CLARK COUNTY EMS SYSTEM
EMERGENCY MEDICAL CARE
PROTOCOLS

EFFECTIVE: June 1, 2017

(Replaces March 29, 2017 Version)

PO BOX 3902 – LAS VEGAS, NV 89127

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PROCEDURES PROTOCOLS (Cont.)

FOREWORD

EMERGENCY MEDICAL SERVICES
PROTOCOL MANUAL

Optimal prehospital care results from a combination of careful patient assessment, essential prehospital emergency medical services, and appropriate medical consultation. The purpose of this manual is to provide guidance for ***ALL*** prehospital care providers and emergency department physicians within the Clark County EMS System.

The ***GOAL*** of the manual is to ***STANDARDIZE*** prehospital patient care in Clark County. It is to be understood that these protocols are guidelines. Nothing contained in these protocols shall be construed to expand the scope of practice of any licensed Attendant beyond that which is identified in the Clark County Emergency Medical Services Regulations and these protocols (Appendix B).

NOTHING contained within these protocols is meant to delay rapid patient transport to a receiving facility. Patient care should be rendered while en-route to a definitive treatment facility.

The General Assessment protocols must be followed in the specific sequence noted. For all other treatment protocols, the algorithm defines the care every patient should receive, usually in the order described.

To maintain the life of a specific patient, it may be necessary, in rare instances, for the physician providing on-line medical consultation, as part of the EMS consultation system, to direct a prehospital provider in rendering care that is not explicitly listed within these protocols, to include administering a patient's own medications which are not part of the approved formulary. To proceed with such an order, both the telemetry physician and the provider must acknowledge and agree that the patient's condition and extraordinary care are not addressed elsewhere within these medical protocols, and that the order is in the best interest of patient care. Additionally, the provider must feel capable, based on the instructions given by the telemetry physician, of correctly performing the directed care. Whenever such care is provided, the telemetry physician and the provider must immediately notify the Office of EMS & Trauma System (OEMSTS) of the extraordinary care situation. In addition, the provider must immediately, upon completion of the call, make available the prehospital care record and documentation specifying the nature of the deviation and the ordering physician's name to the OEMSTS. All such incidents will be entered into the Quality Improvement Review process.

Occasionally a situation may arise in which a physician's order cannot be carried out, e.g., the provider feels the administration of an ordered medication would endanger the patient, a medication is not available, or a physician's order is outside of protocol. If this occurs, the provider must immediately notify the telemetry physician as to the reason the order cannot be carried out, and indicate on the prehospital care record what was ordered, the time, and the reason the order could not be carried out. In addition, the provider must immediately notify the OEMSTS, and upon completion of the call, make available the prehospital care record to the OEMSTS. All such incidents will be entered into the Quality Improvement Review process.

Protocol Key:

 Caution / Warning / Alert

 Pediatric Treatment Consideration (for patients less than 12 years of age)

 Telemetry Contact Required

 Specific Protocol

E EMT Licensed Attendant and above may perform these steps

A AEMT Licensed Attendant and above may perform these steps

P Paramedic Licensed Attendant

Definition of a patient:

A patient is any individual that meets at least one of the following criteria:

1) A person who has a complaint or mechanism suggestive of potential illness or injury;
2) A person who has obvious evidence of illness or injury; or
3) A person identified by an informed 2nd or 3rd party caller as requiring evaluation for potential illness or injury.

Pediatric patient considerations:

For patients <18 years old, use the Pediatric Patient Destination protocol.

Pediatric treatment protocols are to be used on children who have not yet experienced puberty. Signs of puberty include chest or underarm hair on males, and any breast development in females.

These protocols have been developed specifically for the Clark County EMS System and represent consensus among all of the Clark County EMS agency medical directors and the Chief Health Officer. The protocols demonstrate a commitment to a consistent approach to quality patient care.

From time to time, protocols may be added or revised by the Chief Health Officer upon recommendation by the Medical Advisory Board (MAB). Additional recommendations are welcome and appreciated at any time. They may be submitted to the OEMSTS for consideration and referral to the Medical Advisory Board.

Southern Nevada Health District
Office of Emergency Medical Services & Trauma System
P.O. Box 3902
Las Vegas, Nevada 89127

Physical address:
280 S Decatur Blvd
Las Vegas, NV 89152
Office Hours: Mon-Fri 8:00 am to 4:30 pm

Questions may also be telephoned to EMS staff at (702) 759-1050, or visit our website at http://www.southernnevadahealthdistrict.org/ems/index.php.

Chief Health Officer: Joseph P. Iser, MD, DrPh, MSc

EMS Agency Medical Directors who serve on the Medical Advisory Board:

Christian Young, MD, (Interim) Boulder City Fire Department
Dale Carrison, DO, Clark County Fire Department
Tressa Naik, MD, Henderson Fire Department
David Slattery, MD, FACEP, Las Vegas Fire & Rescue
Jarrod Johnson, MD, Mesquite Fire & Rescue
Alexander Malone, MD, North Las Vegas Fire Department
Edwin Homansky, MD, & Mike Barnum, MD, American Medical Response
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Special Thanks:

The OEMSTS and MAB would like to express appreciation to Dr. Kelly Morgan for her leadership and commitment to the development of this manual.

Hospitals:

Boulder City Hospital: 901 Adams Blvd, Boulder City, NV 89005 (702) 293-4111
Centennial Hills Hospital: 6900 N Durango Dr, Las Vegas, NV 89149 (702) 629-1210
Desert Springs Hospital Medical Center: 2075 E Flamingo Blvd, Las Vegas, NV 89119 (702) 369-7772
Henderson Hospital: 1050 Galleria Drive, Henderson, NV 89011 (702) 963-7000
Mesa View Regional Hospital: 1299 Bertha Howe Ave, Mesquite, NV 89027 (702) 756-3408
Mike O'Callaghan Federal Medical Center: 4700 N Las Vegas Blvd, Las Vegas, NV 89115 702) 653-3682
MountainView Hospital: 3100 N Tenaya, Las Vegas, NV 89128 (702) 345-4270
North Vista: 1409 E Lake Mead Blvd North, Las Vegas, NV 89030 (702) 657-5512
Southern Hills Hospital: 9300 W Sunset, Las Vegas, NV 89148 (702) 880-2800
Spring Valley Hospital & Medical Center: 5400 S Rainbow, Las Vegas, NV 89118 (702) 853-3611
St. Rose De Lima: 102 E Lake Mead Dr, Henderson, NV 89015 (702) 616-4600
St Rose San Martin: 8280 W Warm Springs, Las Vegas, NV 89113 (702) 492-8600
St Rose Siena: 3001 St Rose Pkwy, Henderson, NV 89052 (702) 616-5600
Summerlin Hospital Medical Center: 657 N Town Center Dr, Las Vegas, NV 89144 (702) 233-7000
Sunrise Hospital & Medical Center: 3186 S Maryland Pkwy, Las Vegas, NV 89106 (702) 731-8000
University Medical Center: 1800 W Charleston Las Vegas, NV 89102 (702) 383-2211

TERMS AND CONVENTIONS

AED	means Automated External Defibrillator
AMPLE	means Allergies; Medications; Prior history; Last meal eaten; Events leading up to injury/illness
AMS	means Altered Mental Status
ASA	means Acetylsalicylic Acid
BG	means Blood Glucose
BP	means Blood Pressure
BVM	means Bag-Valve-Mask
CCC	means Continuous Cardiac Compressions
CHF	means Congestive Heart Failure
COPD	means Chronic Obstructive Pulmonary Disease
CP	means Chest Pain
CPR	means Cardiopulmonary Resuscitation
CVA	means Cardiovascular Accident
DCAP-BTLS	means Deformities; Contusions; Abrasions; Punctures/Penetrations; Burns; Tenderness; Lacerations; Swelling
DKA	means Diabetic Ketoacidosis
ECG	means Electrocardiogram
ETA	means Estimated Time of Arrival
ETT	means Endotracheal Tube
GCS	means Glasgow Coma Scale
GU	means Genitourinary
HEENT	means Head, Ears, Eyes, Nose, Throat
HPI	means History of Present Illness
HR	means Heart Rate
ICP	means Intracranial Pressure
IM	means Intramuscular
IN	means Intranasal
IO	means Intraosseous
IV	means Intravenous
IVP	means Intravenous Push
IVPB	means Intravenous Piggyback
JVD	means Jugular Venous Distention

MAD	means Mucosal Atomizer Device
MI	means Myocardial Infarction
MOI	means Mechanism of Injury
NRB	means Non-rebreather
NS	means Normal Saline
NV	means Nausea/Vomiting
OEMSTS	means Office of Emergency Medical Services & Trauma System
OPQRST	means Onset; Provokes; Quality; Radiates; Severity; Time (used in evaluating localized pain)
PCI	means Percutaneous Coronary Intervention
PCR	means Patient Care Record/Report
PO	means By Mouth
PRN	means As Needed
q	means Every
ROSC	means Return of Spontaneous Circulation
RR	means Respiratory Rate
RUQ	means Right Upper Quadrant
SAMPLE	means Symptoms; Allergies; Medications; Prior history; Last meal eaten; Events leading up to injury/illness
SL	means Sublingual
SOB	means Shortness of Breath
S/P	means Status/Post
SQ	means Subcutaneous
S/S	means Signs/Symptoms
SVT	means Supraventricular Tachycardia
TCAs	means Tricyclic Antidepressants
TFTC	means Trauma Field Triage Criteria
TIA	means Transient Ischemic Attack
TKO/KVO	means To Keep Open/Keep Vein Open
VF	means Ventricular Fibrillation
VT	means Ventricular Tachycardia
VS	means Vital Signs
WPW	means Wolff-Parkinson-White Syndrome

ADULT TREATMENT PROTOCOLS

General Adult Assessment

Scene Safety / Scene Size-Up
Nature of Call / Mechanism of Injury
PPE / BSI
Bring all equipment to patient's side

→ S.T.A.R.T. Triage

Level of Consciousness	Unresponsive →	Check Pulse	None → Cardiac Arrest
Airway	Signs of Compromise or Not Protecting →		Ventilation Management
Breathing	Inadequate or Respiratory Distress →		Respiratory Distress
Circulation	Bleeding →		General Trauma
Disability	Altered or Confused →		Altered Mental Status/ Syncope

	History – HPI & AMPLE
	Vital Signs & Physical Exam
E	Blood glucose testing as indicated
	Specific treatment protocol as indicated
	Cervical Stabilization as indicated
	Comfort measures (splint, position of comfort)
P	Cardiac monitor as indicated
A	Vascular Access as indicated
	Oxygen therapy to keep SpO_2 ≥94%
P	Pain Management as indicated

Radio Contact for all Trauma Center patients, Code 3 returns; need for telemetry physician & as per protocol

Transport per Disposition Criteria, if applicable

→ Transport to closest facility for:
- Airway emergencies (inability to adequately ventilate)

Pearls

- For all scenes where patient needs exceed available EMS resources, initial assessment and treatment shall be in accordance with an approved triage methodology.
- Correct life-threatening problems as identified.
- If the ability to adequately ventilate a patient cannot be established, the patient must be transported to the nearest emergency department.
- Never withhold oxygen from a patient in respiratory distress.
- Contact with online medical control should be established by radio. Telephone contact may only be used if the call is routed via a recorded phone patch through FAO at 702-382-9007.

Disposition

- Patients sustaining traumatic injuries shall be transported in accordance with the Trauma Field Triage Criteria Protocol.
- Patients sustaining burn injuries shall be transported in accordance with the Burns Protocol.
- Pediatric patients (<18 y/o for transport purposes only) shall be transported in accordance with the Pediatric Destination Protocol.
- Patients with evidence of a stroke shall be transported in accordance with the Stroke (CVA) Protocol.
- Sexual assault victims <13 y/o shall be transported to Sunrise Hospital.
- Sexual assault victims 13 y/o up to 18 y/o shall be transported to Sunrise Hospital or UMC.
- Sexual assault victims 18 y/o and older shall be transported to UMC.
- For sexual assault victims outside a 50-mile radius from the above facilities, the patient shall be transported to the nearest appropriate facility.
- Stable patients shall be transported to the hospital of their choice, if the patient has no preference the patient should be transported to the closest facility.
- For patients outside a 50 mile radius from protocol designated transport destinations, the licensee providing emergency medical care shall transport the patient to the nearest appropriate facility.

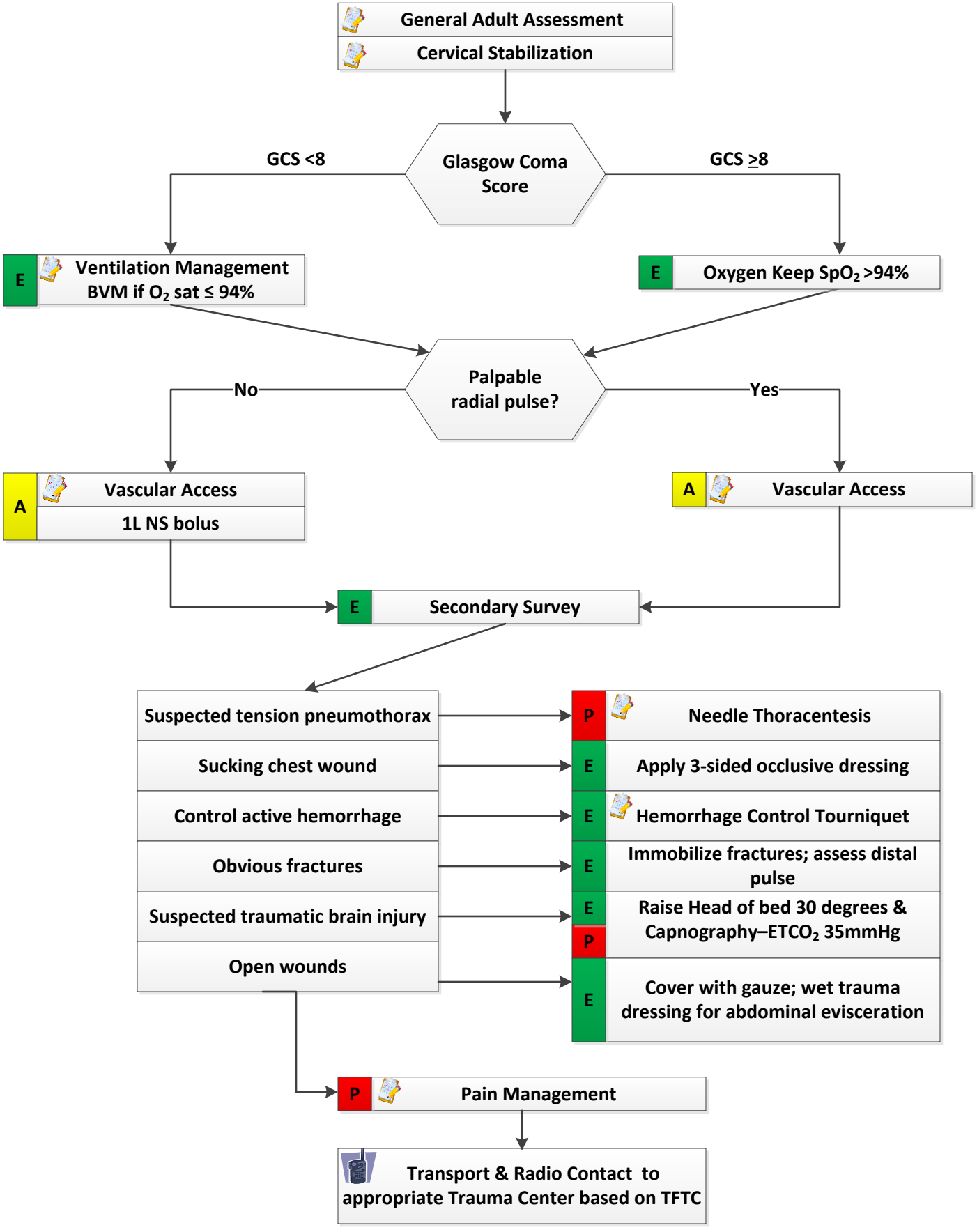
Waiting Room Placement

- A patient not on a legal psychiatric hold meeting all of the following criteria may be placed in the hospital waiting room or other appropriate location:
- HR 60 - 100
- RR 10 - 20
- Systolic BP 100 - 180
- Diastolic BP 60 - 100
- Room air pulse oximetry >94%
- Alert and oriented x 4
- Did NOT receive any parenteral medication during EMS transport except a single dose of Morphine Sulfate and/or Ondansetron.
- In the opinion of the Paramedic/EMT-P, does not require continuous ECG monitoring. Note: Any ECG monitoring initiated by a transferring facility may not be discontinued by EMS personnel.
- Does not require IV fluids (saline lock is permissible).
- Can maintain a sitting position without adverse effects on their medical condition.
- A complete PCR is left/transmitted and verbal notification given to hospital personnel.

Internal Disaster

- If a hospital declares an internal disaster, that facility is to be bypassed for all patients except patients in cardiac arrest or in whom the ability to adequately ventilate has not been established.
- Operational exceptions may be initiated in regard to transport to hospitals on internal disaster.

General Adult Trauma Assessment



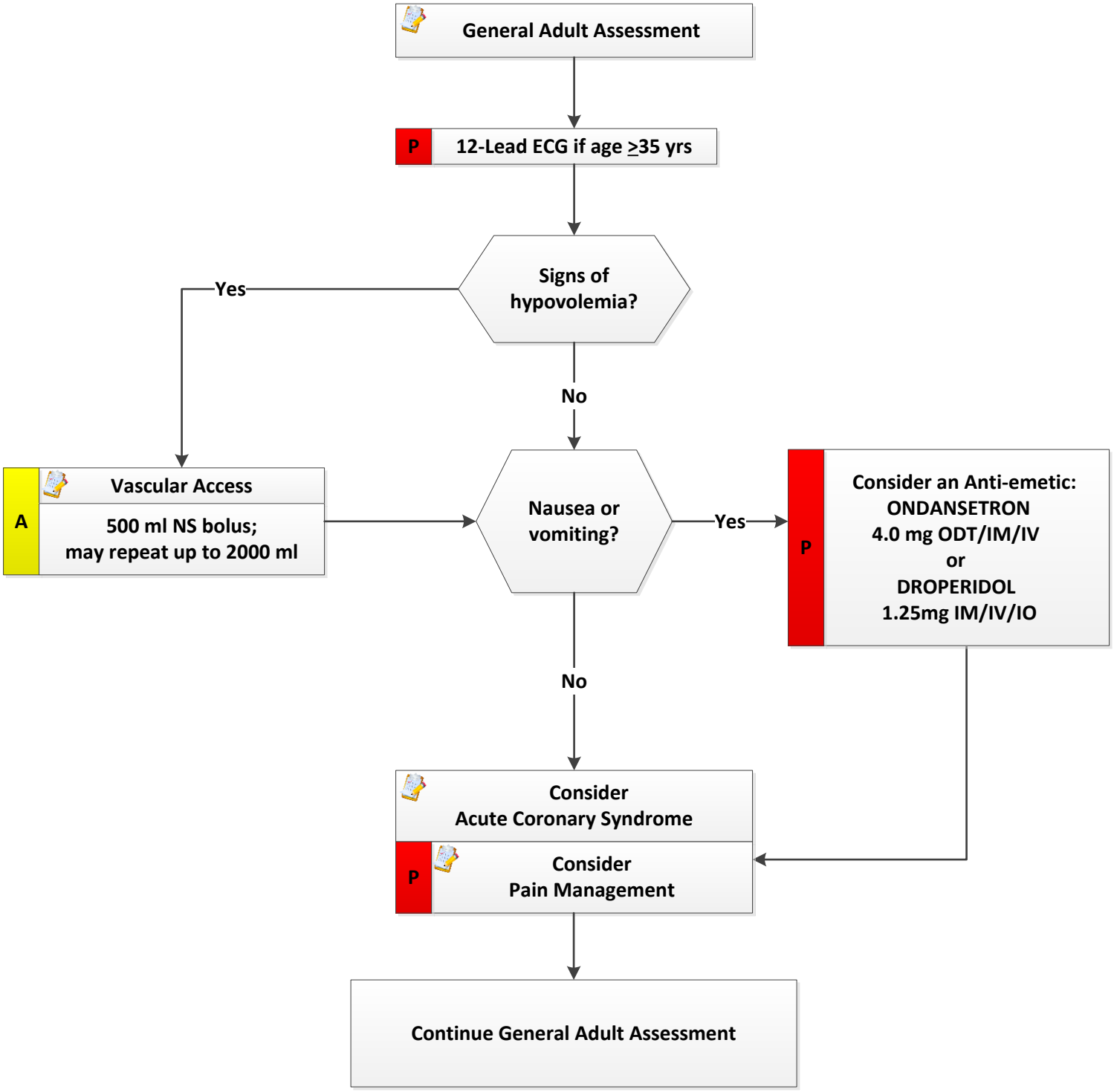
History
- Time and mechanism of injury
- Damage to structure or vehicle
- Location in structure or vehicle
- Others injured or dead
- Speed and details of MVC
- Restraints/protective equipment
- Past medical history
- Medications

Signs and Symptoms
- Pain, Swelling
- Deformity, lesions, bleeding
- AMS or unconscious
- Hypotension or shock
- Arrest

Differential (life threatening)
- Tension pneumothorax
- Flail chest
- Pericardial tamponade
- Open chest wound
- Hemothorax
- Intra-abdominal bleeding
- Pelvis/femur fracture
- Spine fracture/cord injury
- Head injury
- Extremity fracture
- HEENT (airway obstruction)
- Hypothermia

Pearls
- Recommended exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Back, Neuro.
- Transport destination is based on the Trauma Field Triage Criteria Protocol.
- Transport should not be delayed for procedures; ideally procedures should be performed enroute when possible.
- BVM is an acceptable method of ventilating and managing an airway if pulse oximetery can be maintained ≥90%.
- Geriatric patients should be evaluated with a high index of suspicion; occult injuries may be present and geriatric patients can decompensate quickly.

Abdominal / Flank Pain, Nausea & Vomiting



History
- Age
- Medical/surgical history
- Onset
- Quality
- Severity
- Fever
- Menstrual history

Signs and Symptoms
- Pain location
- Tenderness
- Nausea
- Vomiting
- Diarrhea
- Dysuria
- Constipation
- Vaginal bleeding/discharge
- Pregnancy

Differential
- Liver (Hepatitis)
- Gastritis
- Gallbladder
- MI
- Pancreatitis
- Kidney stone
- Abdominal aneurysm
- Appendicitis
- Bladder/prostate disorder
- Pelvic (PID, ectopic pregnancy, ovarian cyst)
- Spleen enlargement
- Bowel obstruction
- Gastroenteritis
- Ovarian and testicular torsion

Pearls
- Recommended Exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Back, Extremities, Neuro.
- Neuro disorders or signs of hypoperfusion/shock in the presence of abdominal pain may indicate an aneurysm.
- Document mental status and vital signs prior to administration of anti-emetics & pain management.
- Repeat vital signs after each fluid bolus
- In patients ≥35 years old consider cardiac origin. Perform a 12-Lead ECG.
- Consider retroperitoneal palpation for kidney pain.
- Abdominal pain in women of childbearing age should be considered pregnancy until proven otherwise.

Acute Coronary Syndrome (Suspected)

General Adult Assessment

P 12-Lead ECG

STEMI

A Vascular Access

E Oxygen
Keep SpO_2 >94%

E ASPIRIN
324 mg PO

NITROGLYCERIN

E Assist pt with own NTG as prescribed; may repeat x 3

P 0.4 mg SL;
may repeat q 5 min x 3

P Pain Management for continued pain

P Consider Anti-emetic for nausea/vomiting:
ONDANSETRON
4.0 mg ODT/IM/IV
or
DROPERIDOL
1.25 mg IM/IV/IO

Transport to and Notify Receiving Hospital

Non-Diagnostic 12-Lead

A Vascular Access

E Oxygen
Keep SpO_2 >94%

E ASPIRIN
324 mg PO

NITROGLYCERIN

E Assist pt with own NTG as prescribed; may repeat x 3

P 0.4 mg SL;
may repeat q 5 min x 3

P Pain Management for continued pain

P Consider Anti-emetic for nausea/vomiting:
ONDANSETRON
4.0 mg ODT/IM/IV
or
DROPERIDOL
1.25 mg IM/IV/IO

Transport to Hospital of Patient's Choice

Nitroglycerin is contraindicated in any patient with hypotension, bradycardia, tachycardia (HR >100 bpm) in the absence of heart failure, and evidence of a right ventricular infarction. Caution is advised in patients with Inferior Wall STEMI and a right-sided ECG should be performed to evaluate RV infarction.

Refer to Arrhythmia and Shock Protocols as needed

History

- Age
- Medication: Viagra, Levitra, Cialis
- Past medical history of MI, angina, diabetes
- Allergies
- Recent physical exertion
- Palliation, provocation
- Quality
- Region, radiation, referred
- Severity (1-10)
- Time of onset, duration, repetition

Signs and Symptoms

- CP, pressure, ache, vice-like pain, tight
- Location, substernal, epigastric, arm, jaw, neck, shoulder
- Radiation of pain
- Pale, diaphoresis
- Shortness of breath
- Nausea, vomiting, dizziness
- Time of onset

Differential

- Trauma vs medical
- Anginal vs MI
- Pericarditis
- Pulmonary embolism
- Asthma, COPD
- Pneumothorax
- Aortic dissection or aneurysm
- GE reflux or hiatal hernia
- Esophageal spasm
- Chest injury or pain
- Pleural pain
- Drug overdose (cocaine, methamphetamine)

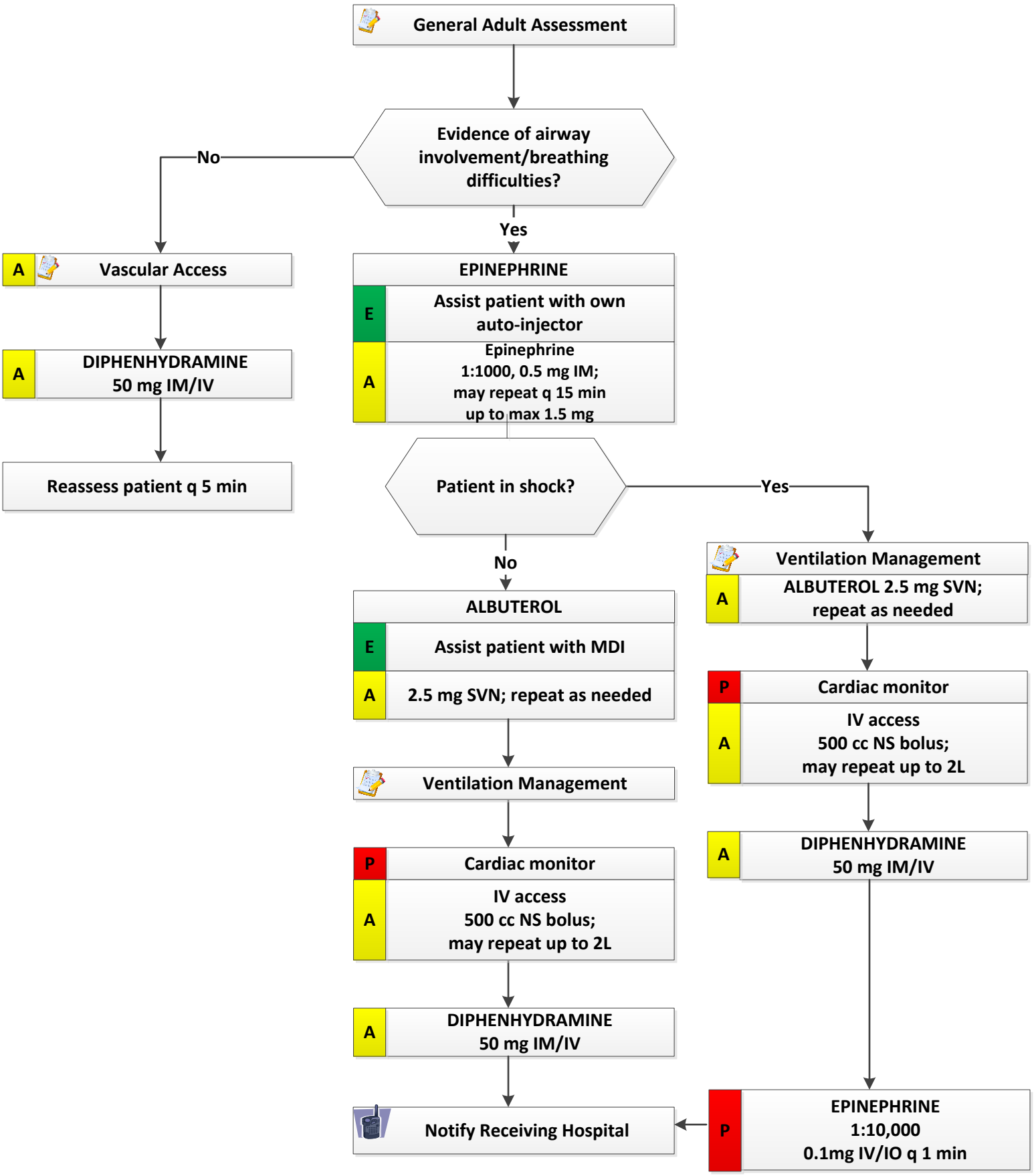
Pearls

- Recommended exam: Mental Status, Skin, HEENT, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- Diabetics, geriatrics and female patients often have atypical pain. Have a high index of suspicion.
- Perform a 12-Lead ECG on all patients 35 years old or older experiencing vague jaw/ chest/abdominal discomfort.
- Perform a 12-Lead ECG as quickly as practicable.

QI Metrics

- 12-Lead ECG within 5 minutes of patient contact.
- Pain reassessed after every intervention.

