A direct order from Medical Control.
  - A direct order from an on-scene physician to whom EMS has relinquished authority.
  - A DNR or P.O.S.T. is presented and applicable

Hazmat Contamination

General Guidelines

- 1. Protect self from contamination! (Appropriate PPE)
- 2. Assure scene safety (I.D. hazard, weather condition, etc.)
- 3. Identify hazard (see references) enlist assistance of local FD and/or hazmat group
- 4. Notify medical control and receiving hospital ASAP
- 5. Remove patient from contaminated area
- 6. Treat patient per SOP
- 7. Prepare ambulance (tarp, drape, isolate, etc.)
- 8. Transport

Topical

- 9. Protect self
- 10. Brush off dry powder
- 11. Remove and isolate contaminated clothing
- 12. Wash with copious amounts of water (and non-caustic soap when indicated)
- 13. Do not attempt to neutralize

Eyes

- 9. Protect unaffected eye and self
- 10. Flush gently and continuously with water or saline en route to hospital
- Note: Use nasal cannula, IV tubing or large vessel for flushing eyes

Inhalation

- 9. Protect self from fumes
- 10. Administer high flow oxygen

Universal Precautions/Covid Precautions and Flow Chart

UNIVERSAL/STANDARD PRECAUTIONS

IT IS VERY CLEAR THAT MEDICAL HISTORY AND PHYSICAL ASSESSMENT ALONE CANNOT IDENTIFY THOSE PATIENTS WHO ARE INFECTED WITH BLOOD OR AIBORNE/RESPIRATORY PATHOGENS. IN THIS EVENT, UNIVERSAL/STANDARD PRECAUTIONS SHALL BE USED FOR ALL PATIENTS. THE LEVEL OF STANDARD PRECAUTIONS TAKEN WILL BE DEPENDENT ON A RAPID ASSESSMENT BOTH BY CENTRAL DISPTACH AND FIRST RESPONDING MEDICAL UNITS.

A. Universal blood and body fluid precautions (the use of barriers) shall be used for all patients if contact with blood or body fluids is possible regardless of whether a diagnosis is known. EMS providers are responsible to use the personal protective equipment (PPE) made available by their employer.

B. PPE may include all of the following: Gloves, Gown, Mask, Eye Protections/Safety Glasses or Mask with Eye Protection.

C. Effective Immediately per the State of Indiana, All Providers should be in a minimum of a surgical mask at all times on ALL EMS calls. EMS Personnel that are not complying with this requirement will be considered conduction reckless care and disciplinary actions will be handled by the IDHS.

Universal Precautions/Covid Precautions and Flow Chart

UNIVERSAL/STANDARD PRECAUTIONS

D. PPE should be removed immediately after patient contact to avoid contamination of other surfaces (i.e. – steering wheel, door handles, clip boards, pens, etc.)

E. Body fluids include: saliva, sputum, gastric secretions, urine, feces, CSF, breast milk, serosanguineous fluid, semen, or any drainage.

F. Immediately after use, sharps will be disposed of in provided biohazard, puncture resistant containers. Containers will be replaced when 3/4 full. Used needles shall not be sheared, bent, broken, recapped, or resheathed by hand. Used needles shall not be removed from disposable syringes. Do not lay or stick used needles in seat cushions.

Exposure to Blood and/or Body fluids:

1. Personnel sustaining an exposure (needle stick, mucous membrane, or skin contact) to blood and/or body fluids shall immediately cleanse the contaminated area with soap and water. If these are not immediately available, waterless hand cleaner shall be used.

2. In cases of splattering of blood or body fluids to the eyes and/or mouth, flush with copious amounts of water for 15 minutes.

Universal Precautions/Covid Precautions and Flow Chart

UNIVERSAL/STANDARD PRECAUTIONS

3. Notify the employee's appropriate leadership personnel.

4. Complete the Indiana State Board of Health REPORT OF BLOOD OR BODY FLUID EXPOSURE form and leave a copy of this at the receiving facility with any other paperwork left following patient care. Remaining copies shall be turned over to management of your individual department per your department's policy. This form must be filled out completely and accurately within twenty-four (24) hours.

5. Hand washing is the most important infection control procedure. EMS providers should wash their hands:

A. after removing PPE

B. after each patient contact

C. after handling potentially infectious material

D. after cleaning/decontaminating equipment

E. after using the restroom

F. before eating or preparing food

Disease-Specific Isolation Recommendations

(Colors do not represent level of patient care)

Standard Precautions

- CMV
- HIV
- Hepatitis B and C
- Aspergillosis

Contact Precautions

-MRSA
-VRE
-Adenovirus
-Diarrhea
-C. Difficile
-Rotavirus
- E Coli 0157
- Enterovirus
- Salmonella
- Shigella
- Hepatitis A
- Herpes Zoster (Isolated)
- Herpes Simplex
- Parainfluenza
- RSV
- Lice
- Scabies
- Chicken Pox

Droplet Precautions

- Pertussis
- Influenza A or B
- MRSA
- Neissera Meingitides
- Coxsackle
–Bacterial Meningitis (for 24 hours post effective antibiotic therapy)
- RSV (Droplet or Contact)
- Mumps
- Rubella

Airborne Precautions

- Chicken Pox
- Widespread Herpes Zoster
- Measles
- Tuberculosis
- SARS/Covid
- Avian Influenza

Disease-Specific Isolation Recommendations

(Colors do not represent level of patient care)

Standard Precautions

-Standard Precautions is a catch all. It basically encompasses all of the precautons listed below and included disease specific precautions. For field personnel gloves, gowns, masks, and safety glasses/goggles are all examples of Standard precautions as well as prompt hand hygiene. **Gloves and surgical masks shall be worn at minimum for ALL patient contacts**

Contact Precautions

-Glove and Gown at entry point, before contact with a patient or the patients environments.

-Dedicated patient equipment is preferreable but understandable not always possible

-PPE removed at the point of exit, prompt hand hygiene

Droplet Precautions

-Standard and Contact precautions should be utilized

-A face mask/eye shield should be worn upon contact with the patient or patient's environment

-PPE must be removed at the point of exit

-Hand hygiene follows PPE removal

Airborne Precautions

-Standard and Contact Precautions should be utilized

-Particulate respirator mask (N95) worn before entry and fit checked prior to entry

-PPE to be removed at exit and prompt hand hygiene

Covid 19 Flow Sheet

Notified from Central Dispatch of Possible/Suspected Covid 19 patient/s

YES

Covid-19 PPE should be worn for all providers within 6 feet or the patient

Can the patient walk outside?

YES

Direct Patient to walk outdoors.

Provide Patient Surgical Mask, Conduct Assessment outdoors

Ask the following questions to patient(s) or family unless it is clearly obvious that the patient's condition is not associated with Covid-19

1. Do you have a fever?
2. Have you come into contact with anyone who has Covid-19
3. Have you or anyone in the same household been placed under voluntary or mandatory quarantine?

If yes to ANY of the above questions or patient is high risk

NO

Provide Patient with Surgical Mask.

If patient condition permits, utilize cot/stairchair to move patient outdoors

Conduct Assessment.

If Patient Condition requires immediate treatment (for example cardiac arrest, intubation, BVM or Neb treatments; Covid PPE should be worn by all providers in the patient care area and Covid approvided filters should be utilized.

Treatment/Transport or Obtain Refusal

Immediate treatment and transport if patient is unstable or patient condition warrants. All patients with respiratory complaints MUST have at least a surgical mask on at all times.

NO

Calls of service should begin from 6 feet away from the patient by the primary responding unit's crew. If patient is able, have them come outdoors or have family member meet crew outdoors. Primary crew should remain in sight of other responders if entering location.

Ask the following questions to patient(s) or family unless it is clearly obvious that the patient's condition is not associated with Covid-19

1. Do you have a fever?
2. Have you come into contact with anyone who has Covid-19
3. Have you or anyone in the same household been placed under voluntary or mandatory quarantine?