Allergic Reaction



History
- Onset and location
- Insect sting or bite
- Food allergy/exposure
- Medication allergy/exposure
- New clothing, soap, detergent
- Past history of reactions
- Past medical history
- Medication history

Signs and Symptoms
- Itching or hives
- Coughing/wheezing or respiratory distress
- Throat or chest constriction
- Difficulty swallowing
- Hypotension/shock
- Edema
- Nausea/vomiting

Differential
- Urticarial (rash only)
- Anaphylaxis (systemic effect)
- Shock (vascular effect)
- Angioedema (drug induced)
- Aspiration/airway obstruction
- Asthma/COPD
- CHF

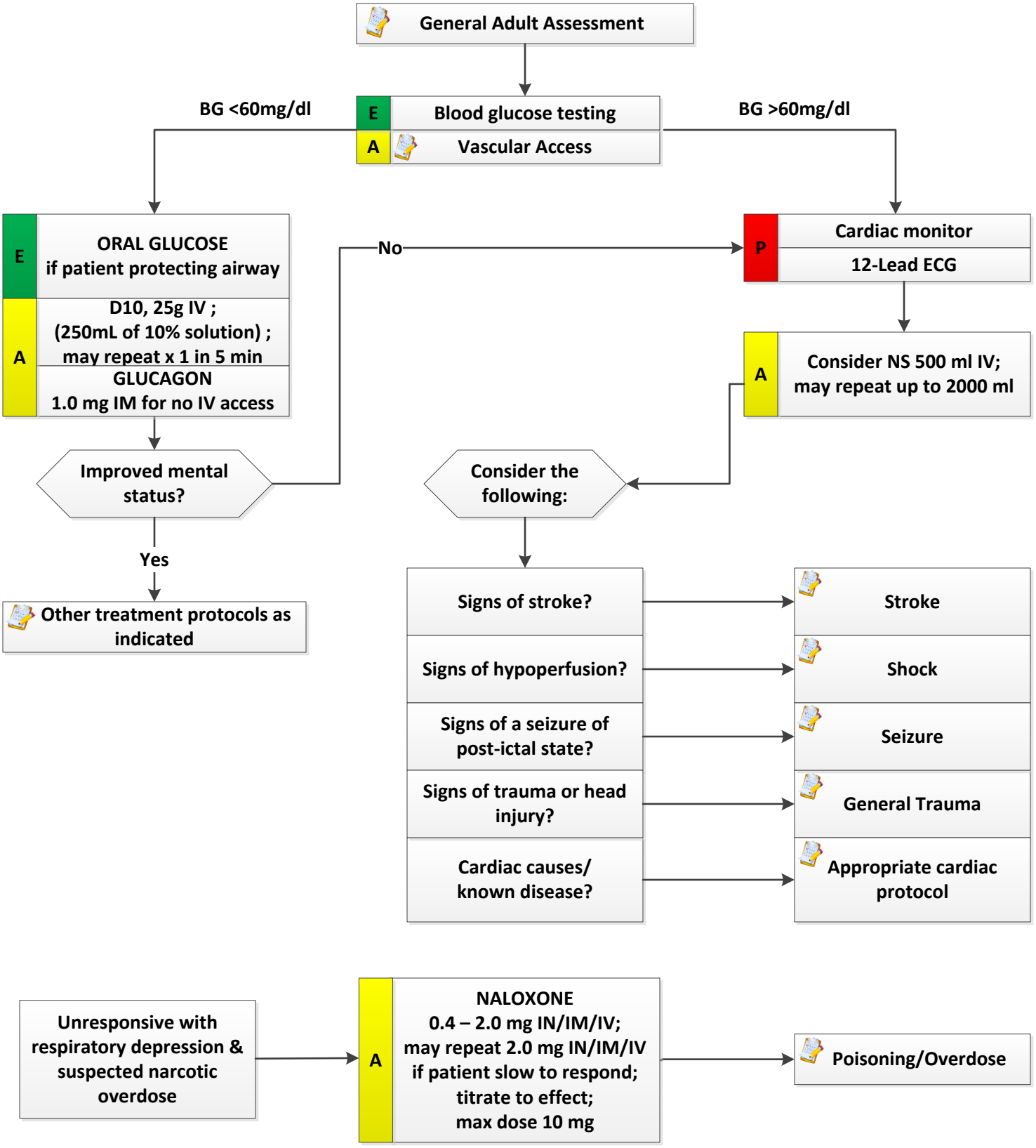
Pearls
- Recommended Exam: Mental Status, Skin, Heart, Lung.
- Anaphylaxis is an acute and potentially lethal multisystem allergic reaction.
- Epinephrine is a first-line drug that should be administered in acute anaphylaxis (moderate / severe symptoms). IM Epinephrine (1:1,000) should be administered in priority before or during attempts at IV or IO access.
- Anaphylaxis refractory to repeat doses of IM Epinephrine may require IV Epinephrine (1:10,000) administration by IV push.
- Contact Medical Control for refractory anaphylaxis.
- Consider $ETCO_2$ monitoring.

Severity
- **Mild** reactions involve skin rashes, itchy sensation, or hives with no respiratory involvement.
- **Moderate** reactions involve skin disorders and may include some respiratory involvement like wheezing, yet the patient still maintains good tidal volume air exchange.
- **Severe** reactions involve skin disorders, respiratory difficulty, and may include hypotension.

Special Considerations
- Always perform ECG monitoring when administering Epinephrine.
- Consider Dopamine for hypotension refractory to administration of Epinephrine.
- Provide oxygen and airway support as needed.

QI Metrics:
- Epinephrine given appropriately.
- Airway assessment documented.

Altered Mental Status / Syncope



History

- Known diabetic, Medic Alert tag
- Drugs or drug paraphernalia
- Report of drug use or toxic ingestion
- Past medical history
- Medications
- History of trauma
- Change in condition
- Changes in feeding or sleep habits

Signs and Symptoms

- Decreased mental status or lethargy
- Changes in baseline mental status
- Bizarre behavior
- Hypoglycemia
- Hyperglycemia
- Irritability

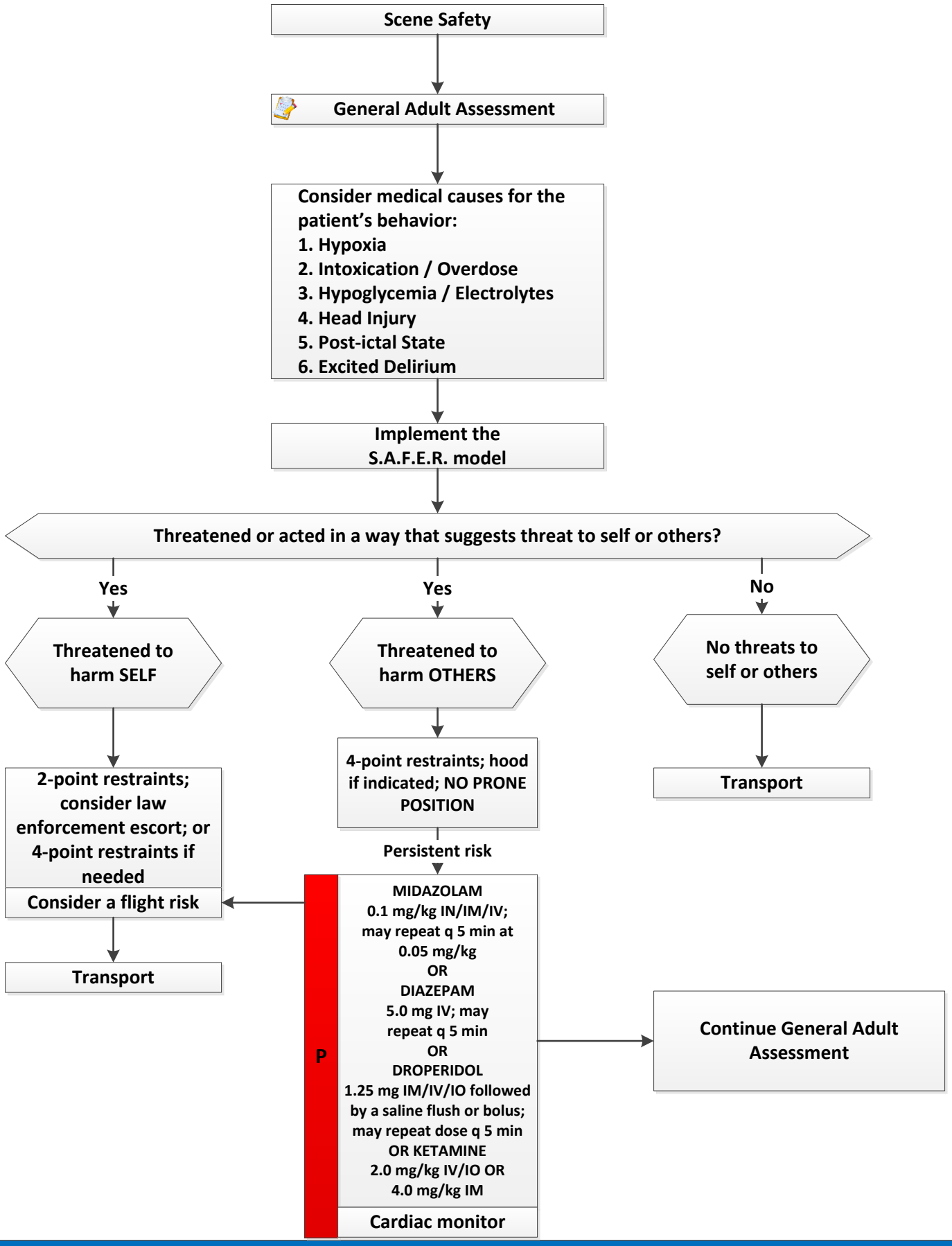
Differential

- Head trauma
- CNS (stroke, tumor, seizure, infection)
- Cardiac (MI, CHF)
- Hypothermia
- Infection
- Thyroid
- Shock (septic, metabolic, traumatic)
- Diabetes
- Toxicological or ingestion
- Acidosis/Alkalosis
- Environmental exposure
- Hypoxia
- Electrolyte abnormality
- Psychiatric disorder

Pearls

- Recommended Exam: Mental Status, HEENT, Skin, Heart, Lung, Abdomen, Back Extremities, Neuro.
- Pay careful attention to the head exam for signs of injury.
- Be aware of AMS as presenting sign of an environmental toxin or Haz-Mat exposure, and protect personal safety and that of other responders.
- Do not let alcohol confuse the clinical picture; alcohol is not commonly a cause of total unresponsiveness to pain.
- If narcotic overdose or hypoglycemia is suspected, administer Narcan or Glucose prior to advanced airway procedures.

Behavioral Emergency



History
- Situational crisis
- Psychiatric illness/medications
- Injury to self or threats to others
- Medic Alert tag
- Substance abuse/overdose
- Diabetes

Signs and Symptoms
- Anxiety, agitation, confusion
- Affect change, hallucinations
- Delusional thoughts, bizarre behavior
- Combative, violent
- Expression of suicidal/ homicidal thoughts

Differential
- AMS differential
- Alcohol intoxication
- Toxin/substance abuse
- Medication effect or overdose
- Withdrawal syndromes
- Depression
- Bipolar
- Schizophrenia
- Anxiety disorder

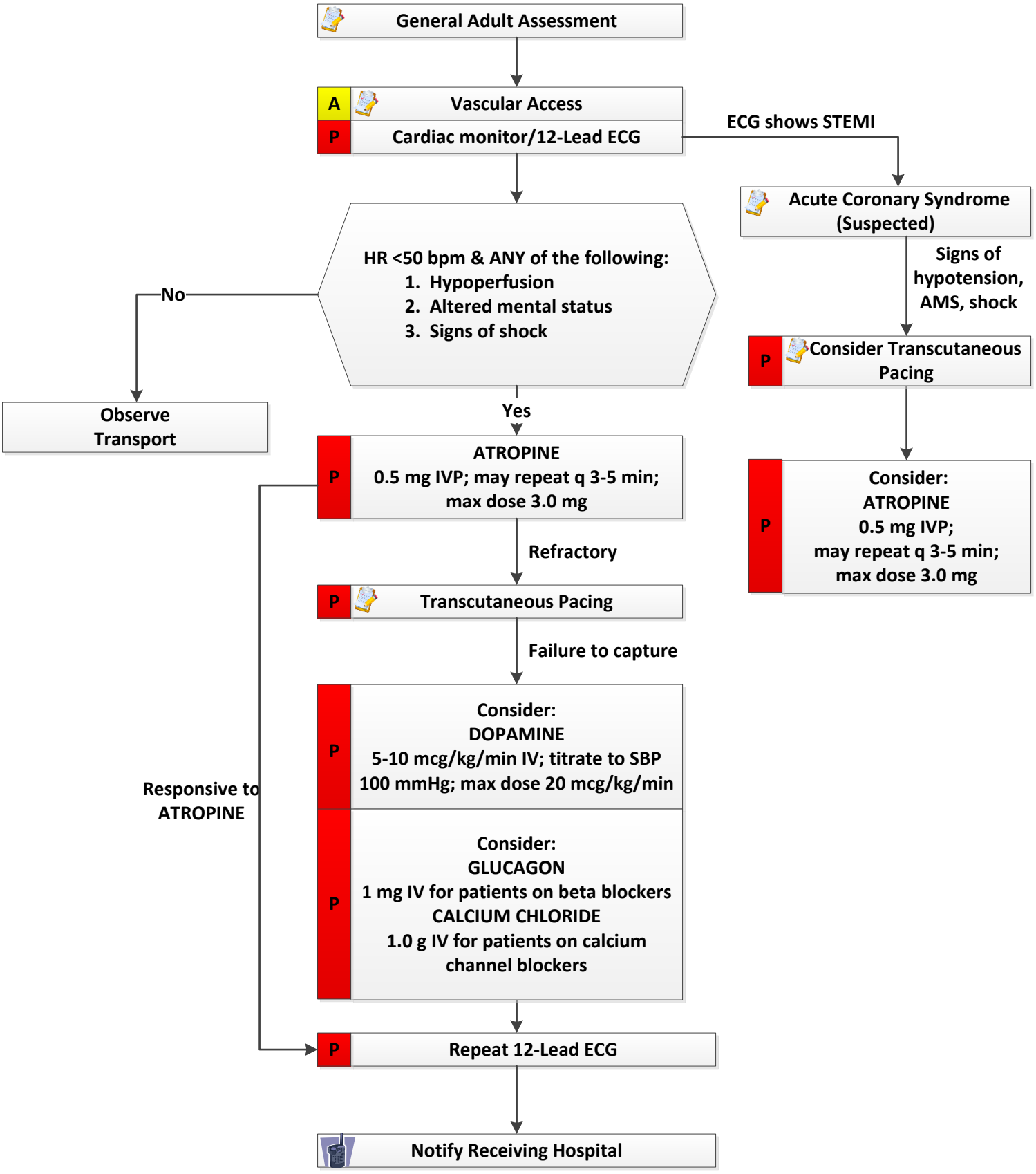
Pearls
- Law enforcement assistance should be requested on all calls involving potentially violent patients.
- Under no circumstances are patients to be transported restrained in the prone position.
- Recommended Exam: Mental Status, Skin, Heart, Lung, Neuro.
- Consider all possible medical/trauma causes for behavior.
- Do not irritate the patient with a prolonged exam.
- EMS providers are mandatory reporters in regard to suspected abuse of any vulnerable person.
- Consider $ETCO_2$ monitoring.

Excited Delirium Syndrome
- Medical emergency-combination of delirium, psychomotor agitation, anxiety, hallucinations, speech disturbances, disorientation, violent behavior, insensitivity to pain, hyperthermia, and increased strength.
- Potentially life threatening, and associated with the use of physical control measures including restraints, TASER, or similar device.
- Most common in male subjects with a history of serious mental illness and/or acute or chronic drug abuse, particularly stimulants.

Dystonic Reaction
- Condition causing involuntary muscle movements or spasms typically of the face, neck and upper extremities.
- Typically an adverse reaction to drugs such as Haloperidol (may occur with administration).
- When recognized, administer Diphenhydramine 50 mg IM/IV/IO.

S.A.F.E.R.
- **S**tabilize the situation by containing and lowering the stimuli.
- **A**ssess and acknowledge the crisis.
- **F**acilitate the identification and activation of resources (chaplain, family, friends or police).
- **E**ncourage patient to use resources and take actions in his/her best interest.
- **R**ecovery or referral – leave patient in care of responsible person or professional, or transport to appropriate facility.

Bradycardia



History
- Past medical history
- Medications
- Pacemaker

Signs and Symptoms
- HR <60/min with hypotension, acute AMS, chest pain, acute CHF, seizures, syncope, or shock secondary to bradycardia
- Respiratory distress

Differential
- Acute myocardial infarction
- Hypoxia
- Pacemaker failure
- Hypothermia
- Sinus bradycardia
- Athletic
- Head injury (elevated ICP) or stroke
- Spinal cord lesion
- AV block
- Overdose

Pearls
- Recommended Exam: Mental Status, HEENT, Heart, Lung, Neuro.
- Bradycardia causing symptoms is typically <50/minute. Rhythm should be interpreted in the context of symptoms and pharmacological treatment given only when symptomatic, otherwise monitor and reassess.
- Identifying signs and symptoms of poor perfusion caused by bradycardia are paramount.
- Do not delay pacing while waiting for IV access.
- Hypoxemia is a common cause of bradycardia; be sure to oxygenate the patient and provide ventilatory support as needed.

QI Metrics
- High degree blocks correctly identified.
- Pacer pads on patient if Atropine given.
- Patient paced if appropriate.

Burns

General Adult Assessment

Thermal Exposure

Stop the burning process with water or saline
Remove smoldering clothing and jewelry
Do not remove STUCK clothing

Ventilation Management

Cover burned area with dry sterile dressing
DO NOT USE any ice, lotion, ointment or antiseptic!

A — Vascular Access

IVF – NS 500 ml fluid bolus if signs of hypoperfusion, OR >10% BSA burn present;
If no improvement in patient condition, administer additional fluid challenges up to 2000 ml.

P — Cardiac monitor

P — Pain Management

Consider Smoke Inhalation

Chemical / Electrical Exposure

P — Cardiac monitor

Eye Involvement?
Continuous saline flush in affected eyes.
Flush with water or NS for 10-15 min

Remove jewelry, constricting items, and expose burned area

Identify entry and exit sites, apply sterile dressings

A — Vascular Access

IVF – NS 500 ml fluid bolus if signs of hypoperfusion, OR >10% BSA burn present;
If no improvement in patient condition, administer additional fluid challenges up to 2000 ml

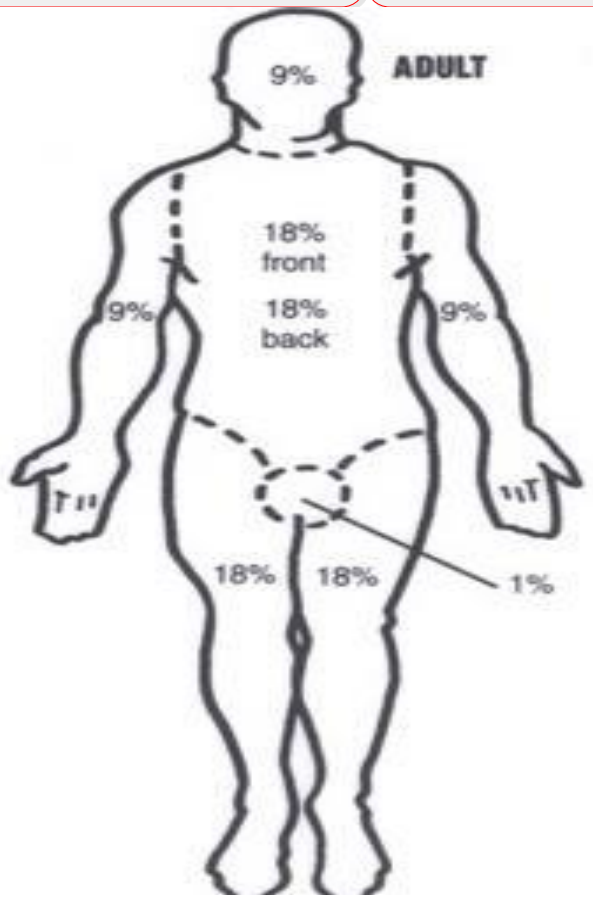
P — Pain Management

Transport to UMC Trauma Center for patients requiring Burn Center evaluation

History
- Type of exposure (heat, gas, chemical)
- Inhalational injury
- Time of injury
- Past medical history & medications
- Other trauma
- Loss of consciousness
- Tetanus/immunization status

Signs and Symptoms
- Burns, pain, swelling
- Dizziness
- Loss of consciousness
- Hypotension/shock
- Airway compromise/distress
- Wheezing
- Singed facial or nasal hair
- Hoarseness or voice changes

Differential
- Superficial (1st degree) – red and painful
- Partial Thickness (2nd degree) – blistering
- Full Thickness (3rd degree) – painless/charred or leathery skin
- Thermal
- Chemical
- Electrical
- Radiation
- Lightning



Pearls
- Burn patients are trauma patients; evaluate for multisystem trauma.
- Assure whatever has caused the burn, is no longer contacting the injury. (Stop the burning process!)
- Recommended Exam: Mental Status, HEENT, Neck, Heart, Lungs, Abdomen, Extremities, Back, Neuro.
- Early intubation is required when the patient experiences significant inhalation injuries.
- Potential CO exposure should be treated with 100% oxygen. (For patients in which the primary event is CO inhalation, transport to a hospital equipped with a hyperbaric chamber is indicated [when reasonably accessible].)
- Circumferential burns to extremities are dangerous due to potential vascular compromise secondary to soft tissue swelling.
- Burn patients are prone to hypothermia - never apply ice or cool burns; must maintain normal body temperature.
- Consider $ETCO_2$ monitoring.

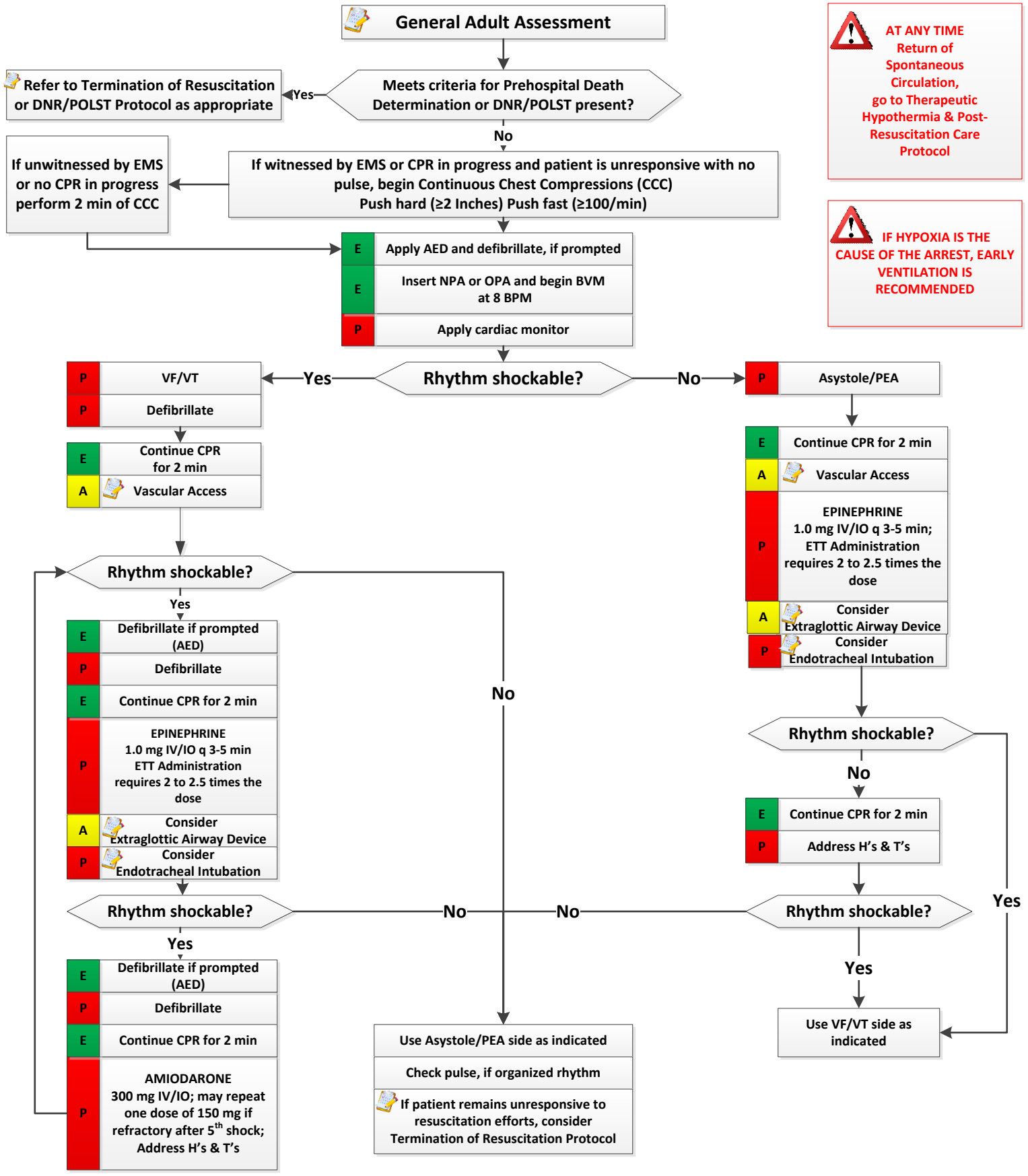
Patients meeting the following Criteria shall be transported to the UMC Burn Center via the Adult or Pediatric Trauma Center:
1. Second and/or third degree burns >20% body surface area (BSA).
2. Second and/or third degree burns >10% body surface area (BSA) in patients under 10 years old or over 50 years old.
3. Burns that involve the face, hands, feet, genitalia, perineum or major joints.
4. Electrical burns, including lightning injury.
5. Chemical burns.
6. Circumferential burns.
7. Inhalational injury.

Parkland Formula for Fluid Replacement:
4ml x (body wt in kg) x (% BSA burned) = total fluids for 24 hrs
Give ½ in the first 8 hrs; give remainder over next 16 hrs.

Pearls (Electrical)
- Do not contact the patient until you are certain the source of the electric shock has been disconnected.
- Attempt to locate contact points, (entry wound where the AC source contacted the patient; an exit at the ground point); both sites will generally be full thickness.
- Cardiac monitor; anticipate ventricular or atrial irregularity to include V-Tach, V-Fib, heart blocks, etc.
- Attempt to identify the nature of the electrical source (AC vs DC), the amount of voltage and the amperage the patient may have been exposed to during the electrical shock.

Pearls (Chemical)
- Certainly 0.9% NaCl Sol'n or Sterile Water is preferred; however if it is not readily available, do not delay; use tap water for flushing the affected area or other immediate water sources. Flush the area as soon as possible with the cleanest, readily available water or saline solution using copious amounts of fluids.

Cardiac Arrest (Non-Traumatic) (Adult CCC CPR)

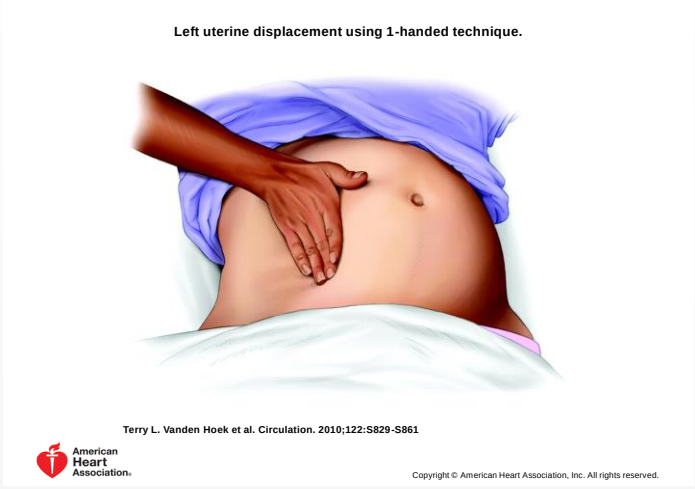


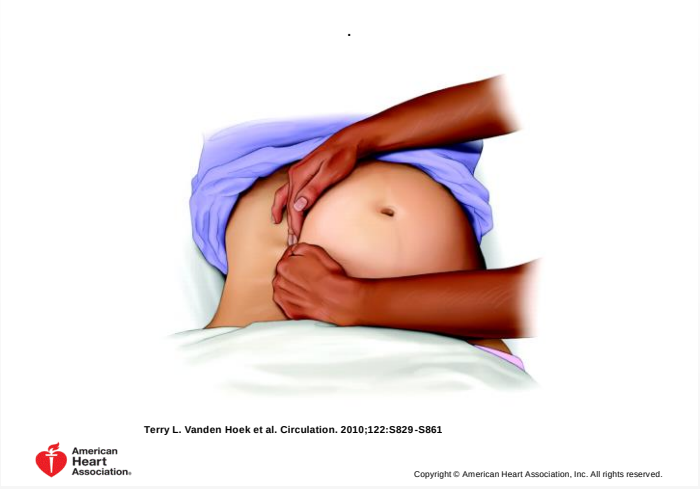
History
- Events leading to arrest
- Estimated down time
- Past medical history
- Medications
- Existence of terminal illness

Signs and Symptoms
- Unresponsive
- Apneic
- Pulseless

Differential
- Medical vs. Trauma
- VF vs. Pulseless VT
- Asystole
- PEA
- Primary cardiac event vs. respiratory or drug overdose

Pearls
- For cardiac arrest patients who are pregnant, manual CPR is recommended.
- For cardiac arrest patients who are pregnant, manual displacement of the uterus to the left side is recommended.

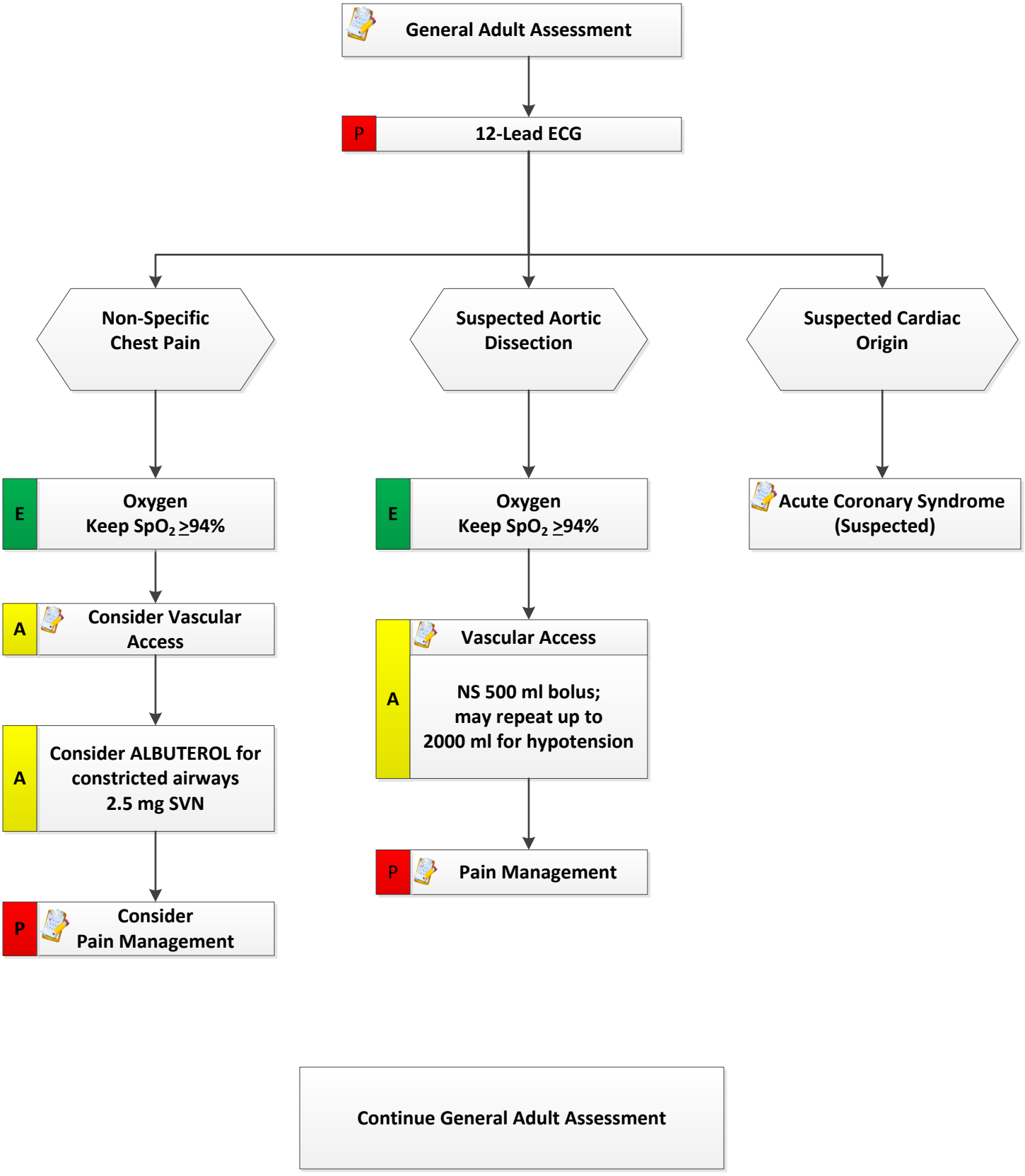




- Efforts should be directed at high quality and continuous compressions with limited interuptions and early defibrillation when indicated.
- Consider early IO placement if IV is difficult.
- DO NOT HYPERVENTILATE.
- Reassess and document ETT placement using auscultation and $ETCO_2$ capnography.
- Switch compressors every two minutes.
- Try to maintain patient modesty.
- Mechanical chest compression devices should be used if available in order to provide for consistent uninterrupted chest compressions and crew safety. As noted above, mechanical chest compression devices are not recommended for the pregnant patient.

H's & T's (reversible causes)
- Hypovolemia – Volume infusion
- Hypoxia – Oxygenation & ventilation, CPR
- Hydrogen ion (acidosis) – Ventilation, CPR
- Hypo/Hyperkalemia – Calcium Chloride, Glucose, Sodium Bicarbonate, Albuterol
- Hypothermia - Warming
- Tension pneumothorax – Needle decompression
- Tamponade, cardiac – Volume infusion
- Toxins – Agent specific antidote
- Thrombosis, pulmonary – Volume infusion
- Thrombosis, coronary – Emergent PCI

Chest Pain


General Adult Assessment
P
12-Lead ECG
Non-Specific Chest Pain
Suspected Aortic Dissection
Suspected Cardiac Origin
E
Oxygen
Keep SpO2 ≥94%
E
Oxygen
Keep SpO2 ≥94%
Acute Coronary Syndrome (Suspected)
A
Consider Vascular Access
A
Vascular Access
A
Consider ALBUTEROL for constricted airways
2.5 mg SVN
NS 500 ml bolus;
may repeat up to
2000 ml for hypotension
P
Consider
Pain Management
P
Pain Management
Continue General Adult Assessment

History
- Age
- Medications (Viagra/Sildenafil/ Levitra, Cialis/Tadalafil)
- Past medical history (MI, angina, diabetes, post menopausal)
- Allergies
- Recent physical exertion
- Palliation/Provocation
- Quality (crampy, constant, sharp, dull, etc.)
- Region/Radiation/Referred
- Time (onset/duration/repetition)

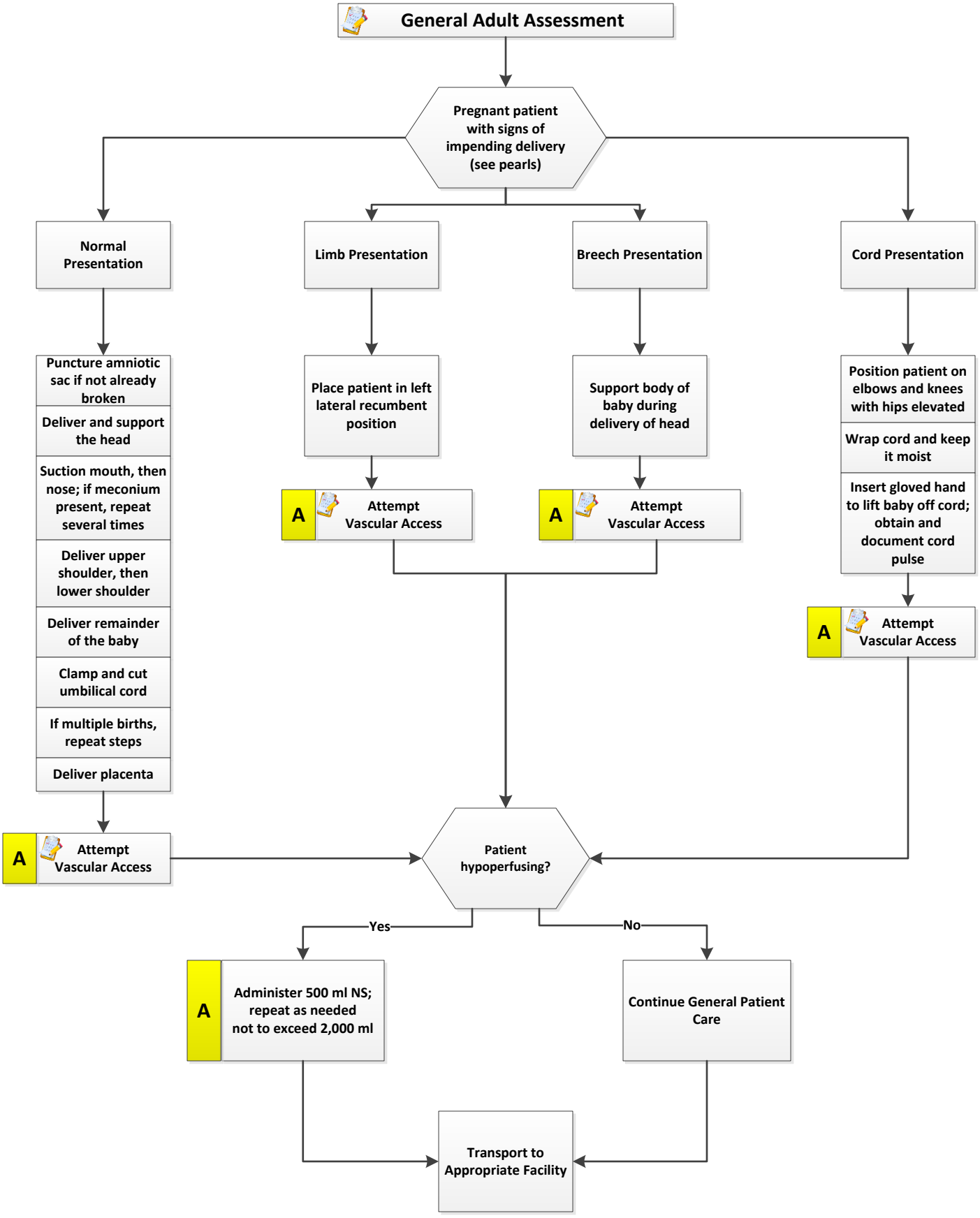
Signs and Symptoms
- CP (pressure, pain, ache, vice-like tightness)
- Location (substernal, epigastric, arm, jaw, neck, shoulder)
- Pale
- Diaphoresis
- Shortness of breath
- Nausea, vomiting, dizzy
- Time of onset

Differential
- Medical vs. Trauma
- Angina vs. MI
- Pericarditis
- Pulmonary embolism
- Asthma/COPD
- Pneumothorax
- Aortic dissection or aneurysm
- GE reflux or hiatal hernia
- Esophageal spasm
- Chest wall injury or pain
- Pleural pain
- Overdose (cocaine or methamphetamine)

Pearls
- Nitroglycerine is contraindicated for any patient having taken Viagra or similar medication in the past 24 hours, or 48 hours for Tadalifil, or similar.
- Nitroglycerine is contraindicated in any patient with hypotension, bradycardia or tachycardia in the absence of heart failure and evidence of a right ventricular infarction. Caution is advised in patients with inferior wall STEMI and a right sided ECG should be performed to evaluate right ventricular infarction.
- Diabetics, geriatric and female patients often present with atypical pain or only generalized complaints (have a low threshold to perform a 12-Lead ECG).

QI Metrics
- 12-Lead ECG completed within 5 minutes of patient contact.
- Pain control documented.

Childbirth / Labor



History
- Due date
- Time contractions started/ duration/frequency
- Rupture of membranes (meconium)
- Time and amount of any vaginal bleeding
- Sensation of fetal movement
- Pre-natal care
- Past medical and delivery history
- Medications
- Gravida/Para status
- High risk pregnancy

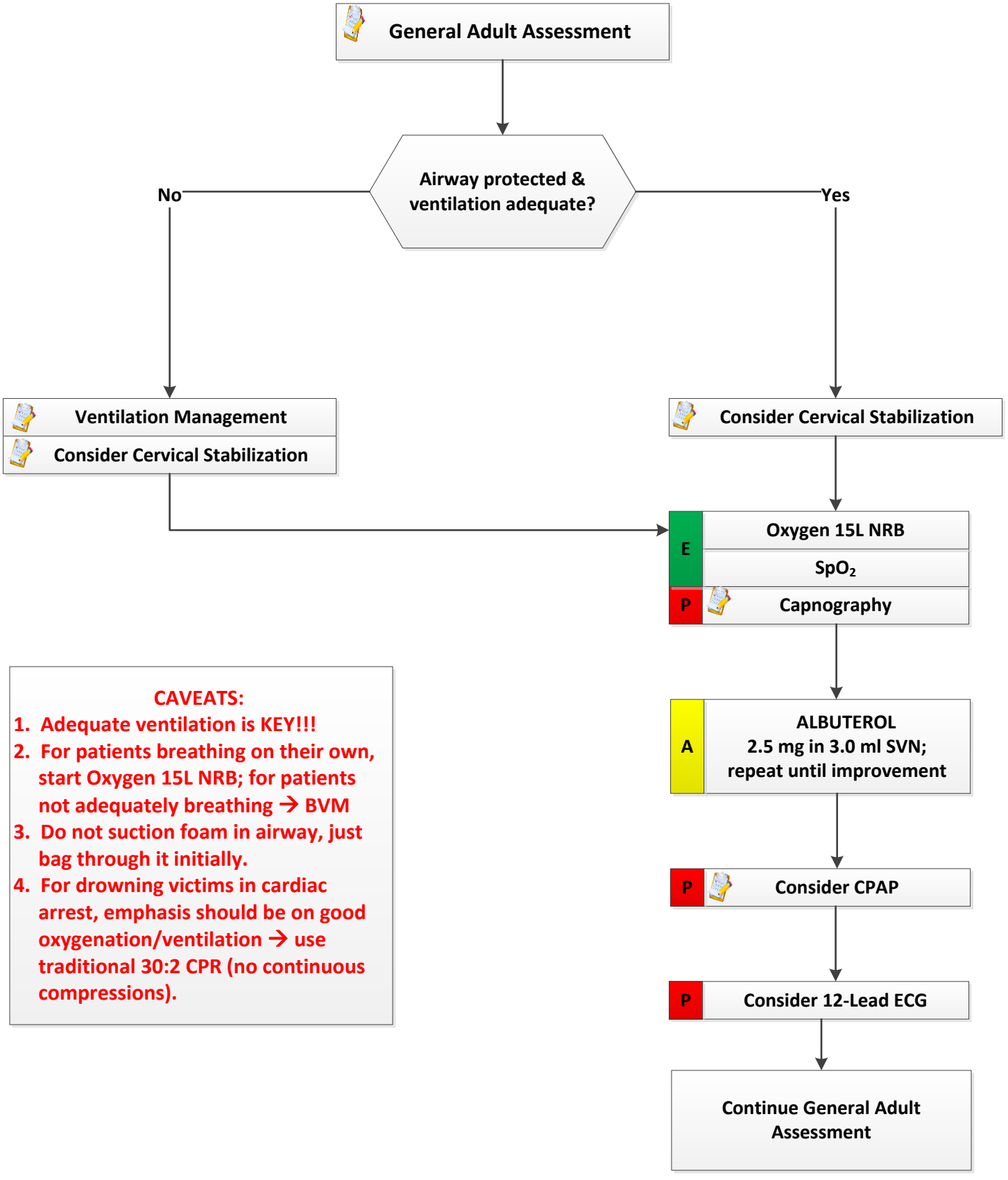
Signs and Symptoms
- Spasmodic pain
- Vaginal discharge or bleeding
- Crowning or urge to push
- Meconium

Differential
- Abnormal presentation (breech, limb)
- Prolapsed cord
- Placenta previa
- Abruptio placenta

Pearls
- Recommended exam (of mother): Mental Status, Heart, Lungs, Abdomen, Neuro.
- Document all times (delivery, contraction duration and frequency).
- Some bleeding is normal; copious amounts of blood or free bleeding is abnormal.
- Record APGAR at one and five minutes after birth.
- APGAR of 7-10 is normal, while 4-7 requires resuscitative measures.

APGAR	**Score=0**	**Score=1**	**Score=2**
• **Activity/Muscle Tone**	Absent	Arms/legs flexed	Active movement
• **Pulse**	Absent	Below 100	Above 100
• **Grimace/Reflex Irritability**	No response	Grimace	Sneeze, cough, pulls away
• **Appearance/Skin Color**	Blue-Grey, pale all over	Normal, except extremities	Normal over entire body
• **Respiration**	Absent	Slow, irregular	Good, crying

Drowning



CAVEATS:

1. **Adequate ventilation is KEY!!!**
2. **For patients breathing on their own, start Oxygen 15L NRB; for patients not adequately breathing → BVM**
3. **Do not suction foam in airway, just bag through it initially.**
4. **For drowning victims in cardiac arrest, emphasis should be on good oxygenation/ventilation → use traditional 30:2 CPR (no continuous compressions).**

History
- Submersion in water, regardless of depth
- Possible history of trauma (dive)
- Duration of immersion
- Temperature of water or possibility of hypothermia
- Degree of water contamination

Signs and Symptoms
- Unresponsive
- Mental status changes
- Decreased or absent vital signs
- Vomiting
- Coughing, wheezing, rales, stridor, rhonchi
- Apnea
- Frothy/foamy sputum

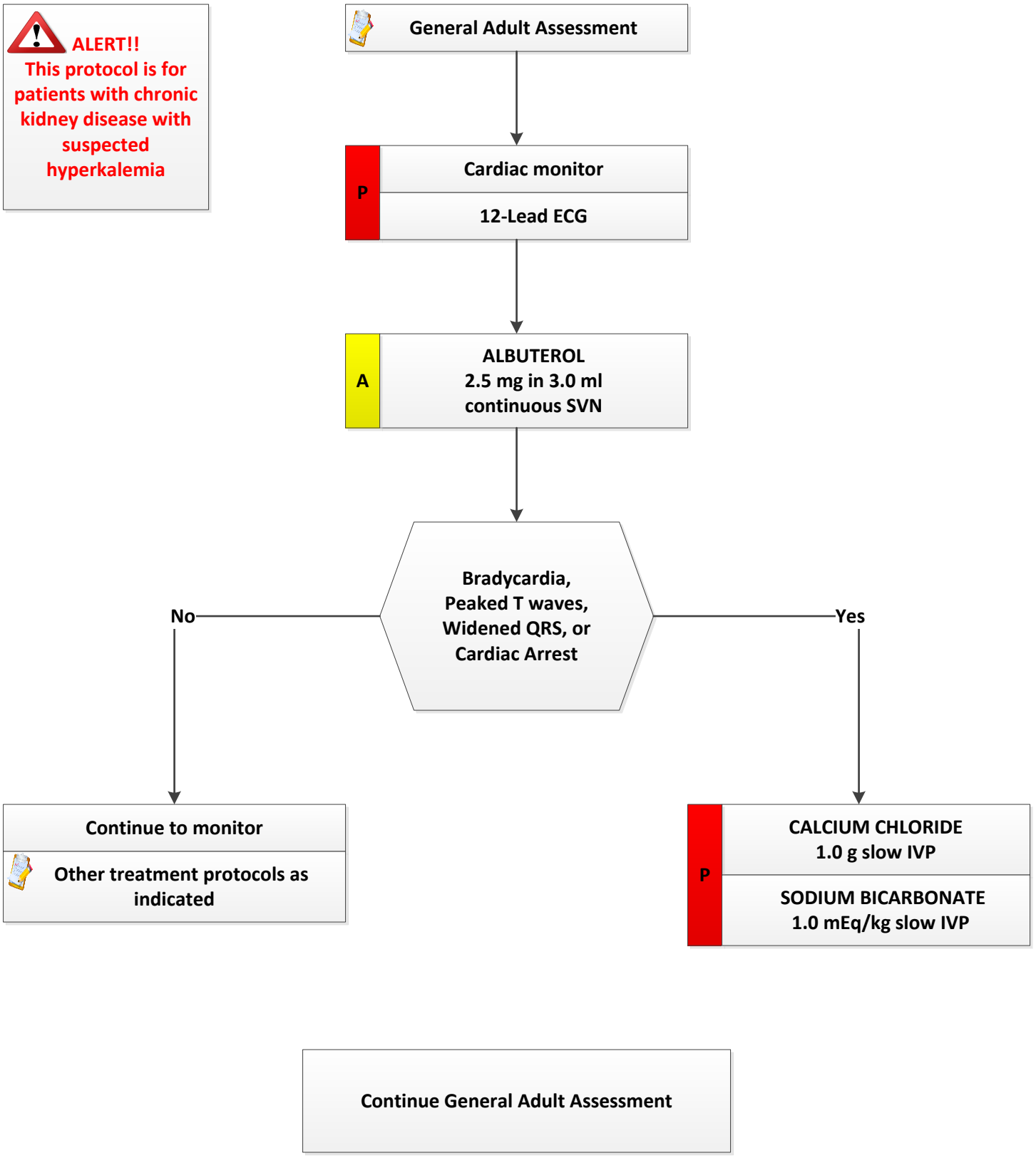
Differential
- Trauma
- Pre-existing medical condition
- Barotrauma
- Decompression illness
- Post-immersion syndrome

Pearls
- Recommended Exam: Trauma Survey, Head, Neck, Chest, Abdomen, Back, Extremities, Skin, Neuro.
- Ensure scene safety.
- Hypothermia is often associated with submersion incidents.
- All patients should be transported for evaluation because of potential for worsening over the next several hours.

CAVEATS:
1. **Adequate ventilation is KEY!!!**
2. **For patients breathing on their own, start Oxygen 15L NRB; for patients not adequately breathing → BVM**
3. **Do not suction foam in airway, just bag through it initially.**
4. **For drowning victims in cardiac arrest, emphasis should be on good oxygenation/ventilation → use traditional 30:2 CPR (no continuous compressions).**

QI Metrics
- Submit the SNHD Submersion Incident Report Form.

Hyperkalemia (Suspected)



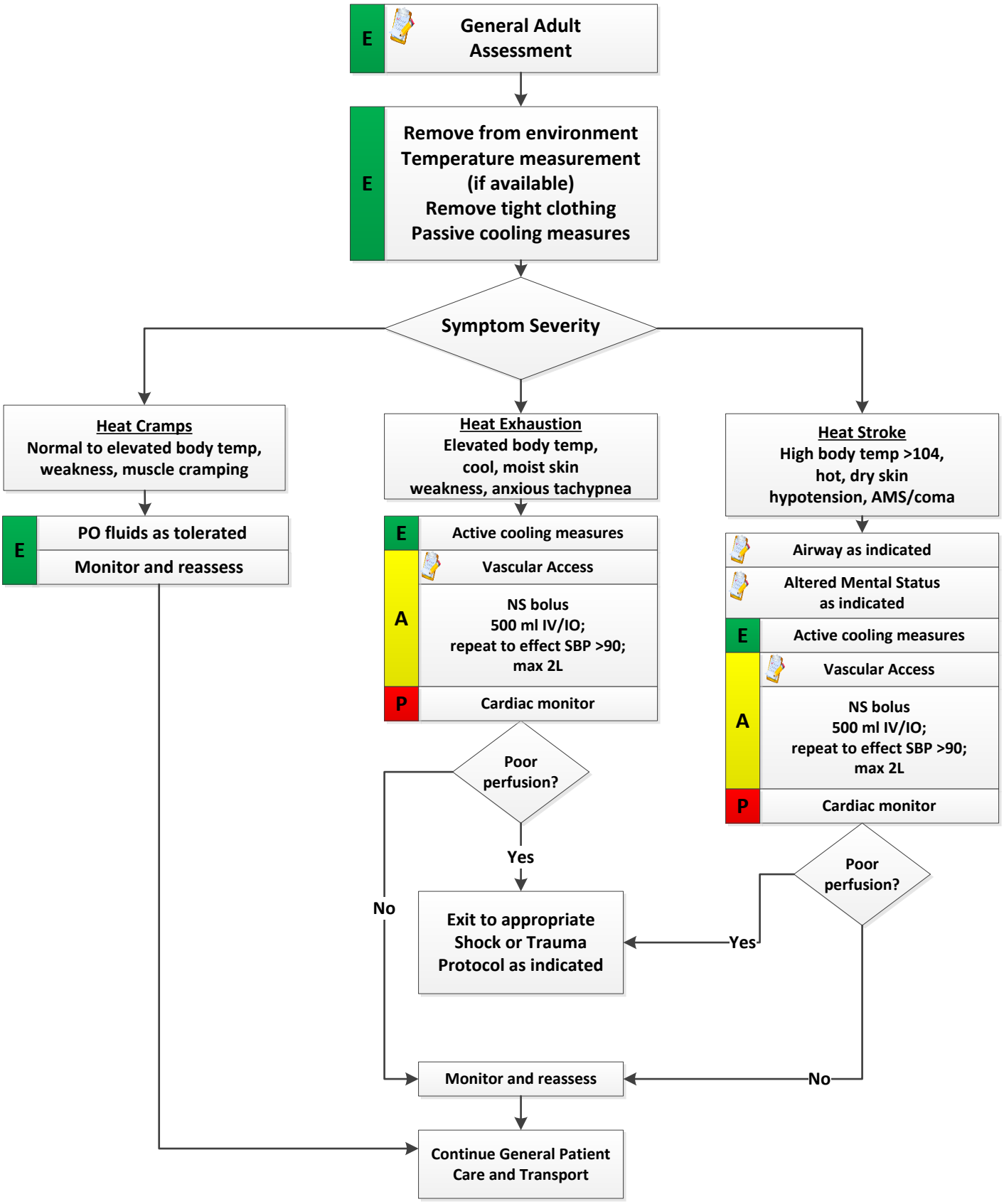
History
- History of renal failure
- History of dialysis
- Trauma, crush injury

Signs and Symptoms
- Cardiac conduction disturbances
- Irritability
- Abdominal distension
- Nausea
- Diarrhea
- Oliguria
- Weakness

Differential
- Cardiac disease
- Renal failure
- Dialysis
- Trauma

Pearls
- Patients must have suspected hyperkalemia (crush syndrome, chronic renal failure) ***AND*** electrocardiographic findings consistent with hyperkalemia (bradycardia with widening QRS complexes) ***AND*** hemodynamic instability ***BEFORE*** initiating treatment.
- Calcium Chloride is contraindicated in patients taking digitalis products.
- Hyperkalemia is defined as a potassium level higher than 5.5 mmol/L.
- Potassium of 5.5 - 6.5 mmol/L - Tall tented T waves.
- Potassium of 6.5 - 7.5 mmol/L - Loss of P waves.
- Potassium of 7.5 - 8.5 mmol/L - Widening QRS.
- Potassium of >8.5 mmol/L - QRS continues to widen, approaching sine wave.

Hyperthermia/Environmental Illness



History
- Age, very old and young
- Exposure to increased temperatures and/or humidity
- Past medical history/medications
- Time and duration of exposure
- Poor PO intake, extreme exertion
- Fatigue and/or muscle cramping

Signs and Symptoms
- AMS/coma
- Hot, dry, or sweaty skin
- Hypotension or shock
- Seizures
- Nausea

Differential
- Fever
- Dehydration
- Medications
- Hyperthyroidism
- DTs
- Heat cramps, heat exhaustion, heat stroke
- CNS lesions or tumors

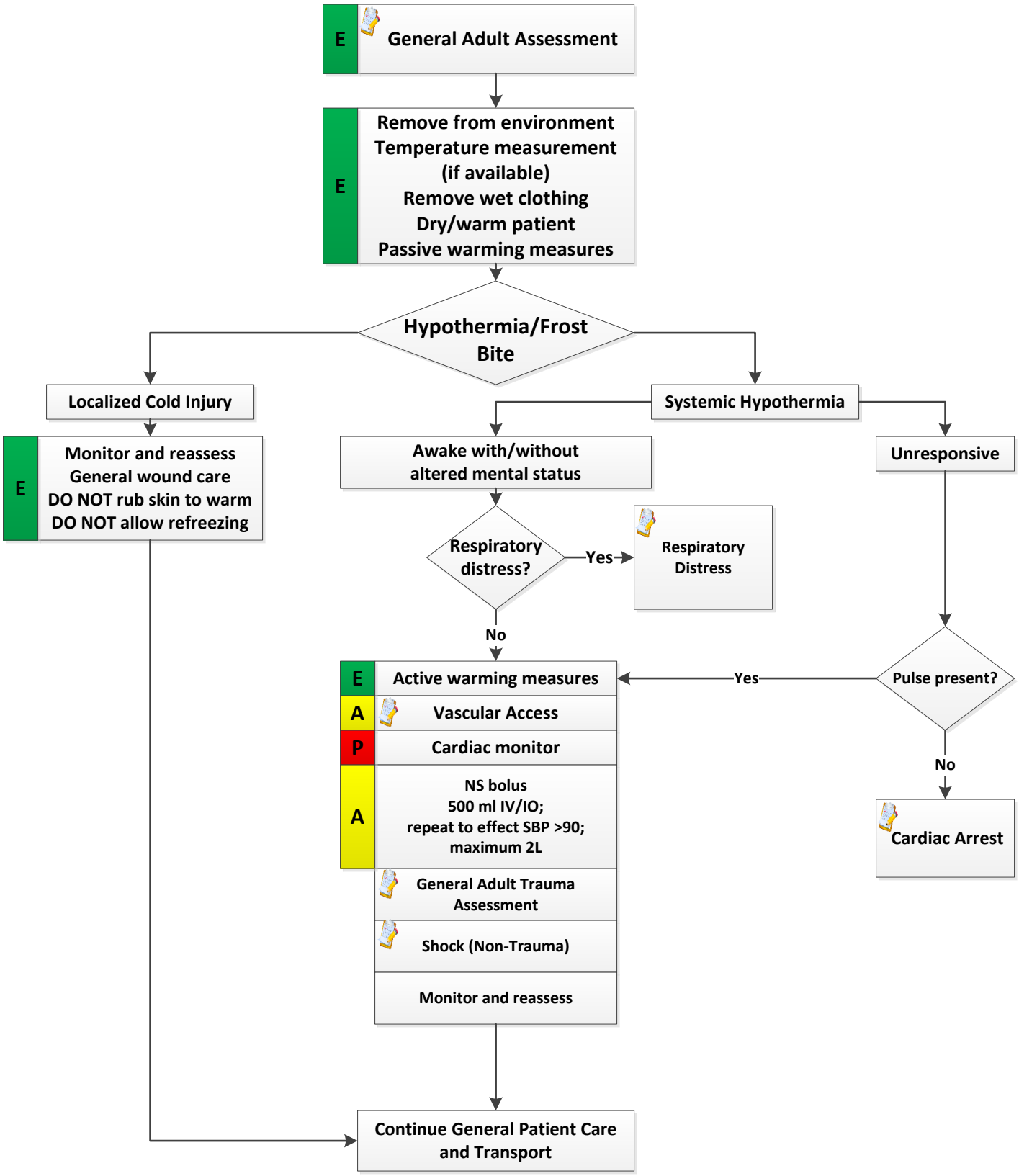
Pearls
- Recommended exam: Mental Status, Skin, Heart, Lung, Abdomen, Extremities, Neuro.
- Extremes of age are more prone to heat emergencies.
- Cocaine, amphetamines, and salicylates may elevate body temperatures.
- Sweating generally disappears as body temperatures rise over 104° F (40° C).
- Intense shivering may occur as patient is cooled.
- Active cooling includes application of cold packs or ice (not directly on skin), fanning either by air conditioning or fanning.