If yes to ANY of the above questions or patient is high risk

No to all questions, treat and transport per standing protocol

Refusal

Review medical release/refusal verbally with the patient. Advise patient for need to self quarantine and need to follow up with family physician,

Patient who refuses must have SPO2 of greater than 92% Any patient with a lower reading is highly recommended for transport. If this patient still wishes to refuse, contact medical control for clearance. 219-947-6874

Universal Precautions/Covid Precautions and Flow Chart

- CPAP Utilization should be avoided on ALL patients
- If airway management is necessary for the patient, provider is to insert airway device (ET Tube, Igel, King Airway, Combitube) with emphasis on single lumen airways.
- Video assist devices should be utilized to intubate patient where available
- If patient condition warrants the need for nebulizers, other aerosol procedures, or nasal administration of medications; these procedures or medications should be performed or administered outdoors or in the patients home. Avoid if at all possible these tasks in the ambulance.
- Surgical Masks/Covid PPE should be worn at all times by patients within 6 feet of the patient care area.

Induced Hypothermia
Post - ROSC

General Guidelines/Criteria for Inclusion:

- ROSC after cardiac arrest not related to trauma or hemorrhage.
- Age of 16 years old or older.
- GCS < 8 with no response to pain
- Initial temperature > 34 C (93 degrees F)
- Female without obvious pregnancy
- Advanced airway in place (If NOT in place, consult medical control)
- Systolic Blood Pressure > 100mm/hg

Procedure:

- Apply ice packs to the axillary and groin area. (Maintain modesty)
- Being 20cc/kg fluid bolus of chilled 0.09% NS (Saline kept at <40 F)
- Maintain SBP > 100mm/hg
- Keep patient from shivering – Administer Versed 2.5-5mg IV/IO (Consult medical control and an advanced airway must be in place!)
- If there is a loss of circulation, discontinue the hypothermia treatment at once and follow the appropriate protocol.
- DO NOT hyperventilate!
- Advise receiving hospital that Induced Hypothermia is initiated.

King Airway

- The King Airway is approved for use in three sizes and cuff inflation varies by size:
  - Size 3 – Patients between 4 and 5 feet tall (55 mL air)
  - Size 4 – Patients between 5 and 6 feet tall (70 mL air)
  - Size 5 – Patients over 6 feet tall (80 mL air).
- INDICATIONS
  - • Cardiac arrest of any cause
  - • Inability to ventilate non-arrest patient with other BLS maneuvers in a setting in which endotracheal intubation is unsuccessful or unable to be done.
- CONTRAINDICATIONS
  - • Presence of a gag reflex
  - • Caustic ingestion
  - • Known esophageal disease (e.g. cancer, varices, stricture)
  - • Laryngectomy with stoma
  - • Height less than 4 feet Note: Airway deformity due to prior surgery or trauma may limit the ability to adequately ventilate with a supralaryngeal airway due to the potential for poor seal of the pharyngeal cuff.
- REQUIRED EQUIPMENT
  - • Suction
  - • King Airway Kit (size 3, 4, or 5)
  - • Bag-valve-mask
  - • Stethoscope
- PROCEDURE FOR USE

  1. Assure adequate BLS airway (if possible)
  2. Ventilate with 100% oxygen while selecting appropriate size King Airway
  3. Test cuff of device by injecting the recommended amount of air into the cuffs. Fully deflate prior to insertion.
  4. Apply water-based lubricant to distal tip and posterior aspect of tube. Avoid application of lubricant into ventilatory openings.
  5. Position head into the “sniffing position”. Neutral position may be used for suspected cervical spine injury.
  6. Hold mouth open and apply chin lift (jaw-thrust for suspected c-spine injury).
  7. Insert tube rotated laterally at 45-90 degrees with blue orientation stripe touching corner of mouth. Advance behind base of tongue. Do not force.
  8. Once tube has passed under tongue, rotate tube back to midline with the blue orientation stripe midline and up towards chin.
  9. Advance tube until base connector aligns with teeth or gums.
  10. Inflate cuff of tube to required volume,
  11. Attach bag-valve-mask and ventilate patient, confirm placement by rise and fall of the chest and lung sounds.
  12. Secure tube and note depth marking of tube.
  13. Continue monitoring placement of tube throughout pre-hospital treatment and transport.
  14. Document placement of tube using the Department approved form.
- AIRWAY REMOVAL
  - Once a supralaryngeal airway is placed, ideally it should not be removed. Circumstances that necessitate removal of the device may include presence of a gag reflex or inadequate ventilation with the device.
  - **Removal of the device may cause vomiting and the following steps should be followed:**
    - A. Position patient on side, maintain spinal precautions as needed.
    - B. Have suction available.
    - C. Deflate cuff/cuffs completely and remove smoothly and quickly.
    - D. Reassess airway and breathing to evaluate the need for other adjuncts.

CPAP
Continuous Positive Airway Pressure

Indications
- Severe respiratory distress secondary to CHF and Pulmonary Edema.

Contraindications
- Signs/symptoms of pneumothorax
- Penetrating chest trauma
- Upper airway trauma
- Tracheal or facial anomalies
- Apnea
- Cardiac arrest
- MI with severe distress
- Hypotension (less than 90mmHg systolic)
- Unstable cardiac rhythms
- Altered level of consciousness that necessitates intubation
- Vomiting or excessive secretions
- Children < 8 yrs old
- Intolerance to CPAP or mask
- Increased intracranial pressure

Procedure
- 100% oxygen per NRB prior to set up
- Verify indications. Review contraindications
- Assess vitals, SpO2, cardiac rhythm
- If B/P less than 100 systolic, contact medical control
- Connect PEEP (10cm H20)
- Connect generator to 50 psi oxygen outlet and turn flow control 6-8 full turns counterclockwise
- Begin at minimum FIO2 to conserve onboard oxygen
- Adjust FIO2 to patient's O2 saturation. Titrate FIO2 to maintain patient's SpO2 > 95%
- Treatment is to remain continuous unless interventional airway management is needed
- Vital signs every 5-10 minutes

Document on run sheet
- PEEP level
- Vital signs
- Effects of treatment
- Oxygen saturation
- Adverse reaction
- Document any adverse effect on an occurrence report and report to medical control

Complications
- Hypertension/Hypotension
- Pneumothorax
- Corneal drying
- Inability to tolerate CPAP

Lucas 2

- Indications
  - LUCAS Chest Compression System is to be used for performing external cardiac compressions on adult patients who have acute circulatory arrest defined as absence of spontaneous breathing and pulse, and loss of consciousness.
- Contraindications
  - If it is not possible to position LUCAS safely or correctly on the patient's chest.
  - Too small patient: If you cannot enter the PAUSE mode or ACTIVE mode when the pressure pad touches the patient's chest and LUCAS alarms with 3 fast signals.
  - Too large patient: If you cannot lock the Upper Part of LUCAS to the Back Plate without compressing the patient's chest.
- Use
- Arrival at the patient When you have confirmed a cardiac arrest, immediately start manual cardiopulmonary resuscitation (CPR). Continue with a minimum of interruptions.
- Unpack LUCAS™
  - 1. Position the bag with its top nearest to you.

2. Put your left hand on the black strap on the left side and pull the red handle so that the bag unfolds.

  - 3. Push ON/OFF on the User Control Panel for 1 second to power up LUCAS in the bag and start the self test. The green LED adjacent to the ADJUST key illuminates when LUCAS is ready for use. Note: LUCAS powers down automatically after 5 minutes if you let it stay in the ADJUST mode. Caution - device alarm If there is a malfunction, the red Alarm LED illuminates and a buzzer signal is heard. For trouble shooting, refer to section 8.3. Caution - keep Battery installed The Battery must always be installed for LUCAS to be able to operate, also when powered by the external Power Supply

Video Laryngoscope (Like King Vision)

- Step by Step Instructions
- Important: The King Vision Display must be “OFF” before attaching the video adapter, otherwise the video image will become distorted. If this happens, simply turn the display “OFF,” attach the video adapter, then turn the display back “ON”.
- STEP 1 – Preparing the King Vision aBlade Video Laryngoscope (the display, video adapter, and blade combination) for use:
  - Choose the size of blade needed based on patient age, size and other relevant factors
  - Choose blade type (standard or channeled) based on preferred tube delivery technique. Only applies to blade sizes 2 and 3.
  - Connect the appropriate size of video adapter needed based on intended blade size
  - Connect the video adapter to the display. Note that the front and back of the display and video adapter are color-coded to facilitate proper orientation. Fully insert the unlocked video adapter onto the stem of the display. Slide locking mechanism up until the yellow stripe is no longer visible. It should click/snap securely into place.
  - Power on and verify imaging function. With the video adapter locked onto the display, press the POWER button (Fig. 1, #5) on the back of the King Vision Display and confirm that the display shows a moving image. If the screen remains blank, replace the batteries. If the display powers on but does not show a functional moving image, power off and verify that the video adapter is properly connected before powering on again. If a functional image still cannot be obtained, replace the video adapter or the display.
  - Insert the blade over the video adapter. Slide the blade over the video adapter (only goes together one way). Listen for a “click” to signify that the blade is fully engaged onto the video adapter. Confirm that a functional moving image still exists.
- Step 2 – Insertion of aBlade into the Mouth
  - Open the patient’s mouth using standard technique.
  - In the presence of excessive secretions/blood, suction the patient’s airway prior to introducing the blade into the mouth.
  - Insert the blade into the mouth following the midline. Take care to avoid pushing the tongue towards the larynx.
  - As the blade is advanced into the oropharynx, use an anterior approach toward the base of the tongue. Watch for the epiglottis and direct the blade tip towards the vallecula to facilitate visualization of the glottis on the display’s video screen. The aBlade tip can be placed in the vallecula like a Macintosh blade or can be used to lift the epiglottis like a Miller blade. For best results, center the vocal cords in the middle of the display’s video screen.
  - If the distal window (Fig. 1, #10) becomes obstructed (e.g., blood/secretions), remove the blade from the patient’s mouth and clear the lens.
  - Avoid putting pressure on the teeth with the King Vision Video Laryngoscope.

Defibrillation/Synchronized Cardioversion

- Scene safety – remove patient from pooled water, metal etc.
- Verify indication
- Expose chest
  - remove oils, lotions, etc.
  - remove excess hair
- Place pads approximately (either monitor – defibrillator pads or jelled pads):
  - Anterior – Anterior placement: Apical (left of nipple and axillary) and high right parasternal (below clavicle).
  - Posterior – Posterior placement: Apical and mid left subscapular
- Turn on defibrillator
- Set energy level:

Defibrillation monophasic	200j-300j-360j-360j
Defibrillation biphasic	120j-150j-200j-200j
Cardioversion monophasic	100j-200j-300j-360j
Cardioversion biphasic	75j-120j-150j-200j

- Activate synchronous mode if cardioversion is called for
- Charge capacitor
- If using manual paddles, apply firm pressure (25# for adult)
- Clear area (call “ALL CLEAR”)
- Deliver shock (remote or press both buttons simultaneously until discharge).
- Reassess patient and rhythm.

Intubation, Digital

General Information

- The original method of endotracheal intubation was the “tactile” or “digital” technique. The intubator merely felt the epiglottis with the fingers and slipped the endotracheal tube distally through the glottic opening. Recently the technique has been refined and demonstrated to be of use in the field for a wide variety of patients.

Procedure

- Perform routine preparation procedures as described for endotracheal intubation.
- The tube is prepared by inserting the lubricated stylet and bending the tube in to an “open J” configuration. The stylet should not protrude beyond the tip of the tube, but it should come to at least the level of the side hole.
- A water soluble lubricant is used liberally on the tip and cuff of the tube.
- Gloves are used for protection.
- The intubator kneels at the patient’s left shoulder, facing the patient, and places a dental prod or mouth gag between patient’s molars.
- The intubator then “walks” the index and middle fingers of his left hand down the midline of the tongue, all the while pulling forward on the tongue and jaw. THIS IS A MOST IMPORTANT MANEUVER AND SERVES TO LIFT THE EPIGLOTTIS UP WITHIN REACH OF THE PROBING FINGERS.
- The middle finger palpates the epiglottis; it feels much like the tragus of the ear.
- The epiglottis is pressed forward and the tube is slipped into the mouth at the left labial angle anterior to the palpating fingers. The index finger is used to keep the tube tip against the side of the middle finger (that is still palpating the epiglottis). This guides the tip to the epiglottis. The side hole of the tube can also be used as a landmark to ensure that the intubator is always aware of the position of the tip of the endotracheal tube. THIS IS A CRUCIAL PRINCIPLE OF THIS TECHNIQUE.
- The middle and index fingers guide the tube tip to lie against the epiglottis in front and the fingers behind. The right hand then advances the tube distally through the cords as the index and middle fingers of the left palpating hand press forward to prevent the tube from slipping posteriorward into the esophagus. NOTE: At this point the tube/stylet combination may encounter resistance, especially if the distal curve of the tube is sharp. This usually means that the tube tip is impinging on the anterior wall of the thyroid cartilage. Pulling back slightly on the stylet will allow the tube to conform to the anatomy, and the tube should slip distally.
- Confirm placement by the confirmation protocol as described for routine endotracheal intubation.

Intubation, Endotracheal

- Ventilate with 100% oxygen prior to ET insertion
- Assemble equipment
  - Suction (test)
  - Proper size ET tube (test cuff)
  - Stylet
  - Laryngoscope bland and handle (check light)
  - Magill forceps
  - Tape, airway etc.
- Insert stylet
- Lubricate distal ETT
- Position patient (“sniffing” if not contraindicated)
- Insert laryngoscope (holding laryngoscope in left hand, insert blade in right side of mouth)
- Sweep patient’s tongue to the left.
- Lift handle up and away. DO NOT USE TEETH AS FULCRUM.
- Visualize epiglottis, then vocal cords.
- Using right hand, insert tube between vocal cords.
- Remove stylet
- Check tube placement
- Inflate cuff with 10 ml air
- Secure tube

Intubation, Endotracheal – In-line

Procedure

- 1. Standard precautions
- 2. Keep patient in neutral position, maintaining C-spine control.
- 3. Ventilate patient with 100% O2 prior to ET insertion.
- 4. Position patient supine; another rescuer takes position at patient's side, facing patient, and maintains head in neutral position.
- 5. Assemble and check equipment:
  - Test ET tube cuff with 10ml air; maintain sterility; insert stylet (optional).
  - Attach blade and handle; check light.
  - Oropharyngeal airway; Magill forceps.
  - Check suction equipment; cut tape.
  - Lubricate end of tube with water-soluble jelly.
- 6. Rescuer who will intubate patient sits at patient's head with legs straddling patient's shoulders, then moves forward until patient's head is secured between thighs. Apply firm pressure with the thighs to the patient's head.
- (Complete steps 7-10 within 30 seconds)
  - 7. With laryngoscope in left hand, place blade into right side of patient's mouth, move tongue to left.
  - 8. Lift handle upward; do not use teeth as fulcrum.
  - 9. Tilt your upper torso back, visualize cords, insert tube.
  - 10. Check tube placement – ventilate and observe symmetrical chest movement.
- 11. Inflate cuff with 10 ml air.
- 12. Recheck for proper tube placement.

Endotracheal Introducer- Bougie

- Clinical Indications: Patients meet clinical indications for oral intubation Initial intubation attempt(s) unsuccessful Predicted difficult intubation
- Contraindications: Three attempts at orotracheal intubation (utilize failed airway protocol) Age less than eight (8) or ETT size less than 6.5 mm
- Procedure:
  - 1. Prepare, position and oxygenate the patient with 100% oxygen
  - 2. Select proper ET tube without stylet, test cuff and prepare suction;
  - 3. Lubricate the distal end and cuff of the endotracheal tube (ETT) and the distal 1/2 of the Endotracheal Tube Introducer (Bougie) (note: Failure to lubricate the Bougie and the ETT may result in being unable to pass the ETT);
  - 4 .Using laryngoscopic techniques, visualize the vocal cords if possible using cricoid pressure as needed;
  - 5. Introduce the Bougie with curved tip anteriorly and visualize the tip passing the vocal cords or above the arytenoids if the cords cannot be visualized
  - 6. Once inserted, gently advance the Bougie until you meet resistance or “hold-up” (if you do not meet resistance you have a probable esophageal intubation and insertion should be re-attempted or the failed airway protocol implemented as indicated);
  - 7. Withdraw the Bougie ONLY to a depth sufficient to allow loading of the ETT while maintaining proximal control of the Bougie;
  - 8. Gently advance the Bougie and loaded ET tube until you have hold-up again, there by assuring tracheal placement and minimizing the risk of accidental displacement of the Bougie;
  - 9. While maintaining a firm grasp on the proximal Bougie, introduce the ET tube over the Bougie passing the tube to its appropriate depth;
  - 10. If you are unable to advance the ETT into the trachea and the Bougie and ETT are adequately lubricated, withdraw the ETT slightly and rotate the ETT 90 degrees COUNTER clockwise to turn the bevel of the ETT posteriorly. If this technique fails to facilitate passing of the ETT you may attempt direct laryngoscopy while advancing the ETT. This will require an assistant to maintain the position of the Bougie and, if so desired, advance the ETT);
  - 11. Once the ETT is correctly placed, hold the ET tube securely and remove the Bougie;
  - 12. Confirm tracheal placement according to the intubation protocol, inflate the cuff with 3 to 10mL of air, auscultate for equal breath sounds and reposition accordingly;
  - 13. When final position is determined secure the ET tube, reassess breath sounds, apply end tidal CO2 monitor, and record and monitor readings to assure continued tracheal intubation.