Heat Cramps
- Consist of benign muscle cramping caused by dehydration and is not associated with an elevated temperature.

Heat Exhaustion
- Consists of dehydration, salt depletion, dizziness, fever, AMS, headache, cramping, N/V. Vital signs usually consist of tachycardia, hypotension and elevated temperature.

Heat Stroke
- Consists of dehydration, tachycardia, hypotension, temperature >104° F (40° C), and AMS.

Hypothermia/Environmental Illness



History
- Age, very young and old
- Exposure to decreased temperatures, but may occur in normal temperatures
- Past medical history/medications
- Drug or alcohol use
- Infections/sepsis
- Time of exposure/wetness/wind chill

Signs and Symptoms
- AMS/coma
- Cold, clammy
- Shivering
- Extremity pain
- Bradycardia
- Hypotension or shock

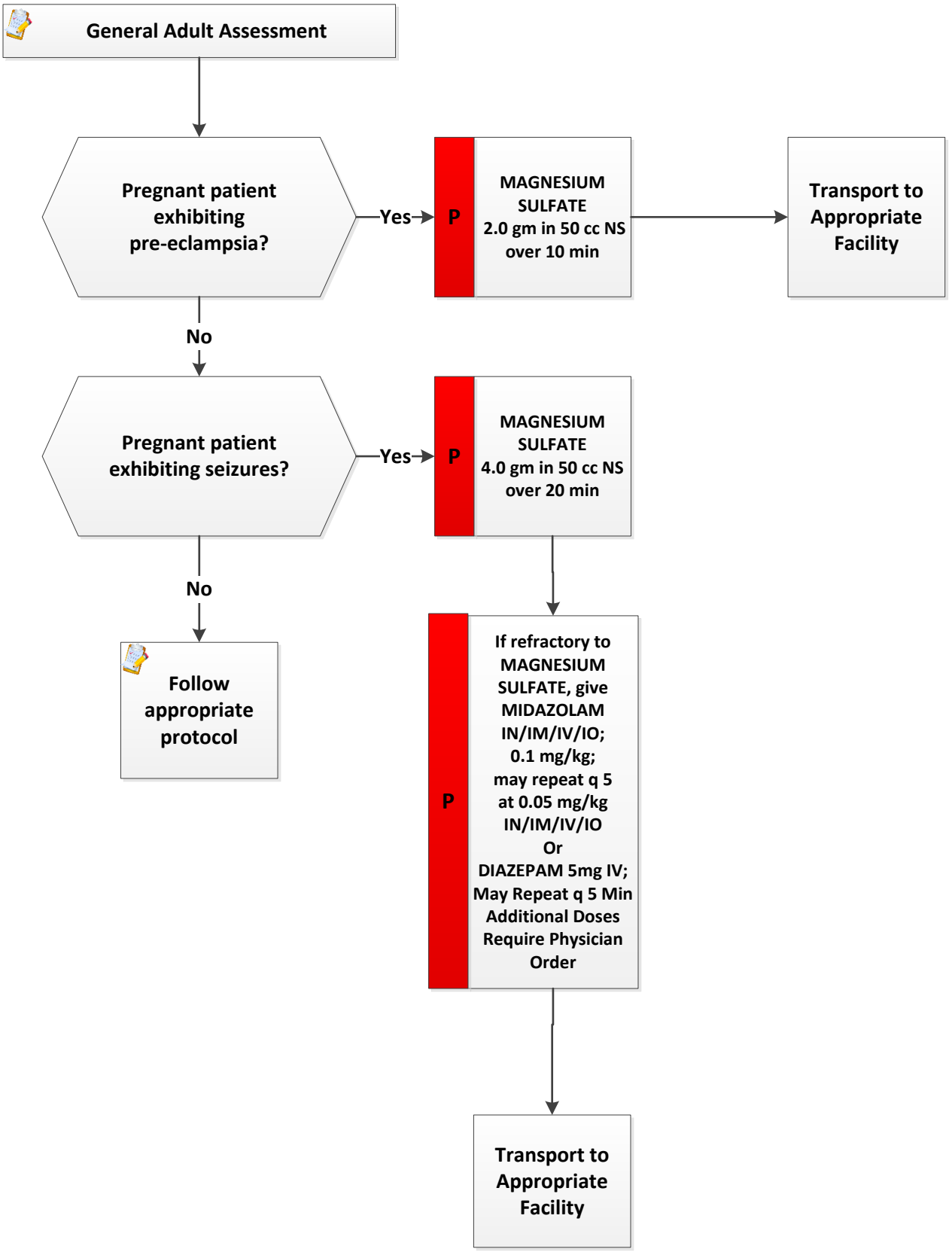
Differential
- Sepsis
- Environmental exposure
- Hypoglycemia
- Stroke
- Head injury
- Spinal cord injury

Pearls
- Recommended exam: Mental Status, Heart, Lung, Abdomen, Extremities, Neuro.
- Extremes of age are more prone to cold emergencies.
- Obtain and document patient temperature.
- If temperature is unknown, treat the patient based on suspected temperature.
- Active warming includes hot packs that can be used on the armpit and groin; care should be taken not to place the packs directly on the skin.
- Warm saline IV may be used.
- Recognize the cardiac arrest resuscitation guidelines for the hypothermic patient.

Hypothermia Categories
- Mild 90°- 95° F (33°- 35° C)
- Moderate 82°- 90° F (28°- 32° C)
- Severe <82 degrees F (<28° C)

Hypothermia Mechanisms
- Radiation
- Convection
- Conduction
- Evaporation

Obstetrical Emergency



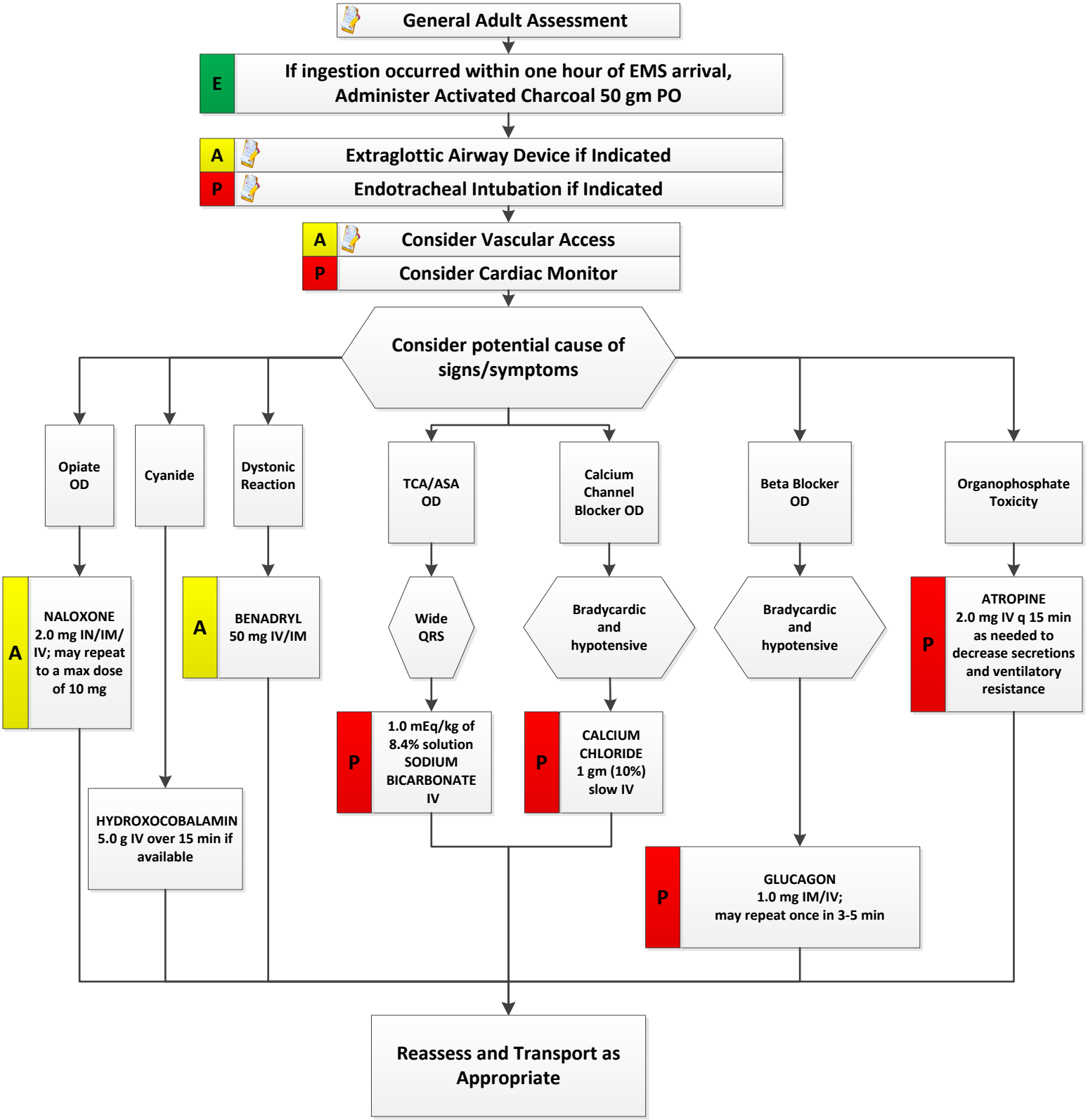
History
- Medical history
- Hypertension medication
- Prenatal care
- Prior pregnancies/births
- Previous pregnancy complications

Signs and Symptoms
- Vaginal bleeding
- Abdominal pain
- Seizures
- Hypertension
- Severe headache
- Visual changes
- Edema of the hands or face

Differential
- Pre-eclampsia/eclampsia
- Placenta previa
- Placenta abruptio
- Spontaneous abortion

Pearls
- Recommended exam: Mental Status, Heart, Lung, Abdomen, Neuro.
- Severe headache, vision changes or RUQ pain may indicate pre-eclapsia.
- In the setting of pregnancy hypertension is defined as >140 systolic or >90 diastolic or a relative increase of 30 systolic and 20 diastolic from the patient's normal pre-pregnancy BP.
- Maintain left lateral position.
- Ask patient to quantify bleeding - number of pads used per hour.
- Any pregnant patient involved in a MVC should be seen by a physician for evaluation.

Overdose/Poisoning



History
- Ingestion or suspected ingestion of a potentially toxic agent
- Substance ingested, route, quantity
- Time of ingestion
- Reason (suicidal, accidental, criminal)
- Available medications in home
- Past medical history, medications

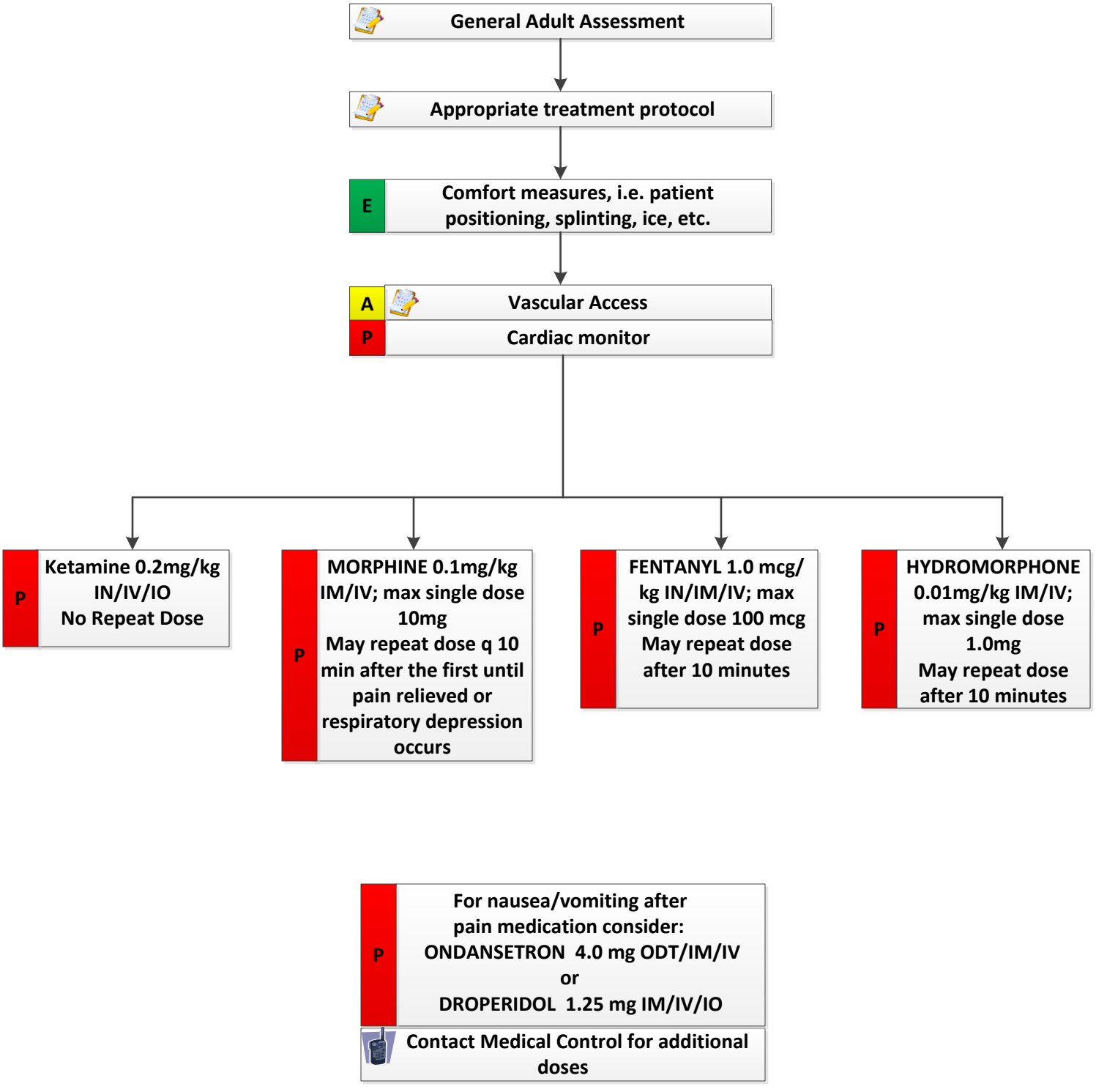
Signs and Symptoms
- Mental status changes
- Hypotension/hypertension
- Decreased respiratory rate
- Tachycardia, dysrhythmias
- Seizures
- SLUDGE
- Malaise, weakness
- GI symptoms
- Dizziness
- Syncope
- Chestpain

Differential
- TCA overdose
- Acetaminophen OD
- Aspirin
- Depressants
- Stimulants
- Anticholinergic
- Cardiac medications
- Solvents, alcohols, cleaning agents, insecticides

Pearls
- Recommended exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Neuro.
- Calcium Chloride is contraindicated in patients taking digitalis products.
- Overdose or toxin patients with significant ingestion/exposure should be closely monitored and aggressively treated. Do not hesitate to contact medical control if needed.
- In the case of cyanide poisoning, altered mental status may be profound. Profound altered mental status can be defined as a deficit that includes disorientation, bewilderment and difficulty following commands.
- If patient is suspected to have narcotic overdose/hypoglycemia, administer Narcan/ Glucose prior to exrtraglottic device/intubation.
- Poison Control: 1-800-222-1222

Agents
- Acetaminophen: Initially normal or N/V. Tachypnea and AMS may occur later. Renal dysfunction, liver failure and/or cerebral edema may manifest.
- Depressants: Decreased HR, BP, temp and RR.
- Anticholinergic: Increased HR, increased temperature, dilated pupils and AMS changes.
- Insecticides: May include S/S of organophosphate poisoning.
- Solvents: N/V, cough, AMS.
- Stimulants: Increased HR, BP, temperature, dilated pupils, seizures, and possible violence.
- TCA: Decreased mental status, dysrhythmias, seizures, hypotension, coma, death.

Pain Management



History
- Age
- Location, duration
- Severity (1-10)
- Past medical history
- Pregnancy status
- Drug allergies and medications

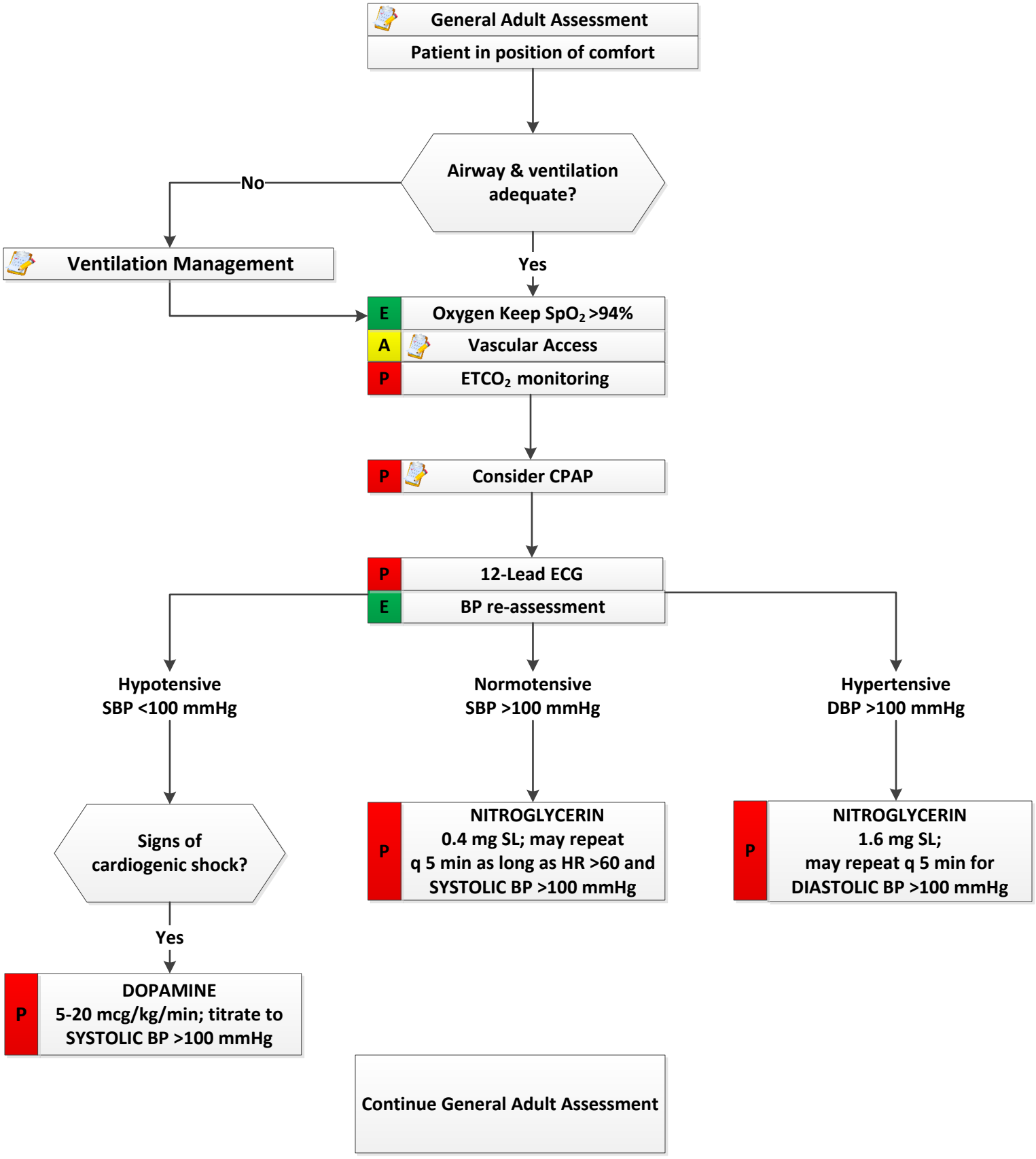
Signs and Symptoms
- Severity (pain scale)
- Quality
- Radiation
- Relation to movement, respiration
- Increased with palpation of area

Differential
- Musculoskeletal
- Visceral (abdominal)
- Cardiac
- Pleural, respiratory
- Neurogenic
- Renal (colic)

Pearls
- Recommended exam: Respiratory Status, Mental Status, Area of pain, Neuro.
- Pain severity (1-10) is a vital sign to be recorded before and after medication administration and patient hand off.
- Monitor BP and respirations closely as sedative and pain control agents may cause hypotension and/or respiratory depression.
- Consider patient's age, weight, clinical condition, use of drugs/alcohol, exposure to opiates when determining initial opiate dosing. Weight based dosing may provide a standard means of dosing calculation, but it does not predict response.
- Exercise care when administering opiates and benzodiazepines; this combination results in deeper anesthesia with significant risk of respiratory compromise.
- Burn patients may require more aggressive dosing.
- Administration of Droperidol can result in hypotension, QT prolongation and Torsades de Pointes.

- **QI Metrics**
- Vital signs with O_2 sats recorded.
- Pain scale documented before and after intervention.
- Vital signs repeated after intervention.
- If considering repeat administration of pain medications, nasal cannula capnography must be utilized.

Pulmonary Edema/CHF



History
- Congestive heart failure
- Past medical history
- Medications
- Cardiac history

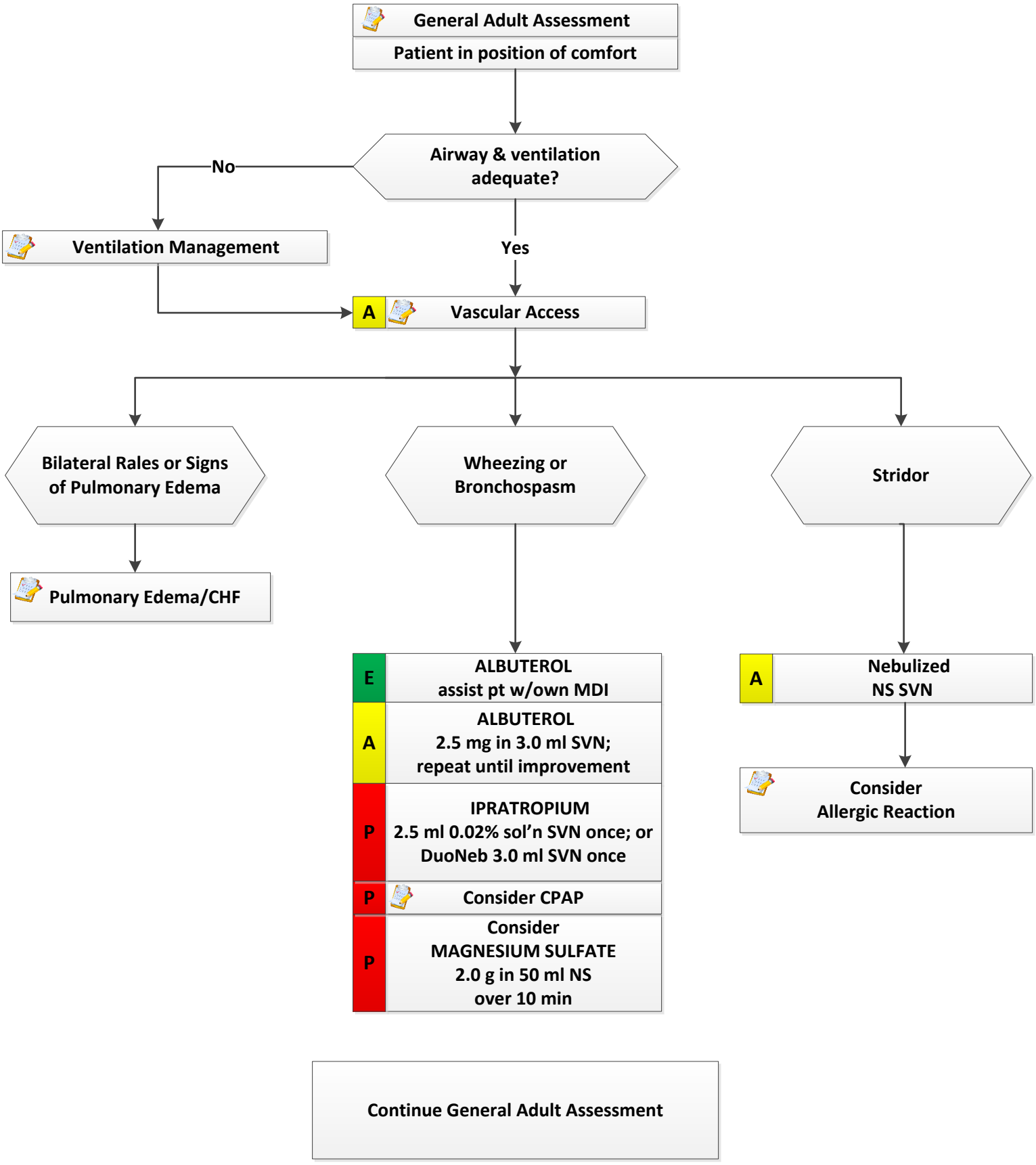
Signs and Symptoms
- Respiratory distress, bilateral rales
- Apprehension, orthopnea
- JVD
- Pink, frothy sputum
- Peripheral edema
- Diaphoresis
- Hypotension, shock
- Chest pain

Differential
- MI
- Congestive heart failure
- Asthma
- Anaphylaxis
- Aspiration
- COPD
- Pleural effusion
- Pneumonia
- Pericardial tamponade
- Toxic exposure

Pearls
- Avoid administering Nitroglycerin to any patient who has used Viagra or Levitra in the past 24 hours, avoid administering nitroglycerin to any patient who has used Cialis in the past 48 hours.
- Carefully monitor the patient as you administer interventions.
- Consider MI.
- Allow patient to maintain position of comfort.
- Consider dose related effects of Dopamine: 2-10 mcg/kg/min increases myocardial contractility and HR, improves BP via vasoconstriction; 10-20 mcg/kg/min causes vasoconstriction of renal, mesenteric, and peripheral blood vessels that can result in poor perfusion and renal failure.

QI Metrics
- Blood pressure reassessed after each nitroglycerin dose.
- CPAP used appropriately.
- $ETCO_2$ monitored.

Respiratory Distress



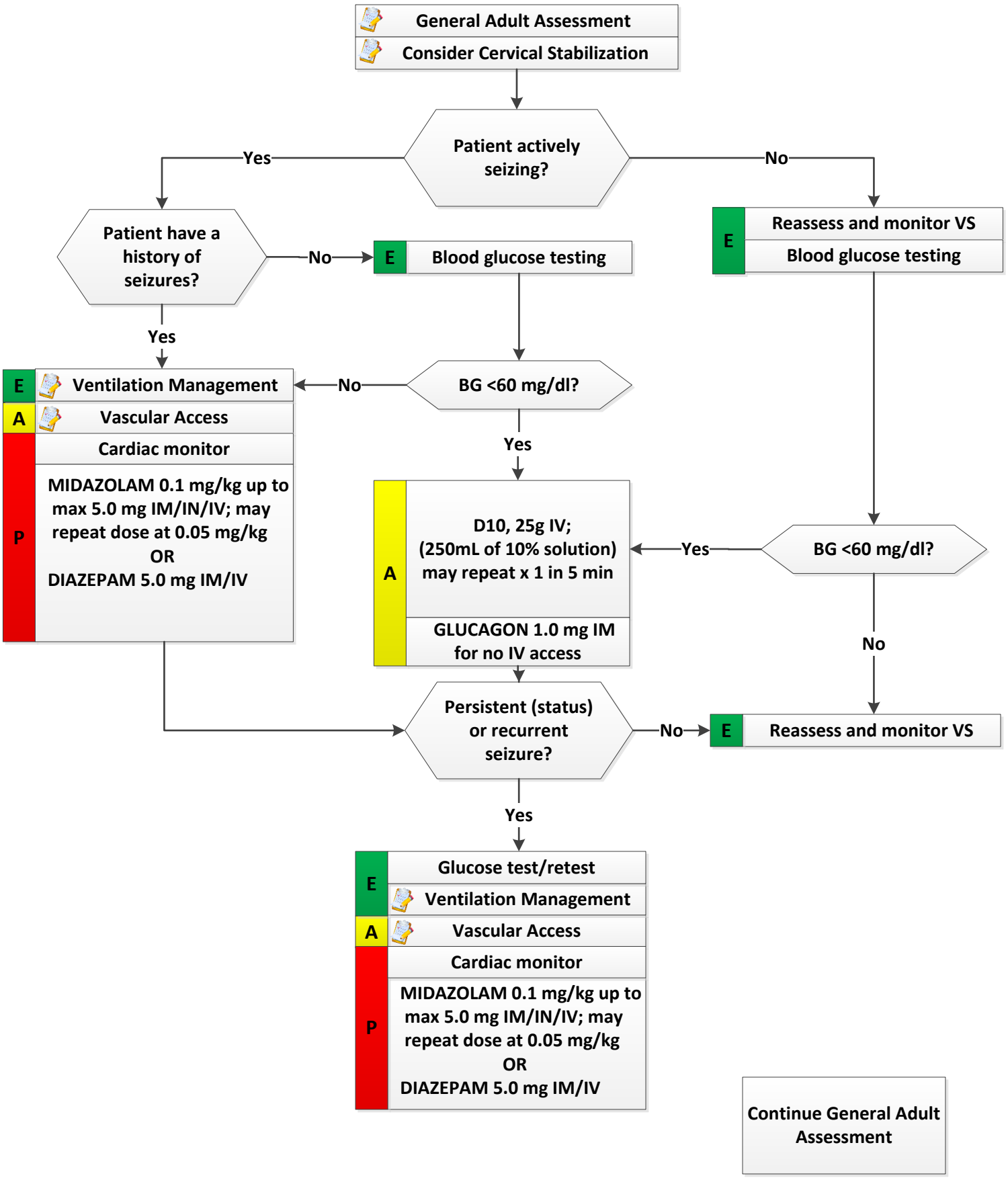
History
- Asthma, COPD, CHF, chronic bronchitis, emphysema
- Home treatment (oxygen, nebulizers)
- Medication
- Toxic exposure

Signs and Symptoms
- Shortness of breath
- Pursed lip breathing
- Decreased ability to speak
- Increased respiratory rate and effort
- Wheezing, rhonchi
- Use of accessory muscles
- Fever, cough
- Tachycardia

Differential
- Asthma
- Anaphylaxis
- Aspiration
- COPD
- Pleural effusion
- Pneumonia
- Pulmonary embolus
- Pneumothorax
- Cardiac (MI or CHF)
- Pericardial tamponade
- Hyperventilation
- Inhaled toxin

Pearls
- Recommended exam: Mental Status, HEENT, Skin, Neck, Heart, Lungs, Abdomen, Extremities, Neuro.
- Pulse oximetry and end tidal continuous waveform capnography must be monitored.
- Consider MI.
- Allow the patient to assume a position of comfort.