Intubation, Nasotracheal

Indications

- Patients needing intubation but who may have a C-spine injury
- Patients needing intubation but who have clenched teeth
- Patients needing intubation but who still have a gag reflex (respiratory distress secondary to a large flail chest, open chest wound, etc.)
- Patients needing intubation but who are trapped and endotracheal intubation is not possible

Contraindications

- Apnea
- Facial trauma (possible basilar skull fracture)
- Nasal trauma (possible basilar skull fracture)
- Combative patients
- Patients on anticoagulants
- Children (under age ten)

Procedure

- Prepare for routine endotracheal intubation
- Lubricate cuff and distal end of 6.0 or 6.5 ETT. Never use stylet!
- Slip the ET tube through the largest nares. Bevel should be against the floor or septum of the nasal cavity.
- As the tube tip reaches the posterior pharyngeal wall, carefully “round the bend” and direct the tube toward the glottic opening.
- When tube is just above the cords, time respirations and gently advance the tube (as the patient inhales). Tube will be advanced almost to the end at the level of the nose. Do not force.
- Bulging and anterior displacement of the laryngeal prominence usually indicates that the tube has entered the glottic opening and is correctly placed. (Patient may cough or strain.) Note: If there is tenting of the skin on either side of the laryngeal prominence, the tube may be caught in the pyriform fossae. Withdraw slightly and rotate the tube toward the midline.
- Confirm placement. Tube will usually need to be placed deeply with only the adaptor tip showing from the nostril.

Intravenous Access Devices

- Large bore (14 or 16 gauge) anticubital IV sites are best choices for fluid resuscitation in trauma, shock, or cardiac arrest
- Routine low flow IVs should be initiated low in the arm or hand
- The fluid of choice is Normal Saline
- A fluid challenge is considered to be 200-300 mls of Normal Saline. Re-check B/P and lung sounds after each challenge.
- All IVs are to be addressed as mls or ccs per hour
- The SMMC paramedic may initiate:
  - Peripheral IV with fluids and tubing
  - Peripheral IV with saline lock *
  - Interosseous IV
  - External jugular access in codes only (when other attempts have failed)
  - Chest Ports (refer to central line policy)
- The trained SMMC paramedic may utilize the following already inserted venous access devices:
  - Heparin locks
  - Saline locks
  - Portacaths
  - PICC lines
  - Percutaneously inserted (non-tunneled) central catheters to include single, double, triple lumen.
- The trained SMMC paramedic may utilize the following already inserted tunneled central catheters:
  - Hickman
  - Groshong
- Only in extreme emergency situations may the paramedic utilize dialysis catheters for IV access:
  - Permacath
  - Quinton
  - Vascath
  - Tesio
- *Saline lock is preferred for patients with CHF, pulmonary edema, hypertensive crisis, CVA, combative patients, renal failure patients.

Central Lines: Port, Accessing and Deaccessing (1 of3)

- Policy Title: Central Lines: Port, Accessing and Deaccessing
- Applicable To: Paramedics
- Date Originated: 10/05
- Date effective : 10/05
- Issued By: Robert Boby, RN EMS Director SMMC
- Medical Control: Dr. John P. Mulligan, MD EMS Medical Director SMMC
- PURPOSE:
- The purpose of this policy is to provide guidelines for the care and maintenance of an IVAD.
- DEFINITIONS:
- Implantable Venous Access Devices (ports) have many names i.e. Port-A-Cath. R-Port, Groshong Port, and Bard Port. They can be placed in the chest, arm, abdomen, upper thighs, etc. A Pas-Port is a small low profile port that is usually placed in the arm.
- Since these devices have so many names, they will be referred to as Implantable Venous Access Devices or IVADs. These devices are designed to provide repeated access to the vascular system or a particular body site for the delivery of fluids, medications, blood products, and parenteral nutrition.
- SCOPE: EMT-P.
- Only specially trained paramedics following this policy under the St. Mary Medical Center EMS-ALS Protocol may access and utilize IVADs. There are no exceptions.
- CROSS REFERNCE (S):
- Adult Catheter Care/Flushing Charts
- GENERAL INFORMATION:
- ☐ IV therapy must be indicated by SMMC EMS-ALS Protocol.

Central Lines: Port, Accessing and Deaccessing (2 of 3)

- If none of the criteria are met for IV Therapy as indicated by the SMMC EMS-ALS Protocol, a physician order is required for access of an IVAD.
- Prior to port needle removal (deaccess) flush port with 20 ml of saline and Heparinize per flushing chart policy.
- Use a 10 ml syringe or larger for flushing.
- Do not access port if it would significantly delay transport or jeopardize pt. care.
- Infusion of fluids through IVADs requires the use of an infusion pump.

EQUIPMENT NEEDED:

- IV fluids
- IV Infusion Pump Administration Set
- Port Access Tray
- Huber Point Needle
- Anti-reflux valve (prn adapter)

ACCESSING THE IVAD (PORT):

- Verify patient's identity using the two-identifier method.
- Wash your hands.
- Apply non-sterile gloves.
- Remove patient gown or clothing to expose access area.
- Palpate IVAD body and septum with non-sterile gloves to determine IVAD placement.
- Open the sterile access kit.
- Drop safety Huber needle onto the sterile field.
- Drop anti-reflux valve onto the sterile field.
- Apply sterile gloves.
- Prep IVAD area by pressing the Chlorhexidine applicator against the skin of the IVAD area and scrub with a back and forth motion for 30 seconds following manufacturer's directions.

Central Lines: Port, Accessing and Deaccessing (3 of 3)

- Fill the 20 ml syringe with the normal saline that is provided in the kit.
- Attach anti-reflux valve to safety Huber needle tubing, and flush with saline.
- Grasp the head of the needle between your thumb and middle finger, placing your index finger on top of the needle head.
- Insert needle perpendicular to the port.
- Advance needle through the skin and the septum until it contacts the bottom of the reservoir.
- Attempt to aspirate blood from the port.
- If no blood return is present, flush with normal saline. If fluids infuse easily and without edema or pain, non-vesicant fluids may be infused.
- The physician at the receiving facility should be notified of absence of blood return from the IVAD.
- Place folded 2X2 gauze under the wings of the needle; do not touch the needle with the gauze. If the wings of needle are flush to the skin you do not need to use gauze.
- Use the steri-strips that are provided in the port access kit. Place the steri-strips over the width of both wings, and then place one steri-strip over one wing of the needle, then the other wing to form an “H”.
- Take skin prep swab and wipe area where borders of the occlusive dressing will adhere to the skin around IVAD site.
- Place the occlusive dressing over the accessed site. Make sure that all the edges of the occlusive dressing adhere to the skin. Label the dressing with the date, and your initials.
- Start fluids or heparinize as per policy.
- Secure tubing to prevent dislodgement.
- Document procedure in the run report.
- **SAFETY PORT NEEDLE REMOVAL: (DEACCESSING)**
  - *Prior to port needle removal, flush port with 20 ml of normal saline and heparinize if required.
  - Procedure:
  - Wash your hands.
  - Verify patient’s identity using the two-identifier method.
  - Apply PPE.
  - Remove all dressing material from the IVAD site.
  - Grasp the head of the needle between your thumb and middle finger, placing your index finger on top of the safety handle to hold in place.
  - Raise the safety handle upward to a 90-degree angle and hold it gently against the patient’s skin.
  - Using your dominant hand, grasp the flexible wings and pull upward until the needle is completely encapsulated in the safety handle. (**NOTE: The safety handle allows for visual confirmation to ensure the needle is fully encapsulated and safe).**
  - Properly dispose in sharps container.
  - Documentation:
  - Document procedure in the run report.