Seizure


General Adult Assessment
Consider Cervical Stabilization
Patient actively seizing?
Yes
No
Patient have a history of seizures?
No
E
Blood glucose testing
Yes
E
Reassess and monitor VS
Blood glucose testing
E
Ventilation Management
A
Vascular Access
Cardiac monitor
P
MIDAZOLAM 0.1 mg/kg up to max 5.0 mg IM/IN/IV; may repeat dose at 0.05 mg/kg
OR
DIAZEPAM 5.0 mg IM/IV
No
BG <60 mg/dl?
Yes
A
D10, 25g IV;
(250mL of 10% solution)
may repeat x 1 in 5 min
GLUCAGON 1.0 mg IM
for no IV access
Yes
BG <60 mg/dl?
No
Persistent (status) or recurrent seizure?
No
E
Reassess and monitor VS
Yes
E
Glucose test/retest
Ventilation Management
A
Vascular Access
Cardiac monitor
P
MIDAZOLAM 0.1 mg/kg up to max 5.0 mg IM/IN/IV; may repeat dose at 0.05 mg/kg
OR
DIAZEPAM 5.0 mg IM/IV
Continue General Adult Assessment

History
- Reported or witnessed seizure activity
- Previous seizure history
- Seizure medications
- History of trauma
- History of diabetes
- History of pregnancy
- Time of seizure onset
- Number of seizures
- Alcohol use, abuse, or abrupt cessation
- Fever

Signs and Symptoms
- Decreased mental status
- Sleepiness
- Incontinence
- Observed seizure activity
- Evidence of trauma
- Unconsciousness

Differential
- CNS trauma
- Tumor
- Metabolic, hepatic or renal failure
- Hypoxia
- Electrolyte abnormality (Na, Ca, Mg)
- Drugs, medication non-compliance
- Infection, fever
- Alcohol withdrawal
- Eclampsia
- Stroke
- Hyperthermia
- Hypothermia

Pearls
- Recommended exam: Mental Status, HEENT, Heart, Lungs, Extremities, Neuro.
- Benzodiazepines are effective in terminating seizures; do not delay IM/IN administration while initiating an IV.
- Status epilepticus is defined as two or more seizures successively without an intervening lucid period, or a seizure lasting over five minutes.
- Grand mal seizures (generalized) are associated with loss of consciousness, incontinence and oral trauma.
- Focal seizures affect only part of the body and are not usually associated with a loss of consciousness.
- Be prepared to address airway issues and support ventilations as needed.
- Consider $ETCO_2$ monitoring.

Shock

General Adult Assessment

E Oxygen Keep SpO_2 >94%

A Vascular Access

P Cardiac monitor/capnography

Alternative appropriate treatment protocols as indicated

Trauma - related

General Trauma

For patients with known adrenal insufficiency, administer patient's own Solu-Cortef (hydrocortisone) as prescribed

Non-trauma, Non-cardiogenic

A NS bolus 1000 ml; may repeat x 1 with no rales on lung exam

P Consider DOPAMINE 5-20 mcg/kg/min; titrate to SBP >90 mmHg

Cardiogenic

Appropriate arrhythmia protocol as indicated

P 12-Lead ECG

A NS bolus 500 ml; if no rales on lung exam, may repeat x 1

P Consider DOPAMINE 5-20 mcg/kg/min; titrate to SBP >90 mmHg

Continue General Adult Assessment

History
- Blood loss-vaginal bleeding, ectopic, GI bleeding or AAA
- Fluid loss-vomiting, diarrhea, fever
- Infection
- Cardiac tamponade
- Medications
- Allergic reaction
- Pregnancy
- History of poor oral intake

Signs and Symptoms
- Restlessness, confusion
- Weakness, dizziness
- Weak rapid pulse
- Pale, cool, clammy skin
- Delayed capillary refill
- Hypotension
- Coffee-ground emesis
- Tarry stools

Differential
- Hypovolemic shock
- Cardiogenic shock
- Septic shock
- Neurogenic shock
- Anaphylactic shock
- Ectopic pregnancy
- Dysrhythmias
- Pulmonary embolis
- Tension pneumothorax
- Medication effect or overdose
- Vasovagal
- Physiologic (pregnancy)

Pearls
- Recommended exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- Hypotension can be defined as a systolic BP of <90. This is not always reliable and should be interpreted in context and patient's typical BP, if known. Shock may present with a normal BP initially.
- Shock often is present with normal vital signs and may develop insidiously. Tachycardia may be the only manifestation.
- Consider all possible causes of shock and treat per appropriate protocol.

Hypovolemic shock
- Hemorrhage, trauma, GI bleeding, ruptured aortic aneurysm, or pregnancy related bleeding

Cardiogenic shock
- Heart failure, MI, cardiomyopathy, myocardial contusion, toxins

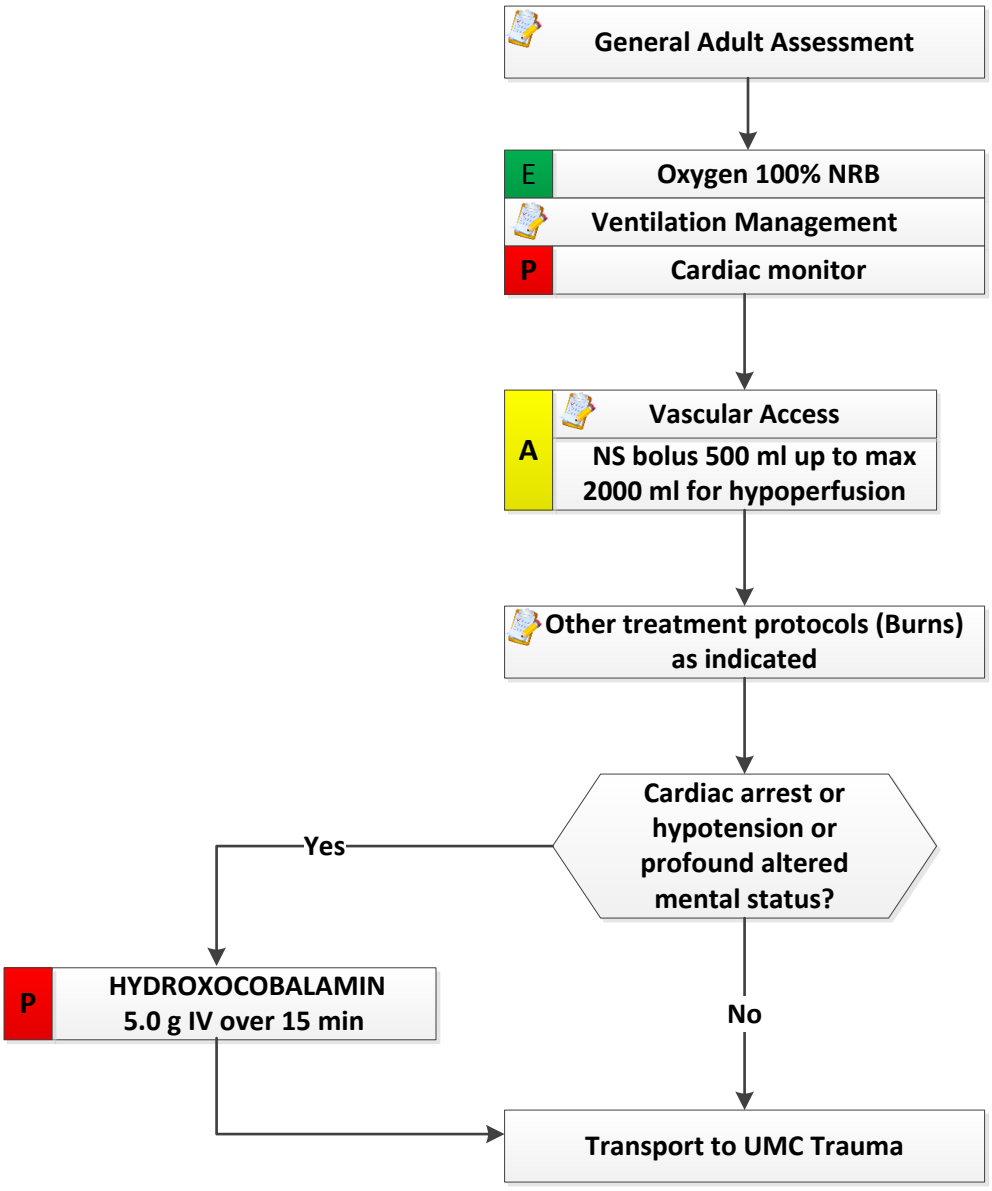
Distributive shock
- Sepsis, anaphylaxis, neurogenic, toxins

Obstructive shock
- Pericardial tamponade, pulmonary embolus, tension pneumothorax

For patients with known adrenal insufficiency, administer patient's own Solu-Cortef (hydrocortisone) as prescribed.

Causes of Adrenal Insufficiency:
Addison's Disease
Congenital Adrenal Hyperplasia
Long term administration of steroids
Others

Smoke Inhalation



History
- Exposed to smoke in a structure fire
- Exposed to smoke in a vehicle fire
- Exposed to smoke from other sources, industrial, confined space, wilderness fire, etc.

Signs and Symptoms
- Facial burns
- Singed nasal hairs or facial hair
- Shortness of breath
- Facial edema
- Stridor
- Grunting respirations

Differential
- COPD
- CHF
- Toxic inhalation injury
- Caustic inhalation injury

Pearls
- Protect yourself and your crew.
- Have a high index of suspicion when treating patients at the scene of a fire.
- If the medication is not available on scene do not delay transport waiting for it.
- Carefully monitor respiratory effort and correct life threats immediately.
- Decide early on if you want to intubate as burned airways swell, making intubation difficult.
- Profound altered mental status can be defined as a deficit that includes disorientation, bewilderment and difficulty following commands.

Preparation and Administration of Hydroxocobalamin

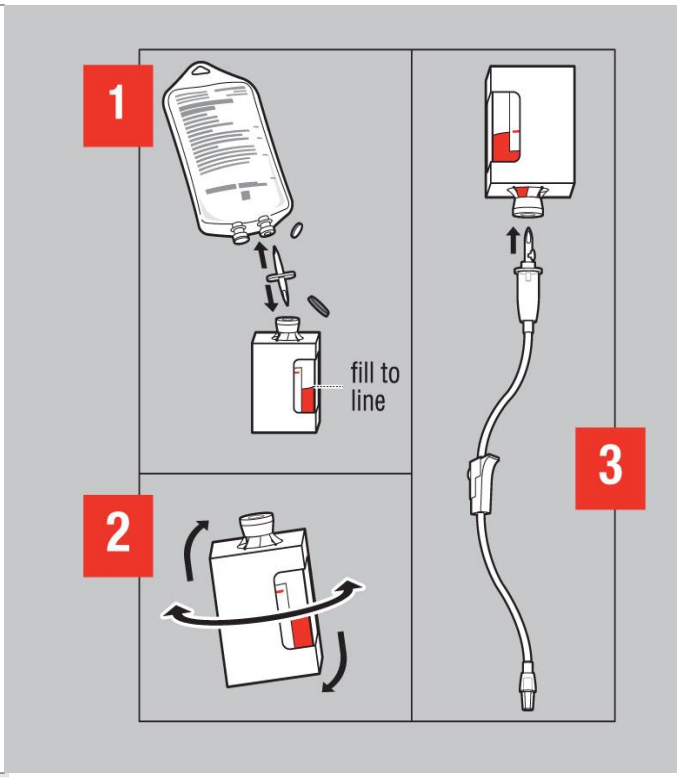
Complete Starting Dose: 5 g

1. Reconstitute: Place the vial in an upright position.
Add **200 mL** of 0.9% Sodium Chloride Injection* to the vial using the transfer spike. **Fill to the line.**

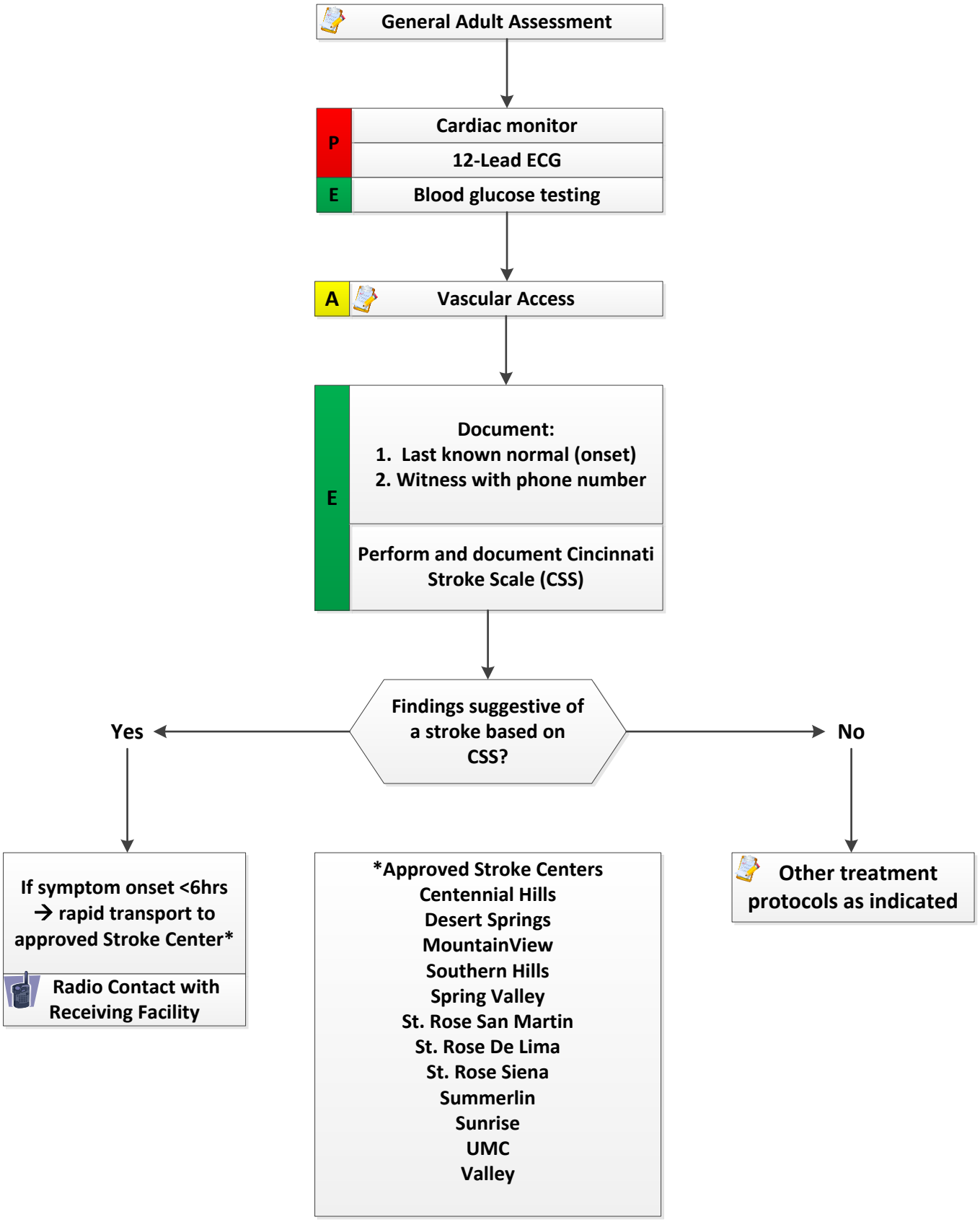
* 0.9% Sodium Chloride Injection is the recommended diluent (diluent not included in the kit). Lactated Ringer's Solution and 5% Dextrose Injection have also been found to be compatible with Hydroxocobalamin.

2. Mix: The vial should be repeatedly inverted or rocked, ***NOT*** shaken, for at least **60 seconds** prior to infusion.

3. Infuse Vial: Use vented intravenous tubing, hang and infuse over **15 minutes**.



Stroke (CVA)


General Adult Assessment
P
Cardiac monitor
12-Lead ECG
E
Blood glucose testing
A
Vascular Access
E
Document:
1. Last known normal (onset)
2. Witness with phone number
Perform and document Cincinnati Stroke Scale (CSS)
Findings suggestive of a stroke based on CSS?
Yes
No
If symptom onset <6hrs → rapid transport to approved Stroke Center*
Radio Contact with Receiving Facility
*Approved Stroke Centers
Centennial Hills
Desert Springs
MountainView
Southern Hills
Spring Valley
St. Rose San Martin
St. Rose De Lima
St. Rose Siena
Summerlin
Sunrise
UMC
Valley
Other treatment protocols as indicated

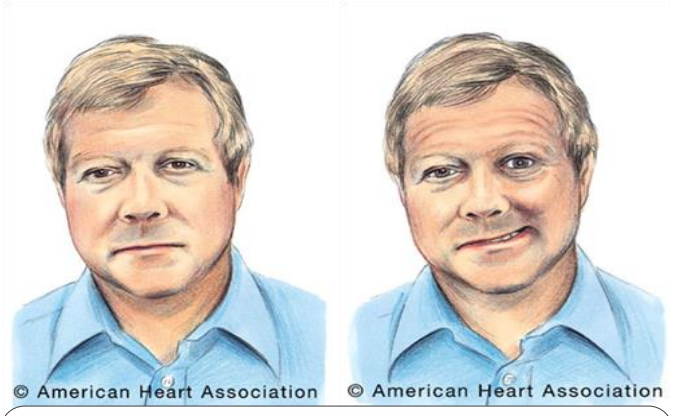
History
- Previous CVA, TIAs
- Previous cardiac/vascular surgery
- Associated diseases: diabetes, HTN, CAD
- Atrial fibrillation
- Medications
- History of trauma

Signs and Symptoms
- AMS
- Weakness, paralysis
- Blindness or other sensory loss
- Aphasia, dysarthria
- Syncope
- Vertigo, dizziness
- Vomiting
- Headache
- Seizures
- Respiratory pattern change
- Hypertension, hypotension

Differential
- AMS
- TIA
- Seizure
- Hypoglycemia
- Tumor
- Trauma
- Dialysis/renal failure

Pearls
- Recommended exam: Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro.
- Determine time of onset of symptoms or last time patient was seen normal.
- Transport to a Stroke Center.

Stroke centers
- Centennial Hills
- Desert Springs
- MountainView
- Southern Hills
- Spring Valley
- St. Rose de Lima
- St. Rose San Martin
- St. Rose Siena
- Summerlin
- Sunrise
- UMC
- Valley



Facial Droop
- Normal: Both sides of face move equally
- Abnormal: One side of face does not move at all

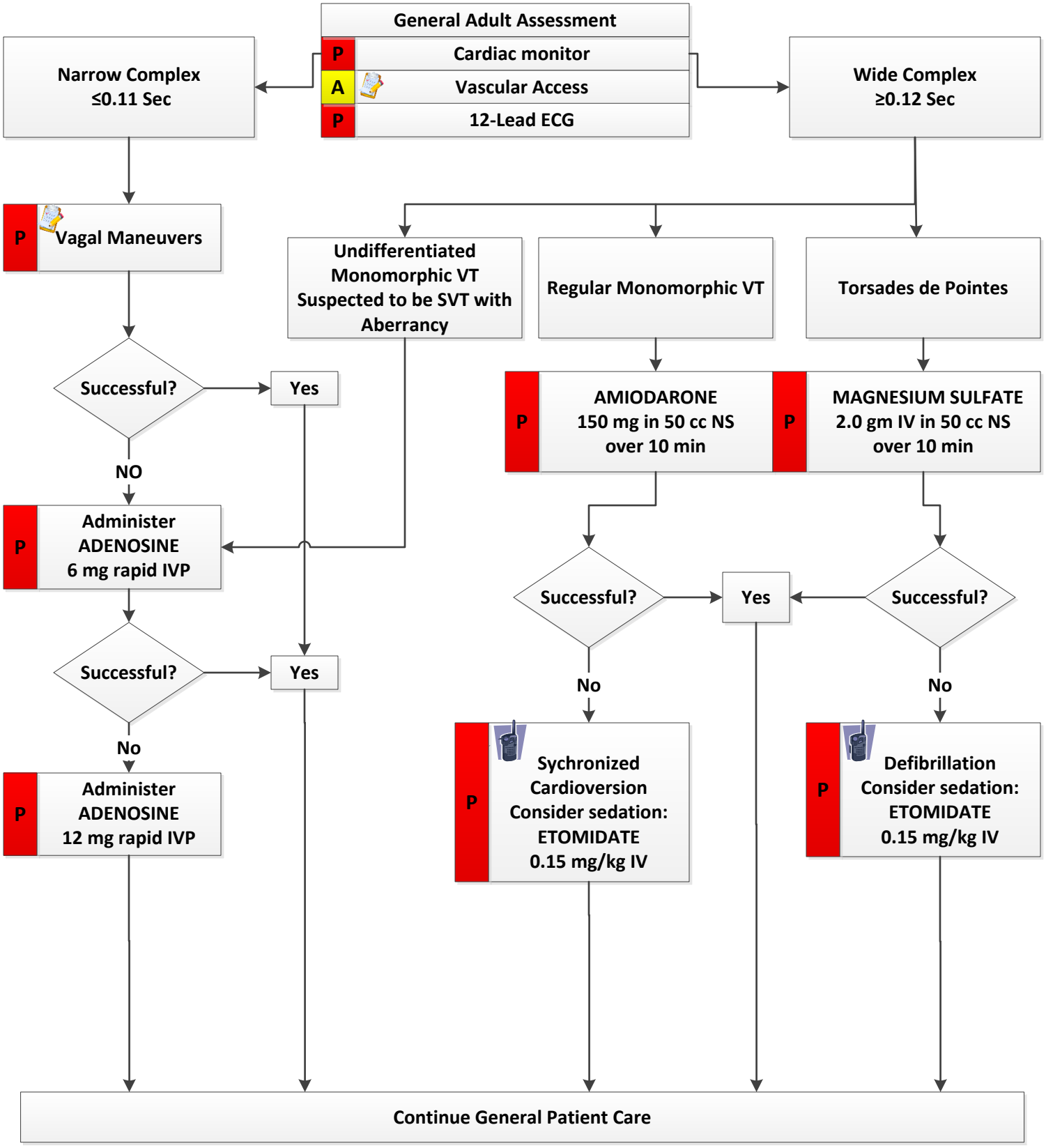
QI Metrics
- Cincinnati Stroke Scale completed.
- Time of symptom onset documented.
- Blood glucose documented.
- 12 lead ECG completed.
- Scene time <10 min.

QI Metrics:
1. **Cincinnati Stroke Scale and time of symptom onset documented**
2. **Blood Glucose documented**
3. **12-Lead ECG done**
4. **Scene time <10 min**

Arm Drift
- Normal: Both arms move equally well, or not at all.
- Abnormal: One arm drifts compared to the other.

Speech
- Normal: Uses correct words without slurring.
- Abnormal: No speech, or slurred or inappropriate words.

Tachycardia / Stable
(Normal Mental Status, Palpable Radial Pulse)



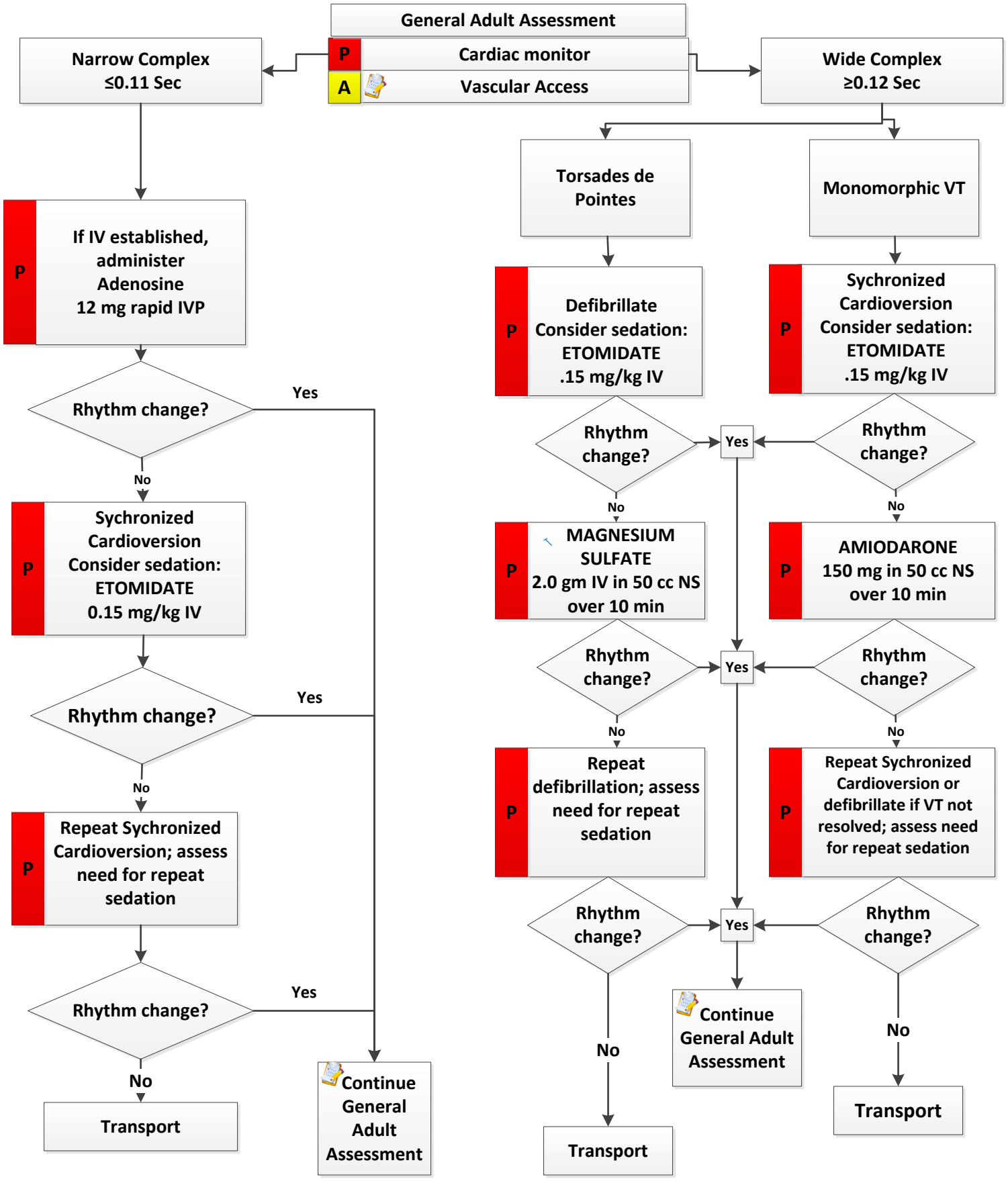
History
- Medications (aminophylline, diet pills, thyroid supplements, decongestants, digoxin)
- Diet (caffeine)
- Drugs (cocaine, methamphetamines)
- Past medical history
- Syncope/near syncope
- History of palpitations/racing heart

Signs and Symptoms
- Heart rate >150
- Dizziness, CP, SOB
- Diaphoresis
- CHF

Differential
- Heart disease (WPW, valvular)
- Sick sinus syndrome
- MI
- Electrolyte imbalance
- Exertion, fever, pain, emotional stress
- Hypoxia
- Hypovolemia
- Drug effect, overdose
- Hyperthyroidism

Pearls
- Recommended exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- Carefully monitor patients as you treat them; stable tachycardia may convert to unstable rhythms/conditions quickly.
- Sedate patients prior to cardioversion, if time allows.

Tachycardia / Unstable (Mental Status Changes, No Palpable Radial Pulse)



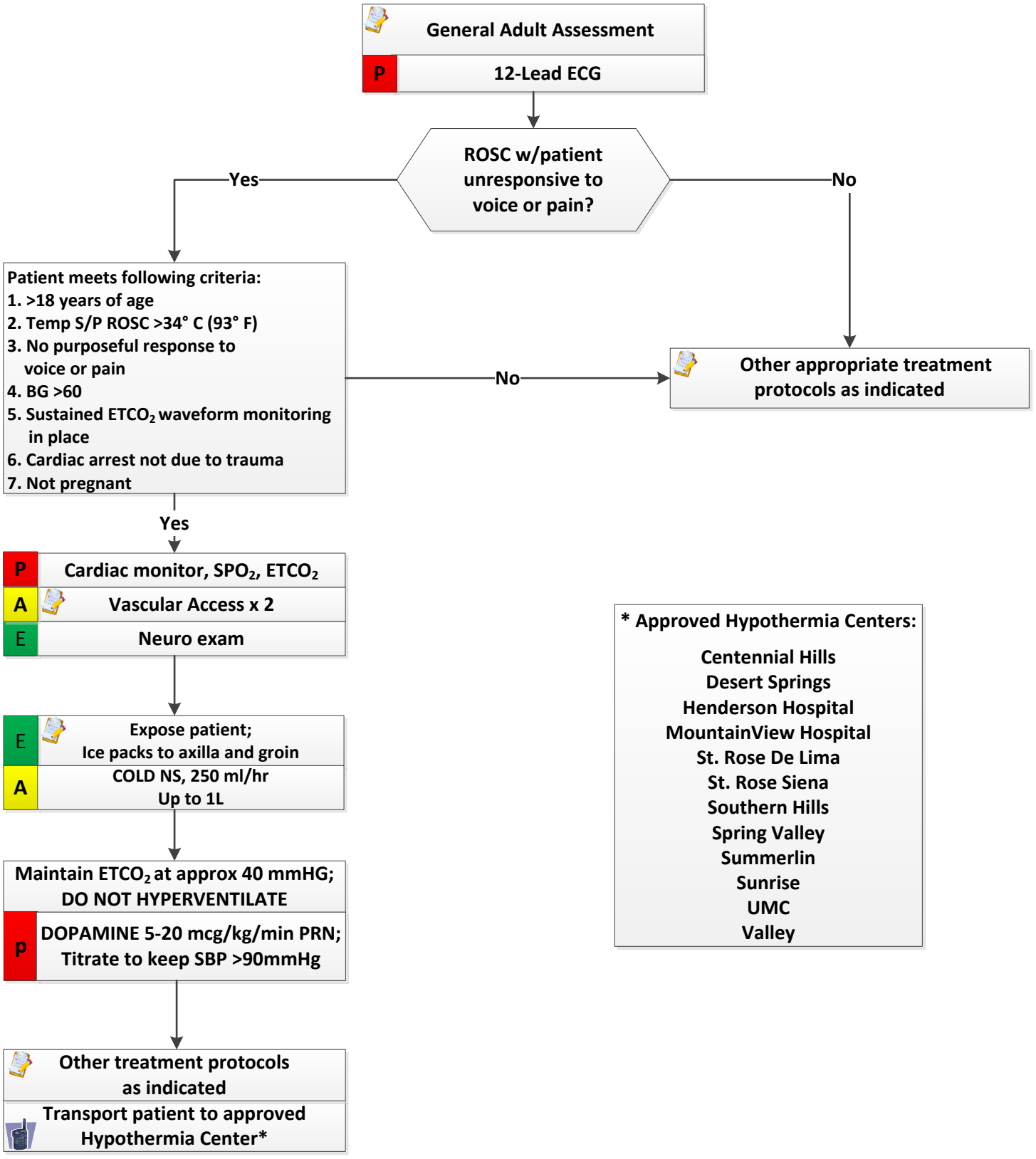
History
- Medications (aminophylline, diet pills, thyroid supplements, decongestants, digoxin)
- Diet (caffeine)
- Drugs (cocaine, methamphetamines)
- Past medical history
- Syncope/near syncope
- History of palpitations/racing heart

Signs and Symptoms
- Cardiac arrest
- Heart rate >150
- Dizziness, CP, SOB
- Diaphoresis
- CHF

Differential
- Heart disease (WPW, valvular)
- Sick sinus syndrome
- MI
- Electrolyte imbalance
- Exertion, fever, pain, emotional stress
- Hypoxia
- Hypovolemia
- Drug effect, overdose
- Hyperthyroidism

Pearls
- Recommended exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- If patient is in arrest, efforts should focus on quality chest compressions and rhythm correction.
- Administer Adenosine at a proximal IV site, rapidly followed by a saline flush.

Target Temperature Management & Post-Resuscitation



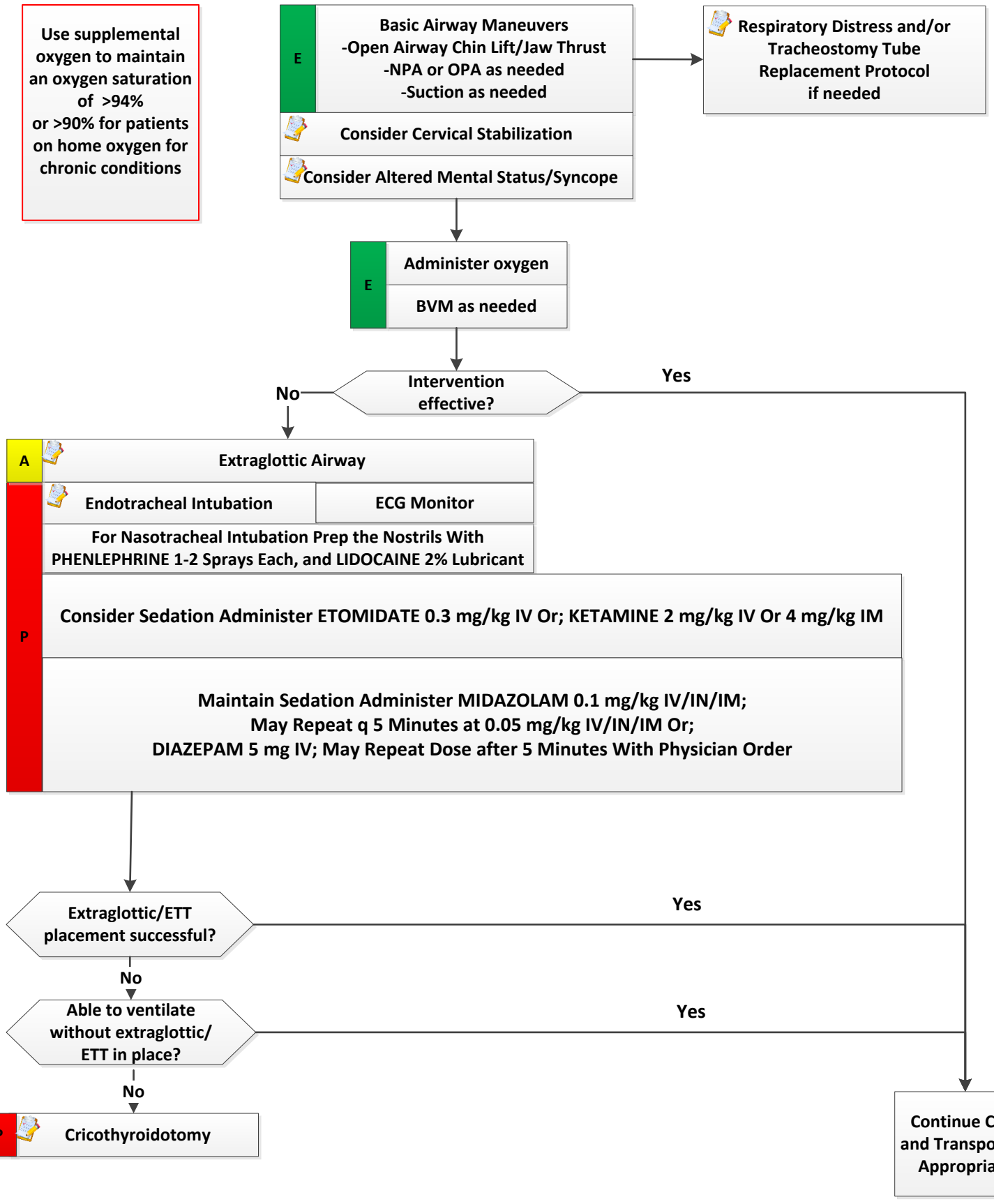
History
- Non-traumatic cardiac arrest
- Any presenting ECG rhythm

Signs and Symptoms
- Cardiac arrest
- Return of spontaneous circulation post cardiac arrest

Differential
- Continue to address rhythm specific differentials

Pearls
- Hyperventilation is to avoided in any cardiac arrest/post arrest resuscitation.
- Initial $ETCO_2$ may be elevated immediately post resuscitation but will normalize.
- Transport to a hypothermia center as listed is required for continued management of the post arrest patient.

Ventilation Management



Always weigh the risks and benefits of endotracheal intubation in the field against transport. All prehospital endotracheal intubations are considered high risk. If ventilation/oxygenation is adequate, transport may be the best option. The most important airway device and the most difficult to use correctly and effectively is the Bag Valve Mask (not the laryngoscope). Few prehospital airway emergencies cannot be temporized or managed with proper BVM techniques.

DIFFICULT AIRWAY ASSESSMENT:

Difficult BVM Ventilation-MOANS: Difficult **M**ask seal due to facial hair, anatomy, blood or secretions/trauma; **O**bese or late pregnancy; **A**ge >55; **N**o teeth (roll gauze and place between gums and cheeks to improve seal); **S**tiff or increased airway pressures (asthma, COPD, obese, pregnant).

Difficult Laryngoscopy-LEMON: **L**ook externally for anatomical distortions (small mandible, short neck, large tongue); **E**valuate 3-3-2 Rule (Mouth open should accommodate 3 patient fingers, mandible to neck junction should accommodate 3 patient fingers, chin-neck junction to thyroid prominence should accommodate 2 patient fingers); **M**allampati (difficult to assess in the field); **O**bstruction / Obese or late pregnancy; **N**eck mobility.

Difficult Extraglottic Device Placement-RODS: **R**estricted mouth opening; **O**bstruction / Obese or late pregnancy; **D**istorted or disrupted airway; **S**tiff or increased airway pressures (asthma, COPD, obese, pregnant).

Nasotracheal intubation: *Orotracheal intubation is the preferred choice.* Procedure requires patient to have spontaneous breathing. Contraindicated in anatomically disrupted or distorted airways, increased intracranial pressure, severe facial trauma, basal skull fracture, head injury.

Pearls

- Capnometry (Color) or capnography is mandatory with all methods of intubation. Document results.
- Continuous capnography ($ETCO_2$) is mandatory for the monitoring of all patients with an ET tube.
- If an effective airway is being maintained by BVM and/or basic airway adjuncts (e.g. nasopharyngeal airway) with continuous pulse oximetry values of ≥90% or values expected based on pathophysiologic condition with otherwise reassuring vital signs (e.g. pulse oximetry of 85% with otherwise normal vitals in a post-drowning patient), it is acceptable to continue with basic airway measures instead of using an extraglottic airway device or intubation. Consider CPAP as indicated by protocol and patient condition.
- For the purposes of this protocol, a secure airway is achieved when the patient is receiving appropriate oxygenation and ventilation.
- An intubation attempt is defined as passing the laryngoscope blade or endotracheal tube past the teeth or inserted into the nasal passage.
- An appropriate ventilatory rate is one that maintains an $ETCO_2$ of 35 - 45. Avoid hyperventilation.
- Paramedics should use an extraglottic airway device if oral-tracheal intubation is unsuccessful.
- Maintain C-spine stabilization for patients with suspected spinal injury.
- Cricoid pressure and BURP maneuver may assist with difficult intubations. They may worsen view in some cases.
- Gastric tube placement should be considered in all intubated patients, if time allows.
- It is important to secure the endotracheal tube well.

PEDIATRIC TREATMENT PROTOCOLS

(for patients under 12 years of age)

General Pediatric Assessment

Scene Safety / Scene Size-Up
Nature of Call / Mechanism of Injury
PPE / BSI
Bring all equipment to patient's side, including Broselow Tape

→ S.T.A.R.T. Triage

Level of Consciousness	Unresponsive →	Check Pulse	None or <60 → Cardiac Arrest
Airway	Signs of compromise or not protecting →		Ventilation Management
Breathing	Inadequate or respiratory distress →		Respiratory Distress
Circulation	Bleeding →		Hemorrhage Control Tourniquet
Disability	Altered or confused →		Altered Mental Status/ Syncope

- History – HPI & AMPLE
- Vital Signs & Physical Exam
- E: Blood glucose testing as indicated
- Specific treatment protocol as indicated
- Cervical Stabilization as indicated
- Comfort measures (splint, position of comfort)
- P: Cardiac monitor as indicated
- A: Vascular Access as indicated
- Oxygen therapy to keep SpO_2 ≥94%
- P: Pain Management as indicated

- Radio Contact for all pediatric patients.
- Transport per Pediatric Destination Criteria

→ Transport to closest facility for:
- Airway emergencies (inability to adequately ventilate)

Pearls

- For all scenes where patient needs exceed available EMS resources, initial assessment and treatment shall be in accordance with an approved triage methodology.
- Correct life-threatening problems as identified.
- If the ability to adequately ventilate a patient cannot be established, the patient must be transported to the nearest emergency department.
- Never withhold oxygen from a patient in respiratory distress.
- Contact with online medical control should be established by radio. Telephone contact may only be used if the call is routed via a recorded phone patch through the FAO at 702-382-9007.

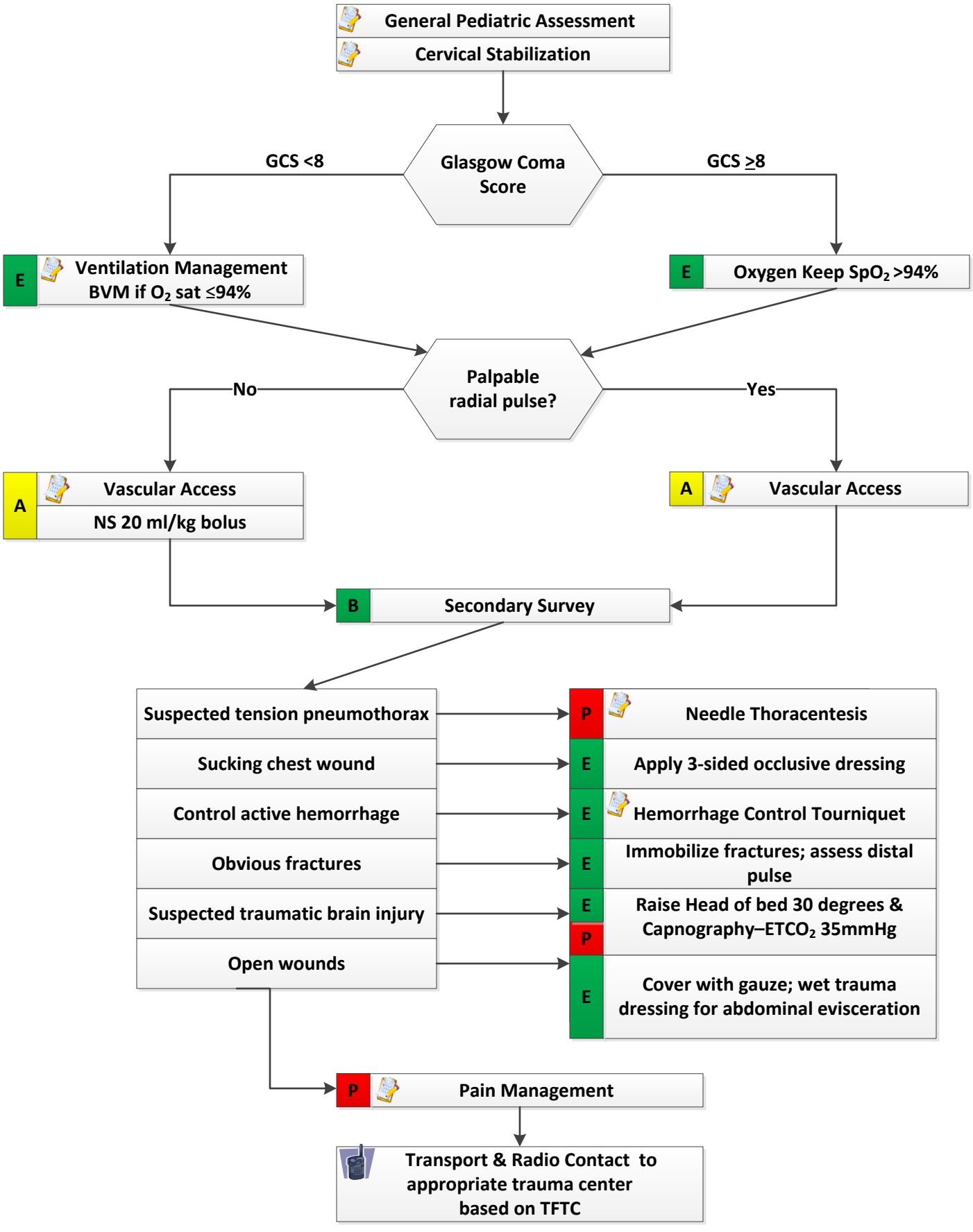
Disposition

- Patients sustaining traumatic injuries shall be transported in accordance with the Trauma Field Triage Criteria Protocol.
- Patients sustaining burn injuries shall be transported in accordance with the Burns Protocol.
- Pediatric patients (<18 y/o for transport purposes only) shall be transported in accordance with the Pediatric Destination Protocol.
- Patients with evidence of a stroke shall be transported in accordance with the Stroke Protocol.
- Sexual assault victims <13 y/o shall be transported to Sunrise Hospital.
- Sexual assault victims 13 y/o up to 18 y/o shall be transported to Sunrise Hospital or UMC.
- Sexual assault victims 18 y/o and older shall be transported to UMC.
- For sexual assault victims outside a 50-mile radius from the above facilities, the patient shall be transported to the nearest appropriate facility.
- Stable patients shall be transported to the hospital of their choice; if the patient has no preference, the patient should be transported to the closest facility.

Internal Disaster

- If a hospital declares an internal disaster, that facility is to be bypassed for all patients except patients in cardiac arrest, or in whom the ability to adequately ventilate has not been established.
- Operational exceptions may be initiated in regard to transport to hospitals on internal disaster.

General Pediatric Trauma Assessment



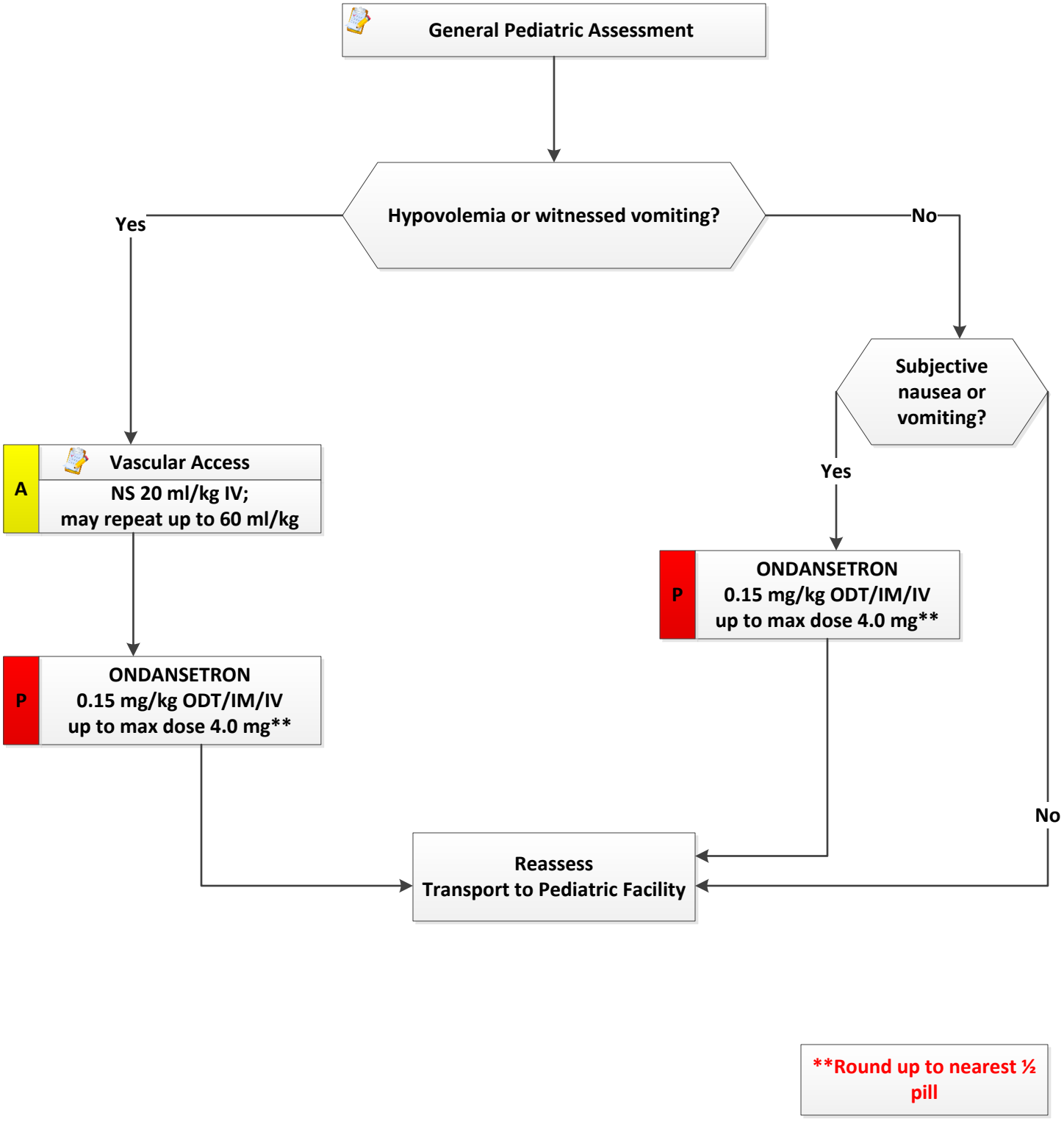
History
- Time and mechanism of injury
- Damage to structure or vehicle
- Location in structure or vehicle
- Others injured or dead
- Speed and details of MVC
- Restraints/protective equipment
- Past medical history
- Medications

Signs and Symptoms
- Pain, Swelling
- Deformity, lesions, bleeding
- AMS or unconscious
- Hypotension or shock
- Arrest

Differential (Life threatening)
- Tension pneumothorax
- Flail chest
- Pericardial tamponade
- Open chest would
- Hemothorax
- Intra-abdominal bleeding
- Pelvis/femur fracture
- Spine fracture/cord injury
- Head injury
- Extremity fracture
- HEENT (airway obstruction)
- Hypothermia

Pearls
- Recommended exam: Mental Status, Skin, HEENT, Heart Lung, Abdomen, Extremities, Back, Neuro.
- Transport destination is based on the Trauma Field Triage Criteria Protocol.
- Transport should not be delayed for procedures; ideally procedures should be performed enroute when possible.
- BVM is an acceptable method of ventilating and managing an airway if pulse oximetery can be maintained ≥90%.
- Pediatric patients should be evaluated with a high index of suspicion; occult injuries may be present and pediatric patients can decompensate quickly.

Pediatric Abdominal Pain, Nausea & Vomiting



**Round up to nearest ½ pill

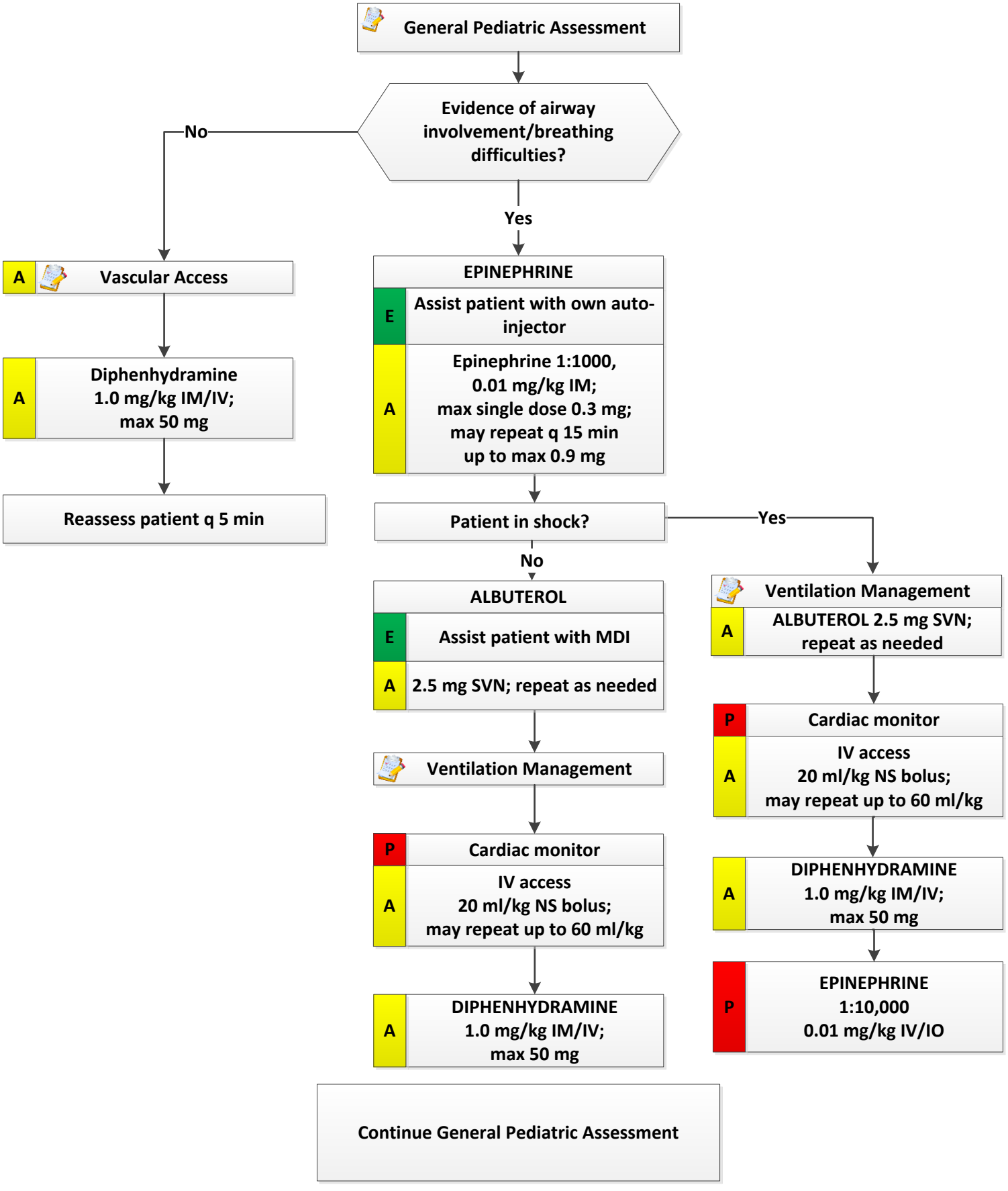
History
- Age
- Medical/surgical history
- Onset
- Quality
- Severity
- Fever

Signs and Symptoms
- Pain location
- Tenderness
- Nausea
- Vomiting
- Diarrhea
- Dysuria
- Constipation

Differential
- Liver (Hepatitis)
- Gastritis
- Pancreatitis
- Kidney stone
- Appendicitis
- Bladder
- Bowel obstruction
- Gastroenteritis

Pearls
- Recommended Exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Back, Extremities, Neuro.
- Document mental status and vital signs prior to administration of anti-emetics & pain management.
- Repeat vital signs after each fluid bolus.
- Consider retroperitoneal palpation for kidney pain.
- Pediatric fluid bolus is 20 ml/kg; may repeat to a maximum of 60 ml/kg.
- If there is suspicion that the patient is in DKA, do not exceed 20 ml/kg NS.
- Morphine is not recommended in children for abdominal pain.
- Consider cardiac and $ETCO_2$ monitoring.

Pediatric Allergic Reaction



History
- Onset and location
- Insect sting or bite
- Food allergy/exposure
- Medication allergy/exposure
- New clothing, soap, detergent
- Past history of reactions
- Past medical history
- Medication history

Signs and Symptoms
- Itching or hives
- Coughing/wheezing or respiratory distress
- Throat or chest constriction
- Difficulty swallowing
- Hypotension/shock
- Edema
- Nausea/vomiting

Differential
- Urticarial (rash only)
- Anaphylaxis (systemic effect)
- Shock (vascular effect)
- Angioedema (drug induced)
- Aspiration/airway obstruction
- Asthma/COPD
- CHF

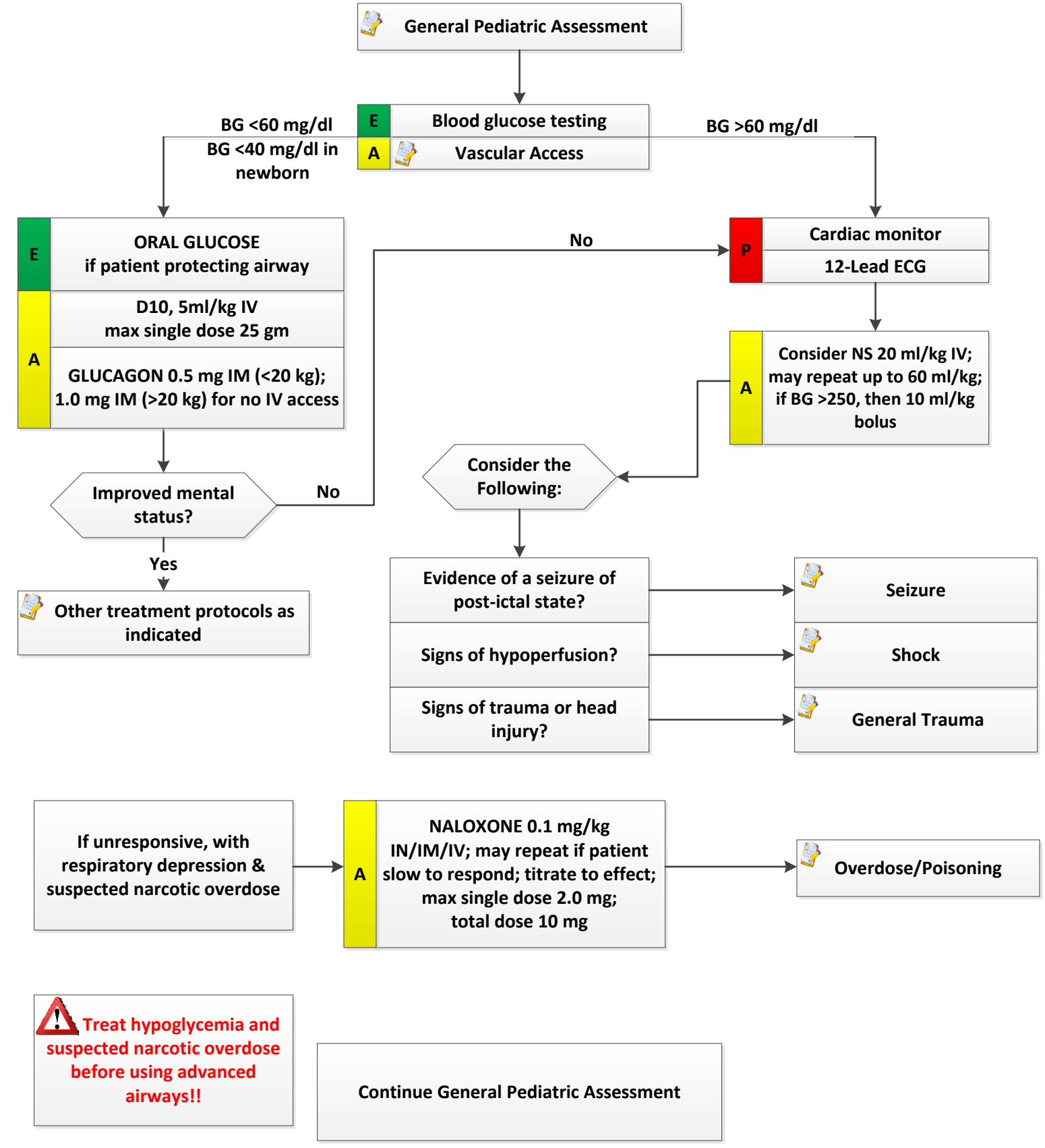
Pearls
- Recommended Exam: Mental Status, Skin, Heart, Lung.
- Anaphylaxis is an acute and potentially lethal multisystem allergic reaction.
- Epinephrine is a first-line drug that should be administered in acute anaphylaxis (moderate/severe symptoms). IM Epinephrine (1:1,000) should be administered in priority before or during attempts at IV or IO access.
- Anaphylaxis refractory to repeat doses of IM Epinephrine may require IV Epinephrine (1:10,000) administration by IV push or Epinephrine infusion.
- Contact Medical Control for refractory anaphylaxis.