Central Lines: Flushing, Heparinzing, IVP Administration, IV Fluid Infusing (1 of 2)

- Applicable To: Paramedics
- Date Originated: 10/05
- Date effective : 10/05
- Issued By: Robert Boby, RN EMS Director SMMC
- Medical Control: Dr. John P. Mulligan, MD EMS Medical Director
- SCOPE: EMT-P.
  - Only specially trained paramedics following this policy under the St. Mary Medical Center EMS-ALS Protocol may utilize IVADs. There are no exceptions.
- CROSS REFERNCE (S):
- Adult Catheter Care/Flushing Charts
- GENERAL INFORMATION:
  - Central lines are flushed when accessed, when fluids are discontinued, before and after IVP administration.
  - If the central line contains Heplock solution and the patient is receiving multiple doses of medication through the catheter, it is advised to aspirate 5 cc blood from the catheter prior to using it.
- Use a 10 ml syringe or larger for flushing.
- EQUIPMENT NEEDED:
  - Gloves
  - Two or more 10-12 ml syringes
  - Alcohol wipes
  - PPE

Central Lines: Flushing, Heparinzing, IVP Administration, IV Fluid Infusing (2 of 2)

PROCEDURE FOR FLUSHING CENTRAL LINES:

- Verify patient's identity by using the two-identifier method.
- Wash hands and put on gloves.
- Cleanse anti-reflux valve on the end of the catheter with alcohol.
- Flush the catheter with 10-20 cc of normal saline.
- Resume fluids or heparinize as required.

HEPARIN-LOCKED CENTRAL LINES:

- Flush with saline after IVPs. The smallest syringe to use is a 10 cc syringe.
- Refer to flushing chart for Heparinization protocols.
- The Pediatric Heplock-flush is ordered per the patient's physician.
- These are the usual doses unless the patient's physician orders another amount.

IVP ADMINISTRATION:

- When administering an IVP medication to a central line, follow protocol on speed of injection and compatibility.
- Be sure to clamp or crimp the tubing behind the injection port you are injecting the IVP medication through so that the med does not back up the tubing to the main bag.
- Flush in between meds with 10-20 cc NS.

- Documentation:
- Document procedure in the run report.

Intravenous Access, External Jugular Vein Cannulation

- Place patient in Trendelenburg position
- Turn the patients head away from the side to be cannulated
- Maintain C-Spine precautions if indicated
- Prep the skin with alcohol
- Attach a 10ml syringe to an angiocath
- Align cannula with the vein, aim toward the shoulder on the same side as the venipuncture
- Apply light traction to the skin just above the clavicle.
- Insert catheter, bevel up, directed toward the shoulder on the same side. The needle should insert midway between the angle of the mandible and the clavicle.
- Aspirate as you advance the catheter. A flash of blood will be seen upon entering the vein.
- Carefully lower the angiocath and advance about 2mm
- Advance the catheter into the vein
- Remove and discard needle
- Connect to IV fluid tubing and open regulator
- Secure catheter

- ***Use in full arrest when peripheral attempt unsuccessful.**

Intraosseous Infusion

Equipment

- Betadine or alcohol wipes
- IV infusion set up
- 10ml syringe
- Stopcock
- Intraosseous needle
- Tape
- 5 ml syringe with IV saline for flush
- Sterile Gloves
- 60 ml syringe

Procedure

- Prepare equipment
- Locate site (tibial tuberosity) by palpation. Site is 1-3 cm below the tibial tuberosity on the medial surface of the tibia (approximately one finger breath below and medially to the tuberosity).
- Prep site (anterior surface of leg, below the knee).
- Grasp thigh and knee above and lateral to insertion site. Wrap fingers around knee to stabilize proximal tibia. DO NOT PUT HAND OR FINGERS AROUND POSTERIOR PORTION OF LEG OR KNEE.
- Using the device per manufacturers instructions, introduce needle at a 60-90 degree angle until it penetrates the bone marrow ("pop"). Advance needle slightly caudally to avoid epiphysial plate.
- Remove stylet and dispose of properly.
- Attach empty 10ml syringe to needle and aspirate to confirm placement.
- Remove syringe; attach stopcock.
- Secure needle.
- Bolus fluid by hand by using 60ml syringe.
- Attach IV infusion set to intraosseous needle and adjust fluid flow if indicated, using a pressure infuser device if needed.

- **Note: All medications injected through the site must be followed by a 5ml saline flush.**

Meconium Aspirator

Indication

- To effectively manage the airway and associated complications of the newborn with particulate Meconium noted during delivery.

Procedure

- When infant's head has delivered:
- Clear the mouth and pharynx with bulb syringe or small suction catheter.
- Complete the delivery of the baby, including clamping and cutting of the umbilical cord.
- Avoid the manipulation or stimulation of the newborn until airway has been secured following:
- Visualized Intubation:
  - 100% OXYGEN should be blown by infant's face
  - Place meconium aspirator to end of ET Tube
  - Withdraw the tube while applying suction
- Repeat the process once with another ET Tube and meconium aspirator

- **Caution: DO NOT EXCEED ONE MINUTE TOTAL SUCTIONING TIME BEFORE VENTILATING INFANT**

Medication Administration-Direct

- Verify 5 rights of medication administration
- Verify allergies
- Inspect medication (date, dose, contamination)
- Observe Universal Precautions
- Explain procedures to patient and prepare for administration:

Intramuscular
- Withdraw medication into syringe
- Eject air
- Cleanse site
- Stretch the skin over the site with your fingers.
- Advise patient of "stick"
- Insert needle 90 degrees
- Aspirate
- Inject medication slowly
- Withdraw needle
- Apply pressure to site
- Dispose of properly

IV Push (IVP)
- Assemble pre-load
- Eject air
- Assure patent IV
- Cleanse port
- Insert needle
- Pinch line above port
- Inject medication
- Withdraw needle
- Flush tubing
- Dispose of properly

Endotracheal (ET)*
- Withdraw medication into syringe
- Hyperventilate patient
- Disconnect BVM from ETT
- Stop compressions
- Forcefully inject (or use catheter) into ETT. Flush with 10ml NS
- Ventilate with BVM
- Resume CPR

***Use 2X IV dose**

Subcutaneous (Sub Q)
- Withdraw medication into syringe
- Eject air
- Cleanse site
- Advise patient of "stick"
- Insert needle 45 degree
- Aspirate
- Inject medication slowly
- Withdraw needle
- Apply pressure to site
- Dispose of properly

Rectal
- Withdraw medication into syringe
- Remove needle
- Lubricate syringe
- Insert end 4-5cm into rectum
- Inject medication
- Hold buttocks together X 1 minute

Intranasal
- Withdraw medication into Syringe
- Eject air
- Attach atomizer
- Insert into nare
- Push half dose
- Insert into other nare
- Push remaining dose
- Give 5 to 6 ventilations with BVM

Nebulizer Treatments

- Provide routine medical care
- Place patient in sitting position
- Explain therapy
- Prepare treatment
  - Place 2.5mg Albuterol in 3ml Saline in nebulizer (Consult SMMC Adult ALS protocol for Atrovent dosages)
  - Attach mouthpiece to one end of T-piece
  - Attach reservoir tubing to other end of T-piece
  - Attach T-piece to nebulizer
  - Attach oxygen tubing to nebulizer
  - Connect nebulizer to oxygen source
  - Adjust oxygen flow rate to 6L/min
- Instruct patient to keep nebulizer level
- Instruct patient to slow, deep breath through mouth (may use mask for pediatric or unwilling adult)
- Reassess frequently until all medication is gone
- Record vital signs, respiratory status and patient condition

Needle Cricothyrotomy

- Verify complete airway obstruction unrelieved by BLS Measures
- Attempt to visualize and remove obstruction if visible
- Prepare for needle cric if still completely obstructed
  - Attach at least 14-gauge angiocath to 20-30 ml syringe
  - Palpate crico-thyroid membrane
  - Prep area
- Perform procedure
  - Stabilize larynx with thumb and middle finger
  - Insert angio/syringe into trachea through cricothyroid membrane (midline, 45 degree angle)
  - Verify (escape of air) position of angio in trachea
  - Advance catheter caudally (toward feet)
  - Attach 3.0-3.5mm ETT adapter
- Ventilate
  - Attach BVM and ventilate with 100% oxygen
  - Verify breath sounds, chest movement
  - Secure angio

STAT TRANSPORT

Needle Decompression of Tension Pneumothorax

- Identify
  - Absent breath sounds
  - Cyanosis
  - Distended neck veins
  - Shock
  - Subcutaneous emphysema
  - Tracheal deviation from affected side
- Administer high-flow 02 mask.
- Prep the site (2nd intercostal space mid-clavicular line)
- Prepare decompression device – sterile procedure
  - Make a flutter-valve by inserting a 14 gauge angiocath through the end of a finger of a sterile glove.
- Explain procedure and keep patient as still as possible.
- Insert the needle at a 90 degree angle, bevel down, over the top of the 3rd rib. Pass the needle until you note a rush of air exiting the flutter device.
- Remove the needle, leaving the catheter in place.
- Tape device in place securely. Do not obstruct flutter escape valve.
- Recheck lung sounds, respirations, pulse and blood pressure.
- Transport STAT

Pacemaker (External Transcutaneous Pacing)

Indications

- Symptomatic bradycardia
- Asystole

Procedure

- Confirm indication
- Do not interrupt CPR for over 5-10 seconds.
- Explain procedure to patient (if conscious)
- Consider sedation order from Medical Control (Versed: 2mg IVP)
- Position Pads:
  - Anterior – Posterior: Place (-) electrode anterior mid left chest, just lateral to the sternum below the left nipple.
  - Place (+) electrode posterior mid left chest, below scapula (avoid scapula/spine)
  - Anterior – Anterior: Place (-) electrode anterior right chest, lateral to sternum and below clavicle.
  - Place (+) electrode mid axillary left chest, lateral to left nipple
- Set rate at 80
- Set sensitivity to “demand”
- Set MA at: Maximum (150MA) for Asystole. Decrease to lowest level of consistent capture and pulse.
- 50MA for bradycardia. Increase or decrease to the lowest level of energy that captures and has pulses.

Pertrach
Emergency Cricothyrotomy

Indications

- Complete airway obstruction unresolved by all other conventional means.
- Complete airway obstruction which prohibits the use of an endotracheal tube or combitube (severe facial trauma, etc.).

Contraindications

- Untrained individuals are not to attempt the use of the Pertrach

Procedure

- Remove dilator from package and advance it into the tracheostomy tube.
- Landmark cricothyroid membrane.
- Insert "Splitting Needle" through the skin directly over the cricothyroid membrane. (Note: A vertical incision through raised flesh over the area can facilitate process.)
- Slowly advance "Splitting Needle" perpendicular to skin (airway) while lightly pulling back on the plunger of the syringe. **When air bubbles occur or you feel a break in resistance, cease advancement of the "Splitting Needle."**
- Tilt needle more than 45 degrees toward carina. Complete insertion. **Always maintain the tip of the needle in the middle of the airway.**
- Insert the tip of the dilator into the hub of the "Splitting Needle."
- Squeeze wings of needle, then open them out to split needle.
- Remove needle, continuing to pull them apart in opposite directions, leaving the dilator in the trachea.
- Push trach tube and dilator into airway until flange is against skin.
- Remove dilator.
- Inflate cuff. Verify with pilot balloon.
- Ventilate with bag or attach oxygen as indicated. Listen for breath sounds.
- Secure trach tube around patient's neck.
- Transport STAT.

Caution

- If splitting needle is inserted too deep, it could puncture the posterior wall of the trachea.
- Insertion of the device through the thyroid cartilage may injure vocal cords.
- Retraction of the dilator through unsplit needle could result in damage to dilator.

Quicktrach

Preparation:

- 1. Identify indications for use of the QuickTrach Cricothyrotomy Kit
  - a. Rescue device for failed airways
  - b. Acute upper airway obstruction that cannot be relieved by other airway maneuvers
- 2. Identify examples of acute upper airway obstruction
  - a. Epiglottitis
  - b. Laryngospasm
  - c. Facial trauma/burns
  - d. Laryngeal edema
  - e. Fractured larynx
  - f. Foreign body obstruction
- 3. Identify components of the QuickTrach Cricothyrotomy Kit
  - a. 1 QuickTrach Syringe with stopper
  - b. 1 Connecting tube with 15 mm adapter
  - c. 1 Cushion neckband

Insertion Procedure

- Demonstrate body substance isolation (BSI) procedures
- 2. Select appropriate size for the QuickTrach Cricothyrotomy Kit
  - a. 2.0 mm for patients for Peds
  - b. 4.0 mm for patients for adults
- 3. Place patient in a supine position and assure stable positioning of the nec k and hyperextend the neck (unless cervical spine injury suspected).
- 4. Secure the larynx laterally between thumb and forefinger. Fine the cricoid membrane (in midline between the thyroid cartilage and the cricoid cartilage). This is the puncture site.
- 5. Prep site by vigorously scrubbing with appropriate prep solution.
- 6. Firmly hold device and puncture the cricoid membrane at a 90 degree angle.
- 7. After puncturing the cricoid membrane, check the entry of the needle into the trachea by aspirating air through a syringe. If air is present, the needle is within the trachea.
- 8. Now change the angle of insertion to 45 degrees (from the head) and advance the device forward into the trachea to the level of the stopper. The stopper reduces the risk of inserting the needle too deeply and causing damage to the rear wall of the trachea.
- 9. Should no aspiration of air be possible because of an extremely thick neck, it is possible to remove the stopper and carefully insert the needle further until entrance into the trachea is made.
- 10. Remove stopper. After stopper is removed, be careful not to advance device further with needle still attached.
- 11. Hold the needle and syringe firmly and slide only the plastic cannula along the needle into the trachea until the flange rests on the neck. Carefully remove the needle and syringe.
- 12. Secure the cannula with the neck strap.
- 13. Apply connecting tube to 15 mm connection and connect the other end to BVM resuscitation bag or ventilation circuit.
- 14. Ventilate patient.

Spinal Immobilization

Indications (Currently under review)

- The exam exhibits acute neurological deficit.
- There is altered mental status due to head injury, shock, or intoxication from alcohol or other drugs.
- There is the presence of spinal pain or tenderness (cervical or other).
- The patient is unconscious.
- There was a high-risk mechanism of injury.
  - High speed motor vehicle accident
  - Fall from > 10 feet
  - Drowning
- Head or face injury.
- Multiple skeletal injuries.
- Competitive pain from a non-spinal injury (i.e. burn, fracture, laceration, contusion) that may mask the spinal injury.

Procedure

- Check ABCs.
- Place patient in rigid Cervical Collar.
- Place patient in a supine position on a long spine board.
- Secure patient to spine board, with straps, towel rolls or blankets (not sandbags) and tape (or equivalent), so patient's head, torso and extremities are secure to board.
- Elevate head or foot end of board if indicated, and be prepared to aggressively manage airway with suction, intubation, etc.
- Initiate ALS as indicated.

Suctioning, Endotracheal or Tracheostomy (1 of 3)

Indications

- To maintain the patency of an artificial airway.
- To remove secretions via an endotracheal or tracheostomy tube, which may obstruct the airways and cause hypoxia, pneumonia, bronchitis, or atelectasis.
- To stimulate a deep cough reflex in patients who are sedated or neurologically impaired in order to immobilize secretions of the larger airways.
- To prevent aspiration of gastric fluids or blood.