Severity
- **Mild** reactions involve skin rashes, itchy sensation or hives with no respiratory involvement.
- **Moderate** reactions involve skin disorders and may include some respiratory involvement like wheezing, yet the patient still maintains good tidal volume air exchange.
- **Severe** reactions involve skin disorders, respiratory difficulty, and may include hypotension.

Special Considerations
- Always perform ECG monitoring when administering Epinephrine.
- Consider Dopamine for hypotension refractory to administration of Epinephrine.
- Provide oxygen and airway support as needed.

QI Metrics
- Epinephrine given appropriately.
- Airway assessment documented.

Pediatric Altered Mental Status



History

- Past medical history
- Medications
- Recent illness
- Irritability
- Lethargy
- Changes in feeding/sleeping
- Diabetes
- Potential ingestion
- Trauma

Signs and Symptoms

- Decrease in mentation
- Change in baseline mentation
- Decrease in blood sugar
- Cool, diaphoretic skin
- Increase in blood sugar
- Warm, dry, skin; fruity breath
- Kussmaul respirations, signs of dehydration

Differential

- Hypoxia
- CNS (trauma, stroke, seizure, infection)
- Thyroid (hyper/hypo)
- Shock (septic-infection, metabolic, traumatic)
- Diabetes (hyper/hypoglycemia)
- Toxicological
- Acidosis/Alkalosis
- Environmental exposure
- Electrolyte abnormalities
- Psychiatric disorder

Pearls

- Recommended Exam: Mental Status, HEENT, Skin, Heart, Lung, Abdomen, Back, Extremities and Neuro.
- Pay careful attention to the head exam for signs of injury.
- Be aware of AMS as presenting sign of an environmental toxin or Haz-Mat exposure and protect personal safety and that of other responders.
- Consider alcohol, prescription drugs, illicit drugs and over the counter preparations as possible etiology.
- If narcotic overdose or hypoglycemia is suspected, administer Narcan or Glucose prior to advanced airway procedures.
- Narcan is not recommended in the newly born.

Pediatric Behavioral Emergency

Protocol for pediatric patients <12 yrs old

Scene Safety

General Pediatric Assessment

Consider medical causes for the patient's behavior:
1. Hypoxia
2. Intoxication / Overdose
3. Hypoglycemia / Electrolytes
4. Head Injury
5. Post-ictal State

Implement the S.A.F.E.R. model

Threatened or acted in a way that suggests threat to self or others

Yes

No

Consider Benzodiazepine IM

Transport to a Pediatric Facility as appropriate

2-point restraints; consider law enforcement escort; or 4-point restraints if needed

Transport to a Pediatric Facility

History
- Situational crisis
- Psychiatric illness/medications
- Injury to self or threat to others
- Medic Alert tag
- Substance abuse/overdose
- Diabetes

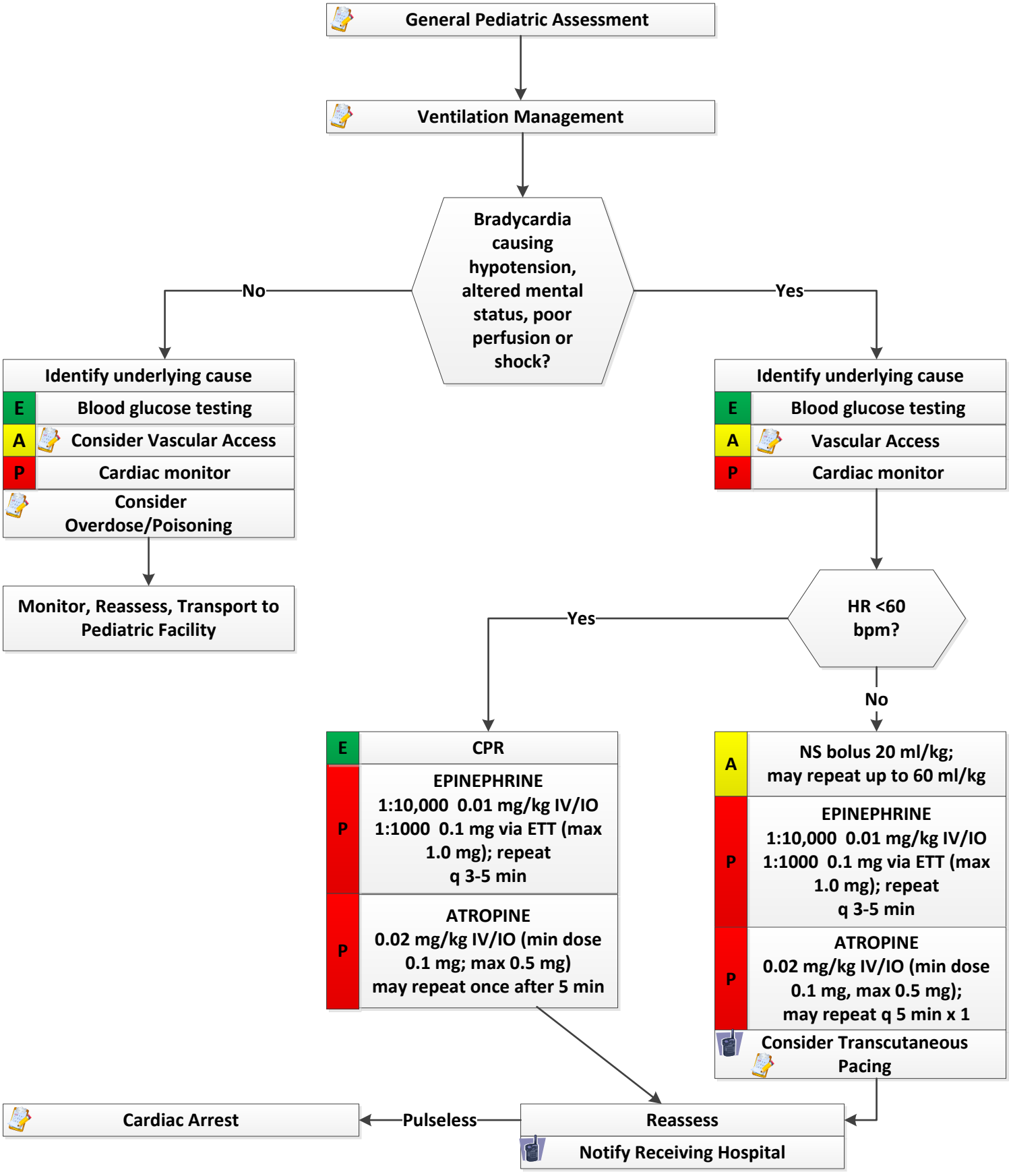
Signs and Symptoms
- Anxiety, agitation, confusion
- Affect change, hallucinations
- Delusional thoughts, bizarre behavior
- Combative, violent
- Expression of suicidal/ homicidal thoughts

Differential
- Altered mental status differential
- Alcohol intoxication
- Toxin/substance abuse
- Medication effect or overdose
- Withdrawal syndromes
- Depression
- Bipolar
- Schizophrenia
- Anxiety disorder

Pearls
- Midazolam is ***NOT*** recommended for use in children for behavioral emergencies.
- Law enforcement assistance should be requested on all calls involving potentially violent patients.
- Under no circumstances are patients to be transported restrained in the prone position.
- Recommended Exam: Mental Status, Skin, Heart, Lung, Neuro.
- Consider all possible medical/trauma causes for behavior.
- Do not irritate the patient with a prolonged exam.
- EMS providers are mandatory reporters in regard to suspected abuse of any vulnerable person.
- Consider cardiac and $ETCO_2$ monitoring.

Dystonic Reaction
- Condition causing involuntary muscle movements or spasms typically of the face, neck and upper extremities.
- Typically an adverse reaction to drugs such as Haloperidol (may occur with administration).
- When recognized, administer Diphenhydramine 1 mg/kg up to 50 mg IM/IV.

Pediatric Bradycardia



History
- Respiratory insufficiency
- Past medical history
- Medications
- Pacemaker

Signs and Symptoms
- HR <60/min with hypotension, acute altered mental status, chest pain, acute CHF, seizures, syncope, or shock secondary to bradycardia
- Respiratory distress

Differential
- Hypoxia
- Hypothermia
- Sinus bradycardia
- Athletic
- Head injury (elevated ICP)
- Spinal cord lesion
- Overdose

Pearls
- Pediatric pacing is by Telemetry Physician order only.
- Recommended Exam: Mental Status, HEENT, Heart, Lung, Neuro.
- Bradycardia causing symptoms is typically <50/minute. Rhythm should be interpreted in the context of symptoms and pharmacological treatment given only when symptomatic; otherwise, monitor and reassess.
- Identifying signs and symptoms of poor perfusion caused by bradycardia are paramount.
- Hypoxemia is a common cause of bradycardia; be sure to oxygenate the patient and provide ventilatory support as needed.

Pediatric Burns

General Pediatric Assessment

Thermal Exposure

Stop the burning process with water or saline
Remove smoldering clothing and jewelry
Do not remove STUCK clothing

Ventilation Management

Cover burned area with dry sterile dressing
DO NOT USE any ice, lotion, ointment or antiseptic!

A Vascular Access

IVF – NS 20 ml/kg fluid bolus if signs of hypoperfusion, OR >10% BSA burn present.
If no improvement in patient condition, administer additional fluid challenges up to 60 ml/kg.

P Cardiac monitor

P Pain Management

Consider Smoke Inhalation

Protect from hypothermia!

Chemical/Electrical Exposure

P Cardiac monitor

Eye Involvement?
Continuous saline flush in affected eyes. Flush with water or NS for 10-15 min

Remove jewelry, constricting items, and expose burned area

Identify entry and exit sites, apply sterile dressings

A Vascular Access

IVF – NS 20 ml/kg fluid bolus if signs of hypoperfusion, OR >10% BSA burn present.
If no improvement in patient condition, administer additional fluid challenges up to 60 ml/kg.

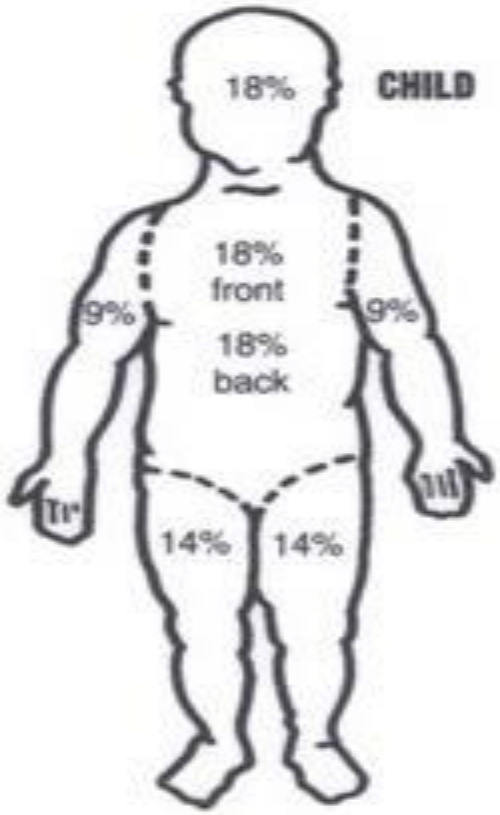
P Pain Management

Transport to UMC Pediatric ED for patients requiring Burn Center evaluation

History
- Type of exposure (heat, gas, chemical)
- Inhalational injury
- Time of injury
- Past medical history & medications
- Other trauma
- Loss of consciousness
- Tetanus/immunization status

Signs and Symptoms
- Burns, pain, swelling
- Dizziness
- Loss of consciousness
- Hypotension/shock
- Airway compromise/distress
- Wheezing
- Singed facial or nasal hair
- Hoarseness or voice changes

Differential
- Superficial (1st degree) – red and painful
- Partial Thickness (2nd degree) – blistering
- Full Thickness (3rd degree) – painless/charred or leathery skin
- Thermal
- Chemical
- Electrical
- Radiation
- Lightning



Pearls
- Burn patients are Trauma Patients; evaluate for multisystem trauma.
- Assure whatever has caused the burn, is no longer contacting the injury. (Stop the burning process!)
- Recommended Exam: Mental Status, HEENT, Neck, Heart, Lungs, Abdomen, Extremities, Back, Neuro.
- Early intubation is required when the patient experiences significant inhalation injuries.
- Potential CO exposure should be treated with 100% oxygen. (For patients in which the primary event is CO inhalation, transport to a hospital equipped with a hyperbaric chamber is indicated [when reasonably accessible].)
- Circumferential burns to extremities are dangerous due to potential vascular compromise secondary to soft tissue swelling.
- Burn patients are prone to hypothermia - never apply ice or cool burns; must maintain normal body temperature.
- Evaluate the possibility of child abuse with children and burn injuries.
- Consider $ETCO_2$ monitoring.

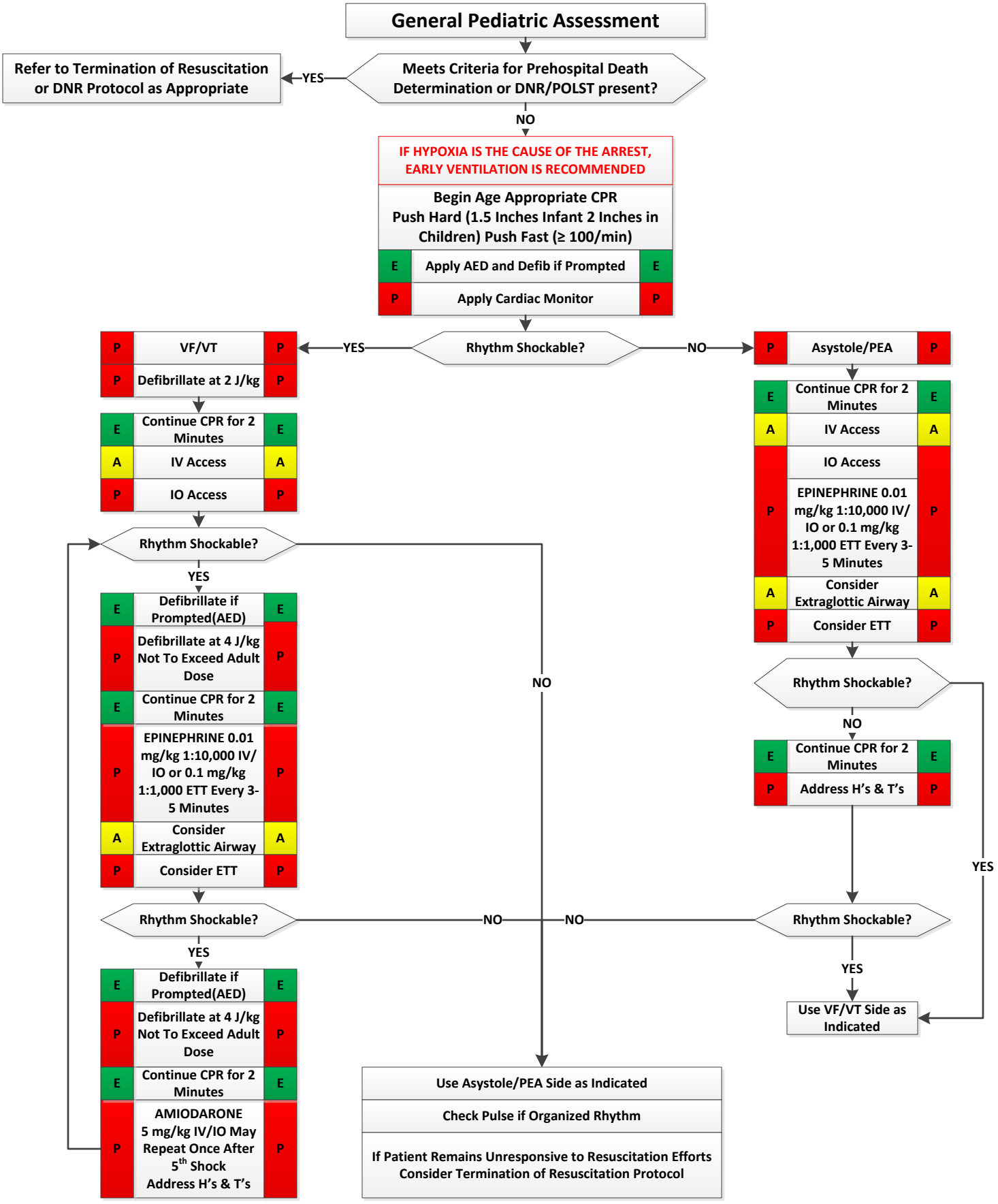
Patients meeting the following criteria shall be transported to the UMC Burn Center via the Adult or Pediatric Trauma Center:
1. Second and/or third degree burns >20% body surface area (BSA).
2. Second and/or third degree burns >10% body surface area (BSA) in patients under 10 years old or over 50 years old.
3. Burns that involve the face, hands, feet, genitalia, perineum or major joints.
4. Electrical burns, including lightning injury.
5. Chemical burns.
6. Circumferential burns.
7. Inhalational injury.

Parkland Formula for Fluid Replacement:
4 ml x (body wt in kg) x (% BSA burned) = total fluids for 24 hrs
Give ½ in the first 8 hrs; give remainder over next 16 hrs.

Pearls (Electrical)
- Do not contact the patient until you are certain the source of the electric shock has been disconnected.
- Attempt to locate contact points, (entry wound where the AC source contacted the patient; an exit at the ground point); both sites will generally be full thickness.
- Cardiac monitor; anticipate ventricular or atrial irregularity to include V-Tach, V-Fib, heart blocks, etc.
- Attempt to identify the nature of the electrical source (AC vs DC), the amount of voltage and the amperage the patient may have been exposed to during the electrical shock.

Pearls (Chemical)
- Certainly 0.9% NaCl Sol'n or Sterile Water is preferred; however if it is not readily available, do not delay; use tap water for flushing the affected area or other immediate water sources. Flush the area as soon as possible with the cleanest, readily available water or saline solution using copious amounts of fluids.

Cardiac Arrest Non-Traumatic Pediatric



History
- Events leading to arrest
- Estimated down time
- Past medical history
- Medications
- Existence of terminal illness

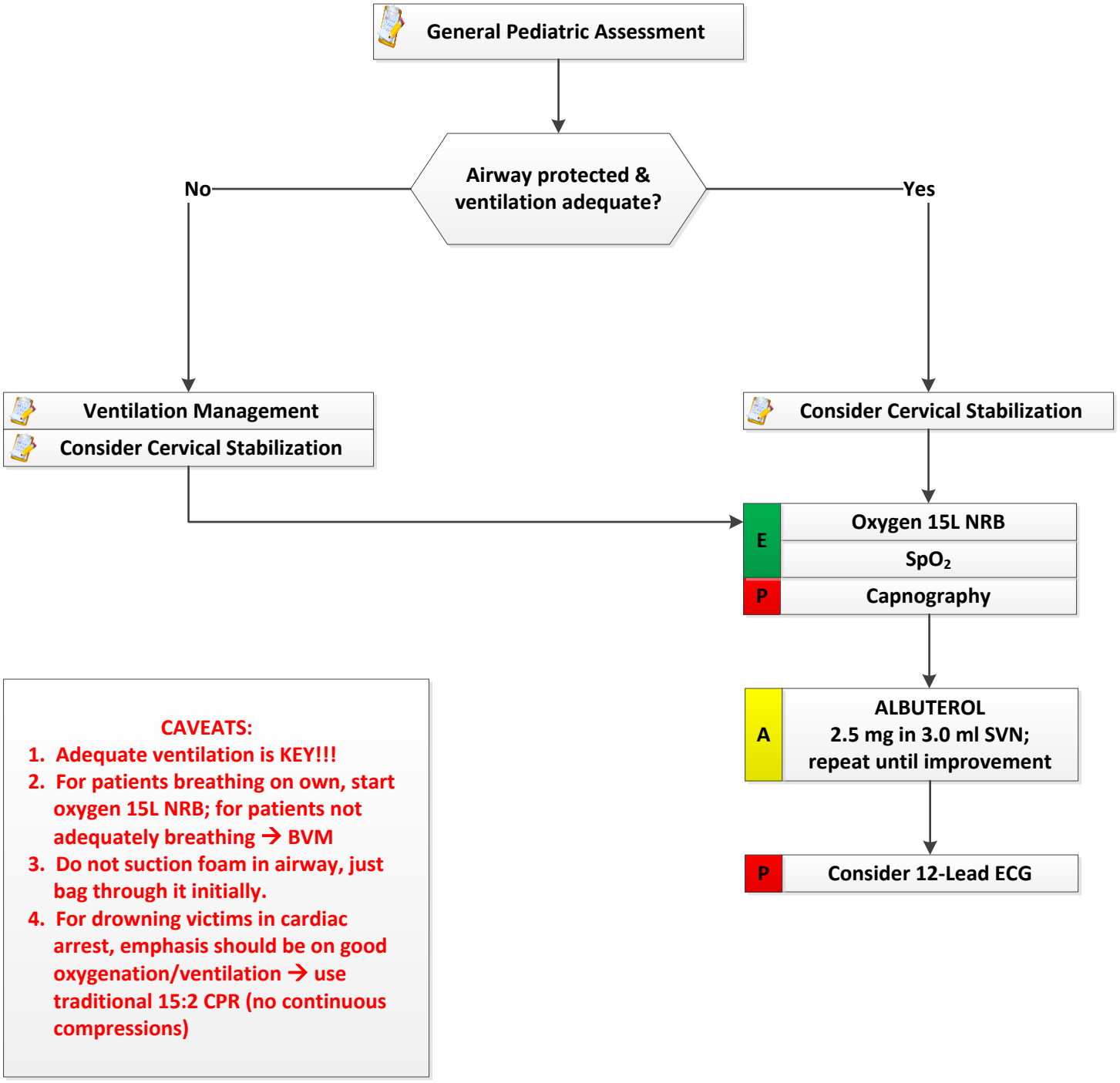
Signs and Symptoms
- Unresponsive
- Apneic
- Pulseless

Differential
- Medical vs. Trauma
- VF vs. Pulseless VT
- Asystole
- PEA
- Primary cardiac event vs. respiratory or drug overdose

Pearls
- Respiratory failure resulting in cardiac arrest should be addressed as it is identified.
- Efforts should be directed at high quality chest compressions with limited interuptions and early defibrillation when indicated.
- Consider early IO placement if IV is difficult.
- DO NOT HYPERVENTILATE.
- Reassess and document ETT placement using auscultation and $ETCO_2$ capnography.
- Switch compressors every two minutes.
- Try to maintain patient modesty.
- Mechanical chest compression devices should be used if available and appropriate for patient age/size in order to provide for consistent uninterrupted chest compressions and crew safety.
- Adult paddles/pads may be used on children weighing greater than 15kg.

H's & T's (reversible causes)
- Hypovolemia – Volume infusion
- Hypoxia – Oxygenation & ventilation, CPR
- Hydrogen ion (acidosis) – Ventilation, CPR
- Hypo/Hyperkalemia – Calcium Chloride, Glucose, Sodium Bicarbonate, Albuterol
- Hypothermia - Warming
- Tension pneumothorax – Needle decompression
- Tamponade, cardiac – Volume infusion
- Toxins – Agent specific antidote
- Thrombosis, pulmonary – Volume infusion
- Thrombosis, coronary – Emergent PCI

Pediatric Drowning



CAVEATS:

1. Adequate ventilation is KEY!!!
2. For patients breathing on own, start oxygen 15L NRB; for patients not adequately breathing → BVM
3. Do not suction foam in airway, just bag through it initially.
4. For drowning victims in cardiac arrest, emphasis should be on good oxygenation/ventilation → use traditional 15:2 CPR (no continuous compressions)

Continue General Pediatric Assessment

History
- Submersion in water regardless of depth
- Possible history of trauma (dive)
- Duration of immersion
- Temperature of water or possibility of hypothermia
- Degree of water contamination

Signs and Symptoms
- Unresponsive
- Mental status changes
- Decreased or absent vital signs
- Vomiting
- Coughing, wheezing, rales, stridor, rhonchi
- Apnea
- Frothy/foamy sputum

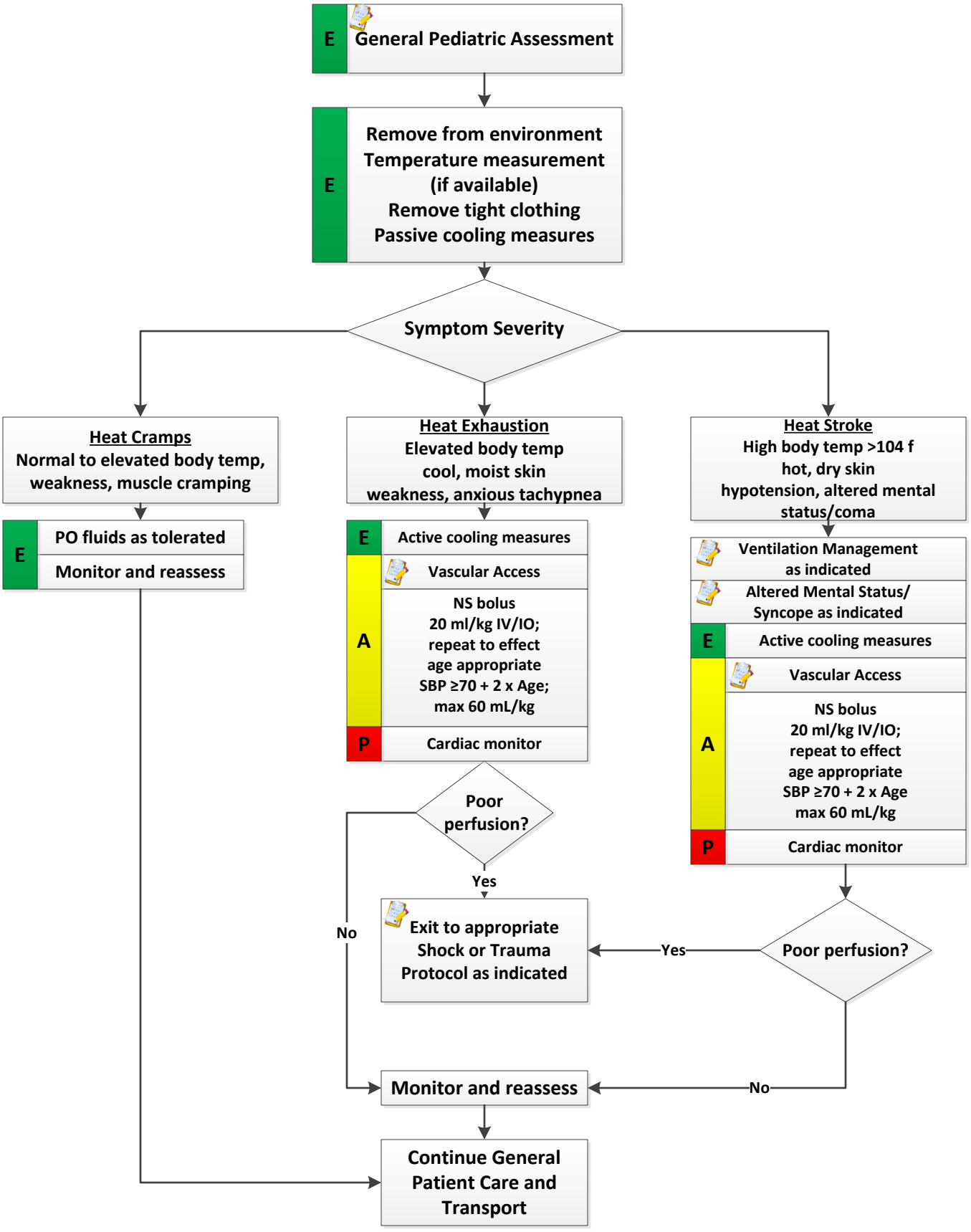
Differential
- Trauma
- Pre-existing medical condition
- Barotrauma
- Decompression illness
- Post-immersion syndrome

Pearls
- Recommended Exam: Trauma Survey, Head, Neck, Chest, Abdomen, Back, Extremities, Skin, Neuro.
- Ensure scene safety.
- Hypothermia is often associated with submersion incidents.
- All patients should be transported for evaluation because of potential for worsening over the next several hours.

CAVEATS:
1. Adequate ventilation is KEY!!!
2. For patients breathing on own, start oxygen 15L NRB; for patients not adequately breathing → BVM
3. Do not suction foam in airway, just bag through it initially.
4. For drowning victims in cardiac arrest, emphasis should be on good oxygenation/ventilation → use traditional 15:2 CPR (no continuous compressions)

QI Metrics
- Complete and submit the SNHD Submersion Incident Report Form.