Contraindications and Cautions

- Suctioning may exacerbate increased intracranial pressure or severe hypertension.
- Do not deflate the cuff before suctioning. The inflated cuff assists in preventing aspiration of any contents into the lungs if the gag reflex is stimulated and vomiting occurs. Position the patient in a semi-fowlers position to eliminate the risk of aspiration (if not contraindicated).
- To prevent hypoxia, suctioning should not exceed 10-15 seconds.
- If the patient is on a ventilator and receiving PEEP, a PEEP adapter can be attached to the BVM to prevent interruption of maximum oxygenation.
- Suction a patient only as needed. Limiting suctioning prevents excessive mucosal damage and decreases the exposure to infection.
- Using 3-10 ml of saline is controversial. Research indicates this practice has little or no value for thinning and mobilizing secretions.

Suctioning, Endotracheal or Tracheostomy (2 of 3)

Procedural Steps

- Assemble all equipment. Check the suction unit and the tubing connections.
- Set the suction gauge between 80-100 mmHg. Full suction is no longer recommended. Pressures over 100-mmHg increase the trauma to the patient and are no more effective at mobilizing secretions. To test the amount of suction being delivered, occlude the tubing.
- Select a suction catheter that is no larger than one half the diameter of the ET or trach tube. *Trach-Specific Method: If the patient has a double-walled trach, remove the inner cannula and place in a saline filled basin during the procedure. The inner cannula may be cleaned with hydrogen peroxide and a pipe cleaner. Rinse the inner cannula in saline and shake it dry before reinserting it.*
- Attach the suction catheter to the connecting tubing. Hold the suction catheter in you dominant hand, which must remain sterile. Use your other hand to control the suction vent. This hand is considered clean (wear sterile gloves).
- Remove the patient from the ventilator or T-piece, pre-oxygenate with high flow oxygen for 1 minute or 6-8 breaths.
- Lubricate the tip of the catheter into saline and aspirate a small amount to lubricate the catheter.
- Hold the tube stable to prevent excessive movement or displacement.
- Gently insert the catheter through the tube until resistance is met. Pull the catheter back 1-2 cm. Do not apply suction during the introduction of the catheter.
- Withdraw the catheter slowly while applying intermittent suction and rotating the catheter.
- Hyperventilate the patient.
- Rinse the catheter and repeat if necessary.
- Reconnect the patient to the ventilator or T-piece.

Closed Suction Systems

- The closed suction system device is placed between the ET or trach tube and the ventilator or T-piece to permit suctioning without interruption in oxygenation or ventilation. The attached sheathed suction catheter passes through a seal into the tracheal tube and is associated with fewer physiologic disturbances because oxygenation can continue.
- Attach the suction connecting tubing to the open end of the closed suction system near the lock.
- Depress the suction control valve and set the suction gauge between 80-100 mmHg.
- Connect the T-piece of the suction system to the ventilator tubing and then attach the t-piece to the ET or trach tube.
- Use your non-dominant hand to stabilize the T-piece and gently advance sleeved catheter through the tracheal tube with your dominant hand.
- Use your dominant hand to grasp the suction control valve. Depress the valve intermittently while withdrawing the suction catheter in a straight motion. Be sure to withdraw the catheter completely to prevent occlusion or irritation of the airway.
- Repeat suctioning as needed. Flush the catheter by instilling sterile water or saline through the irrigation port. A self-sealing system prevents the fluid from entering the tracheal tube.

Suctioning, Endotracheal or Tracheostomy (3 of 3)

- After flushing, lock the catheter by turning the suction control valve to lock.
- Repeat suctioning if necessary allowing the patient to rest 1 minute to prevent de-saturation.

Age Specific Complications

- In an infant, deep suctioning may precipitate atelectasis or pneumothorax by occluding the distal airway. The result could be the collapse of the distal lobe or segment.
- Monitor the heart rate in children during suctioning because vagal stimulation may cause bradycardia. Bradycardia can usually be quickly reversed in children with the administration of supplemental oxygen.

Complications

- Prolonged suctioning may cause hypoxia or atelectasis.
- Suctioning may create a feeling of suffocation in a patient and lead to increased anxiety.
- Improper technique can lead to mucosal trauma.
- A URI may result from colonization of the airways with bacteria.
- Suctioning may stimulate a vagal response resulting in hypotension and bradycardia.
- Hypoxia, hypercarbia, or stimulation of the cough reflex during ET or trach suctioning increases intercranial pressure.
- Patients on anticoagulants or thrombolytics may have blood-tinged secretions. Suctioning should be limited in these patients.

12 Lead EKG (1 of 2)

Indications for 12 Lead EKG

1. Chest pain suggestive of cardiac ischemia

2. Anginal equivalent (no other explanation)
   - ● Neck pain ● Syncope/near syncope
   - ● Jaw pain ● Unexplained weakness
   - ● Arm/shoulder pain ● Unexplained SOB
   - ● Palpitations

Indications for Right-Sided EKG

1. Inferior MI

2. Clinical signs of right sided infarction (hypotension, JVD)

Procedure

1. Clean and shave area as indicated. Enter the patients age and last name for identifiers.

2. For routine EKG (left-sided), place electrodes as follows:
   - LA (black): left upper anterior chest
   - LL (red): left lower anterior chest
   - RA (white): right upper anterior chest
   - RL (green): right lower anterior chest
   - V1: Fourth intercostal space at the right sternal border
   - V2: Fourth intercostal space at the left sternal border
   - V3: Midway between V2 and V4
   - V4: Fifth intercostal space at the left midclavicular line
   - V5: Left anterior axillary line, level of V4 (5th intercostal space)
   - V6: Left midaxillary line, level of V4 (5th intercostal space)

12 Lead EKG (2 of 2)

3. For right sided EKG (mirror image of left-sided EKG), change the location of the V leads as follows:

- V1R: Fourth intercostal space at left sternal border
- V2R: Fourth intercostal space at right sternal border
- V3R: Midway between V2R and V4R
- V4R: Fifth intercostal space at right midclavicular line
- V5R: Fifth intercostal space at right anterior axillary line
- V6R: Fifth intercostal space at right midaxillary line

Transmission to St. Mary Medical Center E.R.:

- Once the 12-lead has been acquired and printed out, place the EKG on a flat surface and utilizing the smart-phone, obtain a close-up photograph of the 12-lead. If the photo quality is acceptable, immediately forward the photo to ***erdoctor@comhs.org Then, follow up with your routine medical report while enroute, and advise them of your email. If it appears to be a STEMI or other noteworthy rhythm, please contact the ER ASAP and advise them of your email. Document your 12-lead transmission in the narrative of your PCR.***

IV Starts for Facilities (1 of 2)

EMS GUIDELINES
St. Mary Medical Center

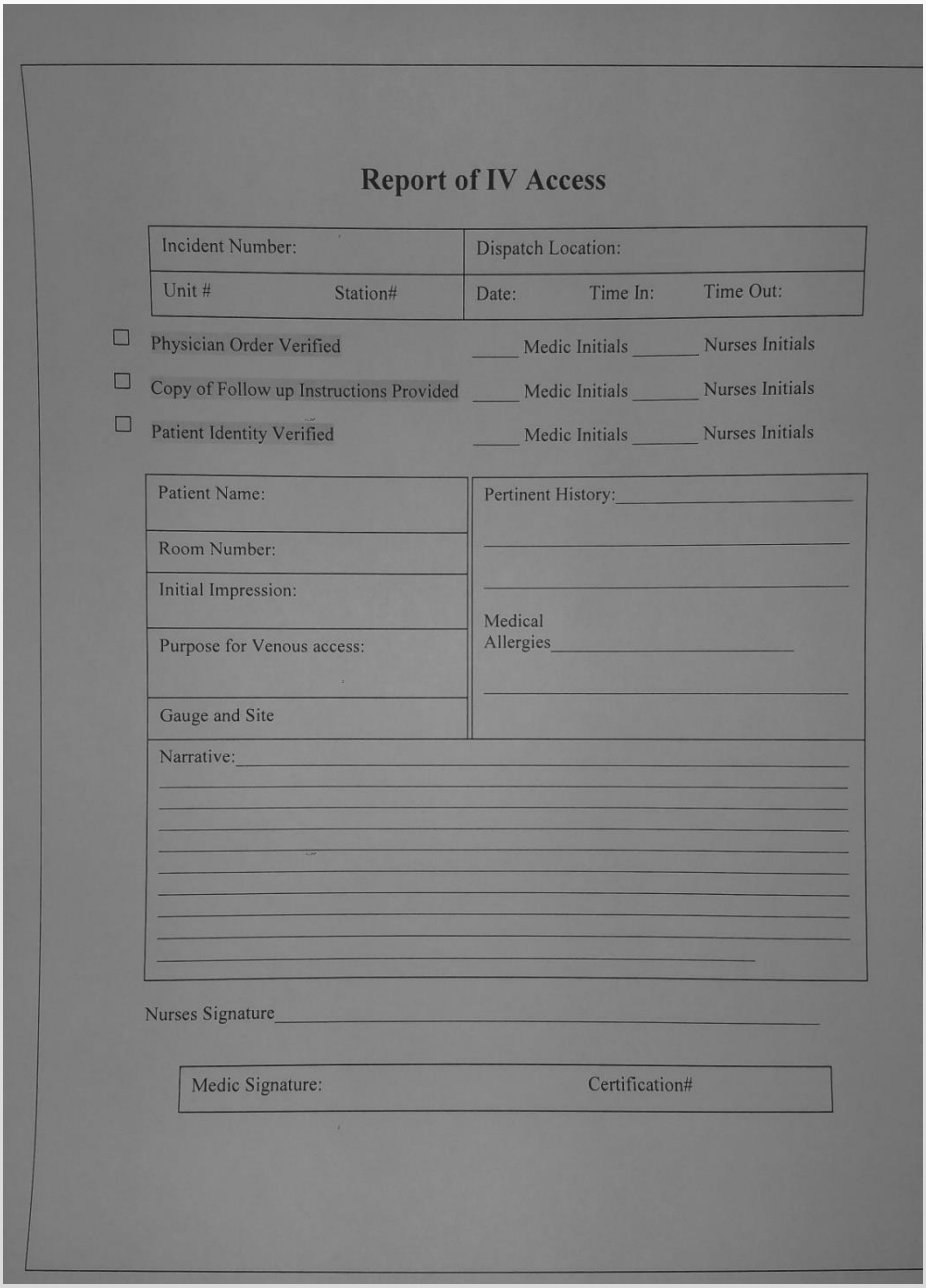
TITLE:	*DEPARTMENT:*		
Nursing Home I.V. Starts	***EMS***	*Date Issued:*	*2006*
		Date Revised:	

Purpose:
Due to nursing home requests, Paramedics starting I.V.'s in nursing homes without transporting patients.

General Information:
1.0 This guideline will allow Paramedics to start I.V.'s within the nursing home setting for the nursing home staff to provide I.V. therapy for their patients.
2.0 This procedure is an "As Needed" basis, when the only reason for the transport would be for an I.V. start.

Procedure:
1.0 Initiation of I.V. Saline Lock.:
- 1.1 Assess and review documentation of need for I.V. Initiation
- 1.2 If verified no other medical need or need for transport is assessed
- 1.3 Initiate I.V. per standard protocol using "Saline Lock" procedure.

IV Starts for Facilities (2 of 2)



Report of IV Access

Incident Number:	Dispatch Location:
Unit # Station#	Date: Time In: Time Out:

☐ Physician Order Verified _____ Medic Initials _____ Nurses Initials

☐ Copy of Follow up Instructions Provided _____ Medic Initials _____ Nurses Initials

☐ Patient Identity Verified _____ Medic Initials _____ Nurses Initials

Patient Name:	Pertinent History:_____
Room Number:	
Initial Impression:	
Purpose for Venous access:	Medical Allergies_____
Gauge and Site	

Narrative:_____

Nurses Signature_____

Medic Signature:	Certification#

IV Maintenance Follow Instructions

- Access and administration of solutions:
  - Assure proper medication or solution.
  - Check for date and clarity.
  - Clean hub
  - Administer med or solution at proper push/drip rate.
  - If IVP follow up with saline flush.

- Important Points:
  - Check for and maintain patency.
  - Watch for irritation indicative of phlebitis.
  - Watch for infiltration: Be especially vigilant when administering
  - solutions such as D50, Vancomycin, and Dopamine.
  - Keep site clean and secure.
  - *IV sites are good for 72 hours consult M.D. for extended periods*

Carbon Monoxide Monitoring (Non-Invasive)

- SpCO monitoring should be included in any emergency worker rehab or civilian exposure where *any levels of CO are present.*
- **SpCO Measurements and Interpretation**
- **SpCO Level Interpretation Signs and Symptoms**

<3%	Normal levels (Non-Smoker)	None
4%-11%	Minimal Levels	Usually none; possibly mild headache or nausea
12-20%	Mild Exposure	Headache, N/V, dizziness, blurred vision
21-40%	Moderate Exposure	Confusion, syncope, chest pain, weakness, rapid HR
41-59%	Severe Exposure	Dysrhythmias, hypotension, MI, respiratory arrest, seizures, coma, pulmonary edema, cardiac arrest
>60%	Fatal Death 100% of the time	

- Treatment should begin at a minimum of mild exposure (12%), but may begin at any levels that the patient is experiencing symptoms.
- High concentration 02 should be administered immediately. Be prepared to treat complications such as seizures, hypotension, etc.
- Patients with moderate to severe CO poisoning benefit from hyperbaric chamber therapy. Notify the receiving ED ASAP.

- Nitro tabs 0.4mg 2 bottles
- Benadryl 50mg 2
- Albuterol 2.5mg 3
- Atrovent .5mg/2.5cc 3
- Narcan 2mg 12
- Epi 1:1000 1mg 3
- Lasix 100mg/10ml 2
- Solumedrol 125mg 2
- Glucagon 1mg 2
- Adenocard 6 mg 8
- Dopamine 250cc bag 1
- Ammonia Caps 3
- D50 1 amp 2
- D25 1 amp 2
- Lidocaine 100 mg 3
- Atropine 1mg 3
- Epi 1:10,000 1mg 9
- Epi 1:1000 30mg 1
- Lidocaine 2g bag 1
- Sodium Bicarb 50mEq/50cc 2
- 8.4% Sodium Bicarb 10mEq/10mL 2
- ASA (Bottle)-chewable 81mg/tab 1
- Mag Sulfate 1g 2
- Amiodarone 150 mg/3ml 5
- Oral Glucose 37.5gm 2
- Zofran 4mg 2
- Zofran 4mg ODT 2
- Toradol 30mg/ml 2
- Cardizem 50mg/10ml 2
- Metoprolol 5mg/5ml 3
- Tetracaine (bottle) 0.50% 1
- Thiamine 100mg 2
- Calcium Chloride 1gm/10mL 2
- Active Charcoal 50gm 1
- Tylenol 15 mg/ ml 1 gram max oral liquid 2
- Dexamethasone 20mg/5ml 2
- Succynocholine 200mg/10ml 2
- Etomidate 20mg/10ml 2
- Haldol 5mg/1ml 3
- Rocuronium 10mg/5ml 4

Paramedic

Controlled Substances contained in lock box

- Morphine 10mg 3
- Versed 5mg/1ml 6
- Fentanyl 100mcg/ 1 ml 4
- Ketamine 10mg/ml 20 ml 2

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SMMC EMS Medical Director

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- Narcan 2mg 12
- Epi 1:1000 1mg 3
- Ammonia Caps 3
- D50 1 amp 2
- Epi 1:10,000 1mg 9
- Epi 1:1000 30mg 1
- ASA (Bottle)-chewable 81mg/tab 1
- Oral Glucose 37.5gm 2
- Zofran 4mg ODT 2
- Toradol 30mg/ml 2
- Active Charcoal 50gm 1
- Tylenol 15 mg/ ml 1 gram max oral liquid 2

EMT - ADVANCED

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- Narcan 2mg 3
- Epi 1:1000 1mg 3
- Ammonia Caps 3
- ASA (Bottle)-chewable 81mg/tab 1
- Oral Glucose 37.5gm 2
- Active Charcoal 50gm 1
- Tylenol 15 mg/ ml 1 gram max oral liquid 2

EMT

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