Pediatric Environmental Illness / Hyperthermia



History
- Age, very old and young
- Exposures to increased temperatures and/or humidity
- Past medical history/medications
- Time and duration of exposure
- Poor PO intake, extreme exertion
- Fatigue and/or muscle cramping

Signs and Symptoms
- AMS/coma
- Hot, dry, or sweaty skin
- Hypotension or shock
- Seizures
- Nausea

Differential
- Fever
- Dehydration
- Medications
- Hyperthyroidism
- DTs
- Heat cramps, heat exhaustion, heat stroke
- CNS lesions or tumors

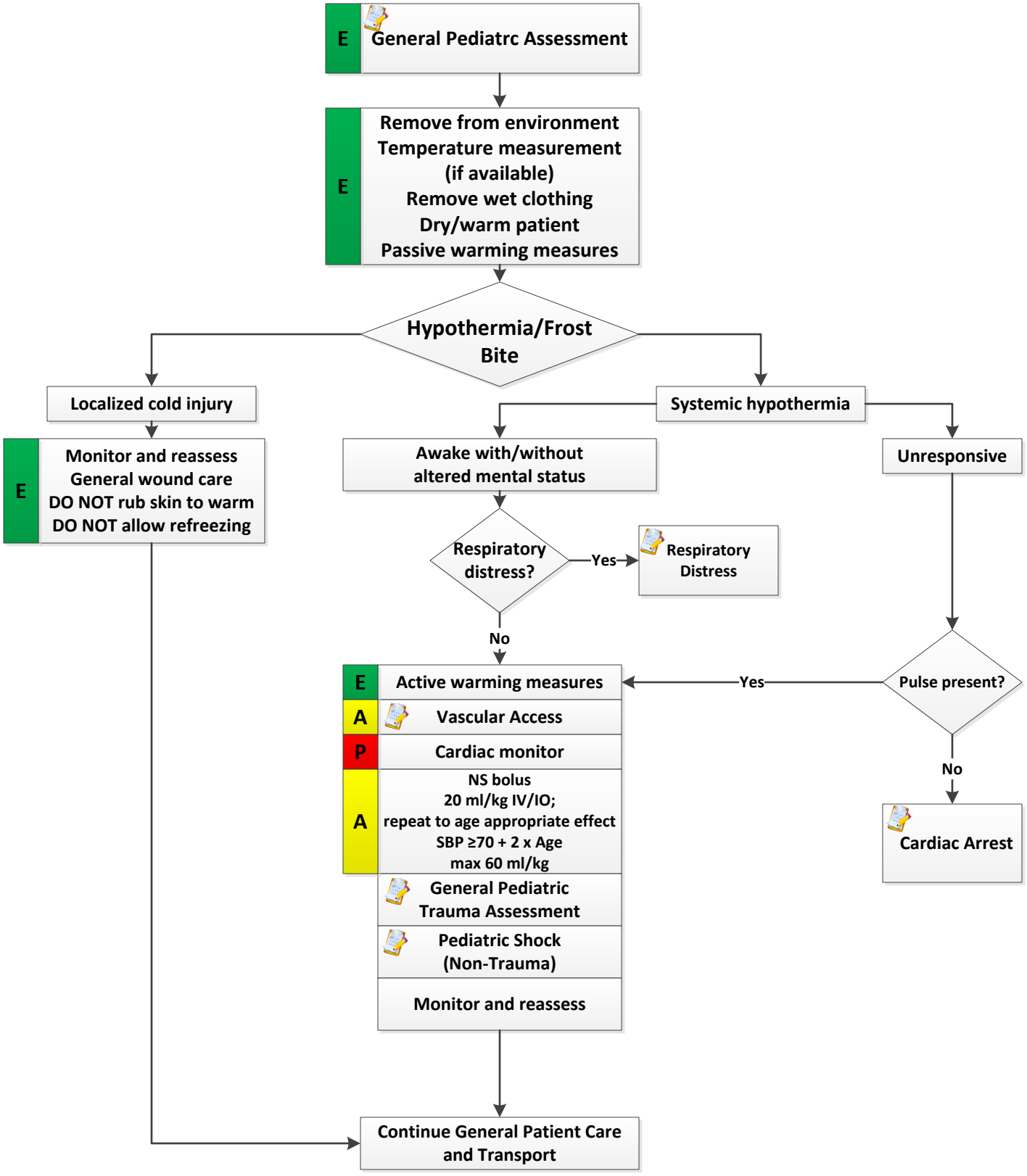
Pearls
- Recommended exam: Mental Status, Skin, Heart, Lung, Abdomen, Extremities, Neuro.
- Extremes of age are more prone to heat emergencies.
- Cocaine, amphetamines, and salicylates may elevate body temperatures.
- Sweating generally disappears as body temperatures rise over 104° F (40° C).
- Intense shivering may occur as patient is cooled.
- Active cooling includes application of cold packs or ice (not directly on skin), fanning either by air conditioning or fanning.

Heat Cramps
- Consist of benign muscle cramping caused by dehydration and is not associated with an elevated temperature.

Heat Exhaustion
- Consists of dehydration, salt depletion, dizziness, fever, AMS, headache, cramping, N/V. Vital signs usually consist of tachycardia, hypotension and elevated temperature.

Heat Stroke
- Consists of dehydration, tachycardia, hypotension, temperature >104° F (40° C) and AMS.

Pediatric Environmental Illness / Hypothermia



History
- Age, very young and old
- Exposure to decreased temperatures, but may occur in normal temperatures
- Past medical history/medications
- Drug or alcohol use
- Infections/sepsis
- Time of exposure/wetness/wind chill

Signs and Symptoms
- AMS/coma
- Cold, clammy
- Shivering
- Extremity pain
- Bradycardia
- Hypotension or shock

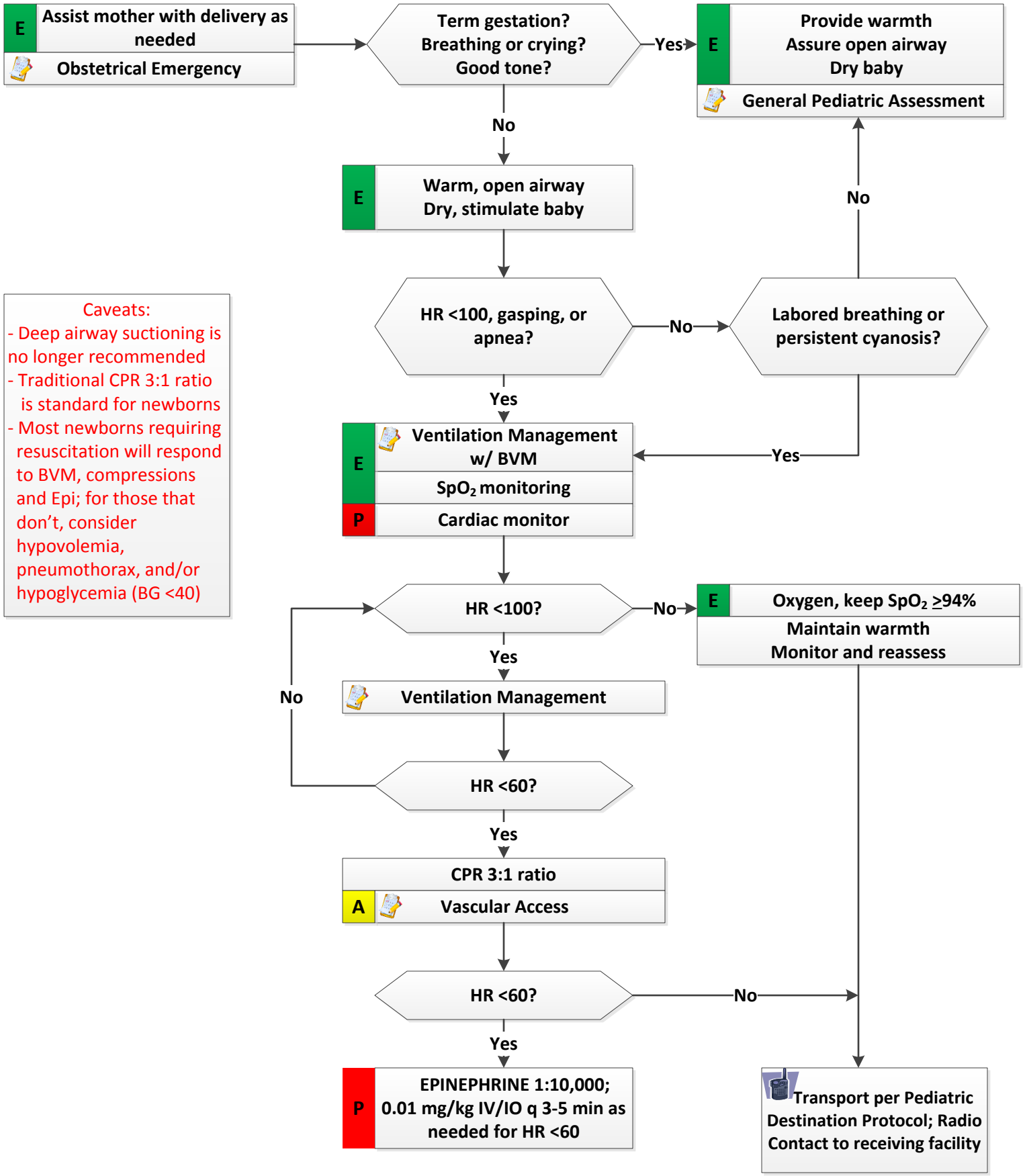
Differential
- Sepsis
- Environmental exposure
- Hypoglycemia
- Stroke
- Head injury
- Spinal cord injury

Pearls
- Recommended exam: Mental Status, Heart, Lung, Abdomen, Extremities, Neuro.
- Extremes of age are more prone to cold emergencies.
- Obtain and document patient temperature.
- If temperature is unknown, treat the patient based on suspected temperature.
- Hot packs can be used on the armpit and groin; care should be taken not to place the packs directly on the skin.

Hypothermia Categories
- Mild 90°- 95° F (33°- 35° C)
- Moderate 82°- 90° F (28°- 32° C)
- Severe <82° F (<28° C)

Hypothermia Mechanisms
- Radiation
- Convection
- Conduction
- Evaporation

Neonatal Resuscitation



History
- Due date
- Time contractions started/ duration/frequency
- Rupture of membranes (meconium)
- Time and amount of any vaginal bleeding
- Sensation of fetal movement
- Prenatal care
- Past medical and delivery history
- Medications
- Gravida/Para Status
- High risk pregnancy

Signs and Symptoms
- Spasmodic pain
- Vaginal discharge or bleeding
- Crowning or urge to push
- Meconium

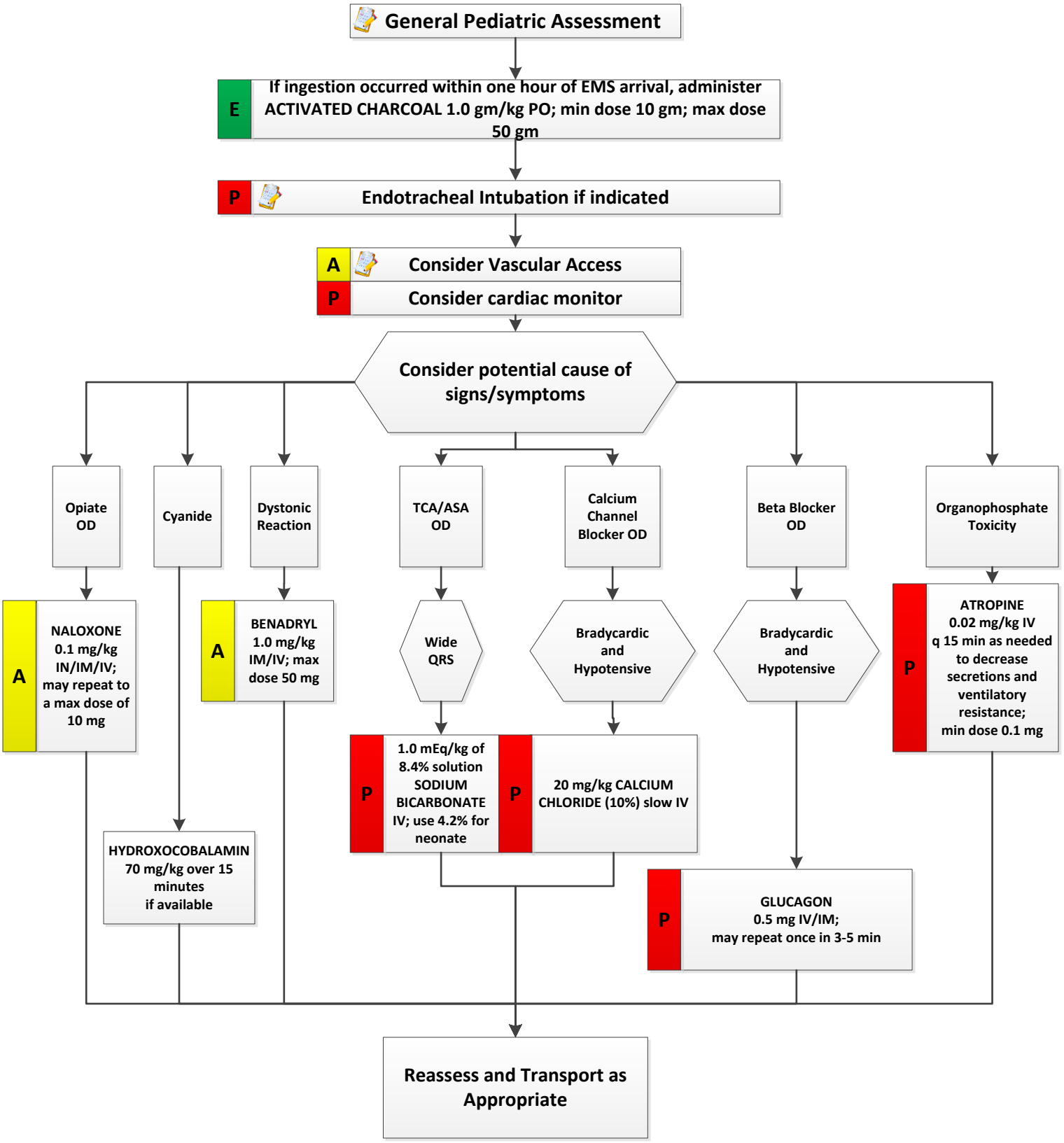
Differential
- Abnormal presentation (breech, limb)
- Prolapsed cord
- Placenta previa
- Abruptio placenta

Pearls
- Recommended Exam: Mental Status, Skin, HEENT, Neck, Chest, Heart, Lungs, Abdomen, Neuro.
- Document all times (delivery, contraction, duration, frequency).
- Some bleeding is normal; copious amounts of blood or free bleeding is abnormal.
- Record APGAR at one and five minutes after birth.
- APGAR of 7-10 is normal, while 4-7 require resuscitative measures
- Transport mother and infant together whenever possible.

APGAR	**Score=0**	**Score=1**	**Score=2**
• **Activity/Muscle Tone**	Absent	Arms/legs flexed	Active Movement
• **Pulse**	Absent	Below 100	Above 100
• **Grimace/Reflex Irritability**	No response	Grimace	Sneeze, cough, pulls away
• **Appearance/Skin Color**	Blue-Grey, pale all over	Normal, except extremities	Normal over entire body
• **Respiration**	Absent	Slow, irregular	Good, crying

Caveats:
- Deep airway suctioning no longer recommended.
- Traditional CPR 3:1 ratio is standard for newborns.
- Most newborns requiring resuscitation will respond to BVM, compressions and Epinephrine; for those that don't, consider hypovolemia, pneumothorax, and/or hypoglycemia (BG <40).

Pediatric Overdose / Poisoning



History

- Ingestion or suspected ingestion of a potentially toxic agent
- Substance ingested, route, quantity
- Time of ingestion
- Reason (suicidal, accidental, criminal)
- Available medications in home
- Past medical history, medications

Signs and Symptoms

- Mental status changes
- Hypotension/hypertension
- Decreased respiratory rate
- Tachycardia, dysrhythmias
- Seizures
- SLUDGE
- Malaise, weakness
- GI symptoms
- Dizziness
- Syncope
- Chestpain

Differential

- TCA overdose
- Acetaminophen OD
- Aspirin
- Depressants
- Stimulants
- Anticholinergic
- Cardiac medications
- Solvents, alcohols, cleaning agents, insecticides

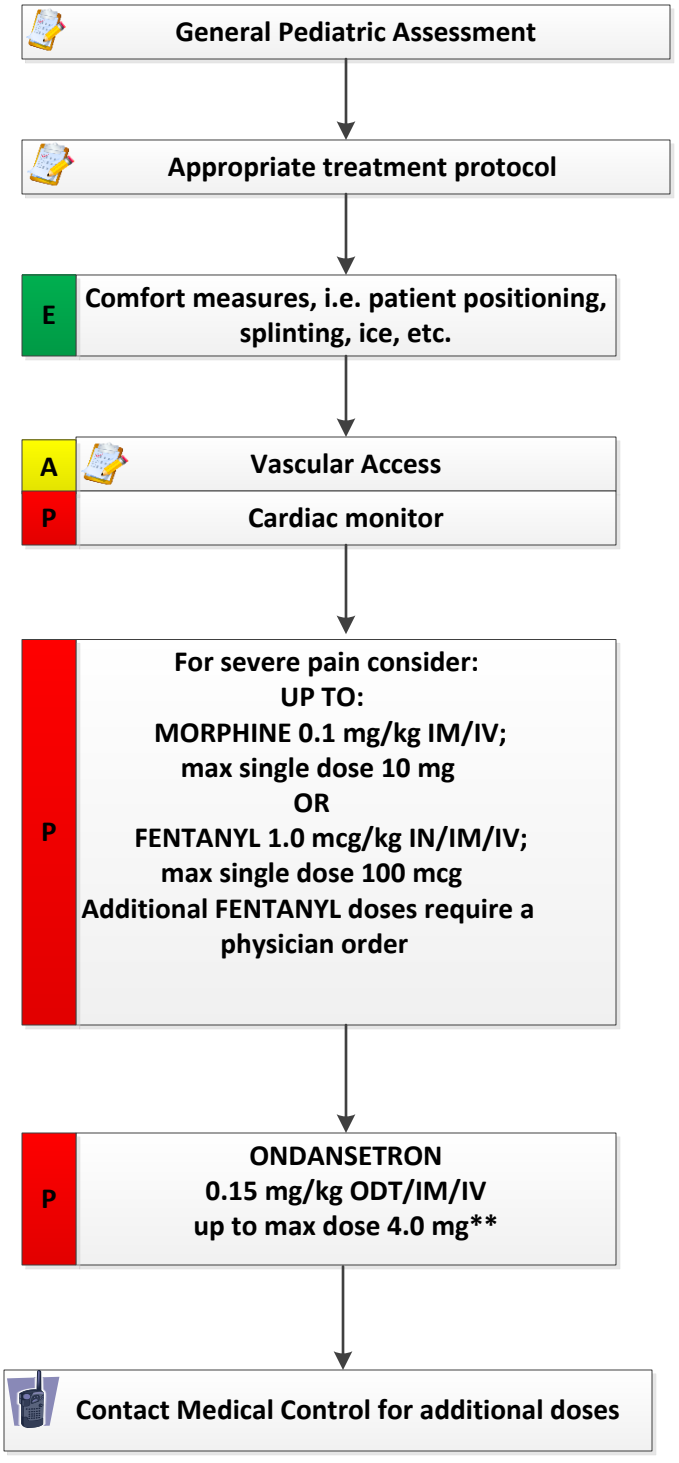
Pearls

- Pediatric patients should be evaluated by a physician if an overdose/poisoning is suspected regardless of agent, amount or time.
- Recommended exam: Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Neuro.
- Calcium Chloride is contraindicated in patients taking digitalis products.
- Overdose or toxin patients with significant ingestion/exposure should be closely monitored and aggressively treated. Do not hesitate to contact medical control if needed.
- In the case of cyanide poisoning, altered mental status may be profound. Profound altered mental status can be defined as a deficit that includes disorientation, bewilderment and difficulty following commands.
- Poison Control: 1-800-222-1222
- Do not use Activated Charcoal if altered mental status, caustic, hydrocarbon or heavy metal ingestion.

Agents

- Acetaminophen: Initially normal or N/V. Tachypnea and AMS may occur later. Renal dysfunction, liver failure and/or cerebral edema may manifest.
- Depressants: Decreased HR, BP, temp and RR.
- Anticholinergic: Increased HR, increased temp, dilated pupils and mental status changes.
- Insecticides: May include S/S of organophosphate poisoning.
- Solvents: N/V, cough, AMS.
- Stimulants: Increased HR, BP, temp, dilated pupils, seizures and possible violence.
- TCA: Decreased mental status, dysrhythmias, seizures, hypotension, coma, death.

Pediatric Pain Management



Continue General Pediatric Assessment

**Round up to nearest ½ pill

History
- Age
- Location, duration
- Severity (1-10)
- Past medical history
- Pregnancy status
- Drug allergies and medications

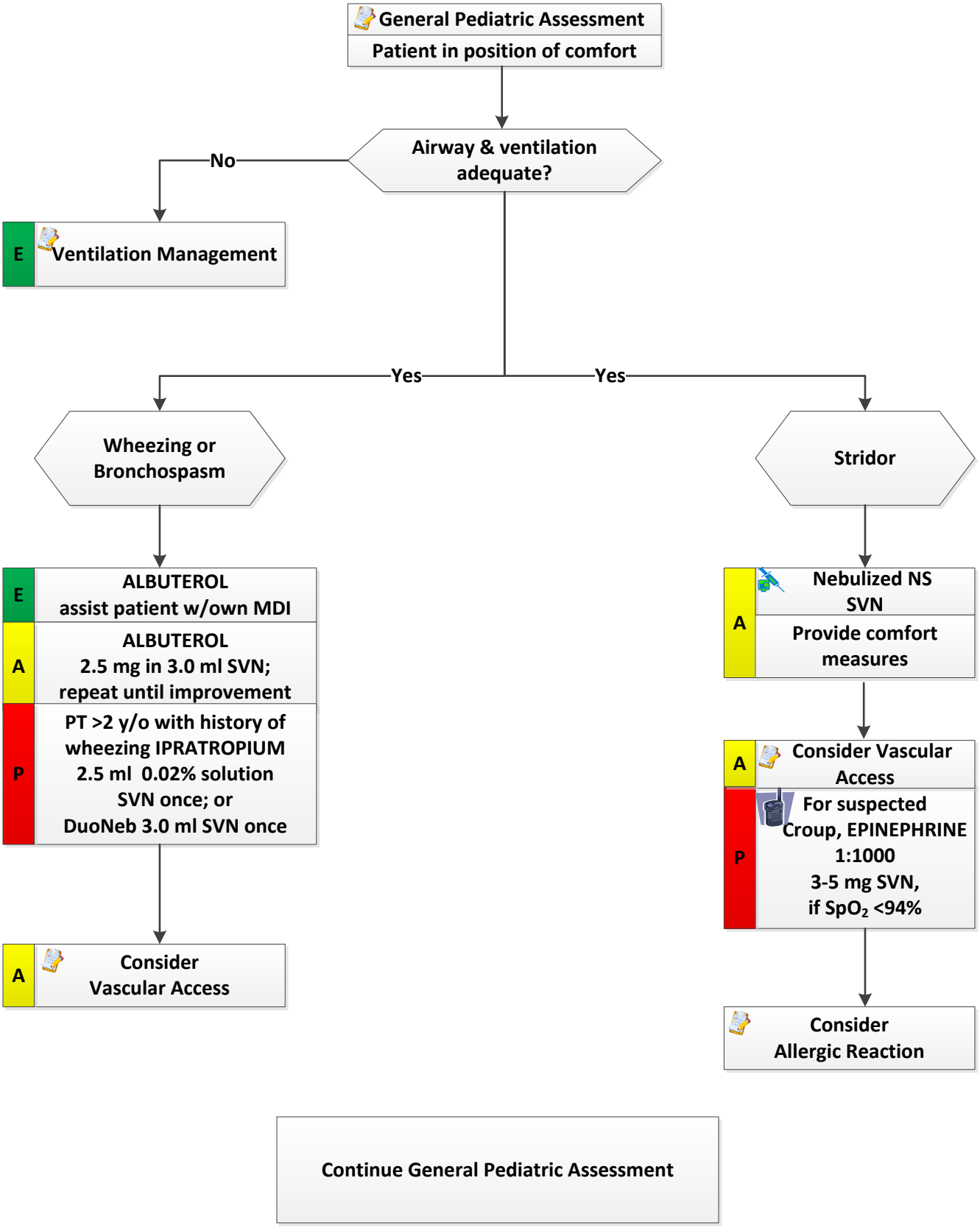
Signs and Symptoms
- Severity (pain scale)
- Quality
- Radiation
- Relation to movement, respiration
- Increased with palpation of area

Differential
- Musculoskeletal
- Visceral (abdominal)
- Cardiac
- Pleural, respiratory
- Neurogenic
- Renal (colic)

Pearls
- Recommended exam: Respiratory Status, Mental Status, Area of pain, Neuro.
- Pain severity (1-10) is a vital sign to be recorded before and after medication administration and patient hand off.
- Monitor BP and respirations closely as sedative and pain control agents may cause hypotension and or respiratory depression.
- Consider patient's age, weight, clinical condition, use of drugs/alcohol, exposure to opiates when determining initial opiate dosing. Weight based dosing may provide a standard means of dosing calculation but it does not predict response.
- Exercise caution when administering opiates and benzodiazepines; this combination results in deeper anesthesia with significant risk of respiratory compromise.
- Burn patients may require more aggressive dosing.

QI Metrics
- Vital signs with O_2 sats documented.
- Pain scale documented before and after each intervention.
- Repeat vital signs after each intervention.

Pediatric Respiratory Distress



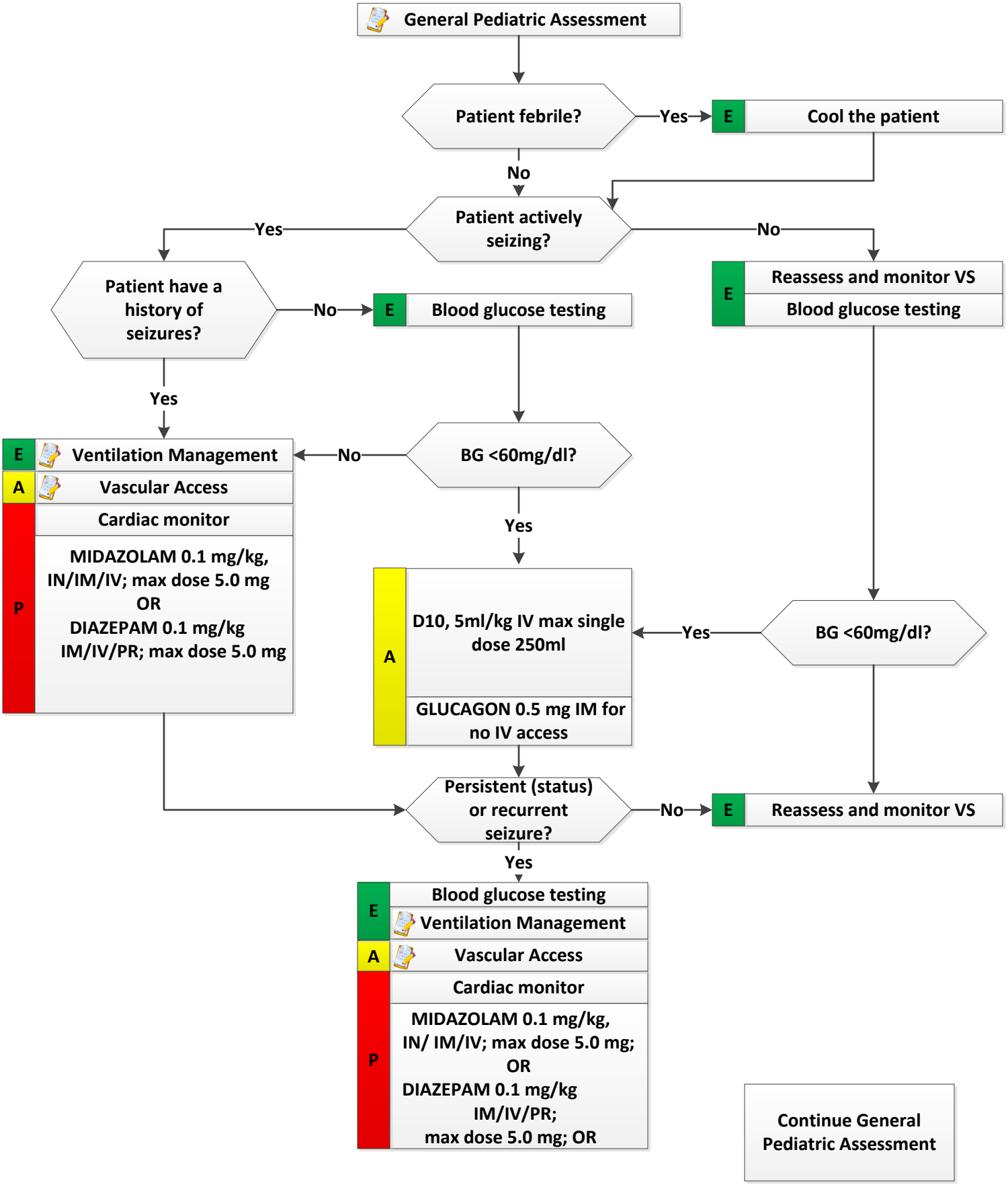
History
- Asthma
- Home treatment (oxygen, nebulizers)
- Medication
- Toxic exposure

Signs and Symptoms
- Shortness of breath
- Pursed lip breathing
- Decreased ability to speak
- Increased respiratory rate and effort
- Wheezing, rhonchi
- Use of accessory muscles
- Fever, cough
- Tachycardia

Differential
- Asthma
- Anaphylaxis
- Aspiration
- Pleural effusion
- Pneumonia
- Pneumothorax
- Pericardial tamponade (trauma)
- Hyperventilation
- Inhaled toxin

Pearls
- Be prepared to assist ventilations as needed.
- Recommended exam: Mental Status, HEENT, Skin, Neck, Heart, Lungs, Abdomen, Extremities, Neuro.
- Pulse oximetry and end tidal continuous waveform capnography must be monitored.
- Consider MI.
- Allow the patient to assume a position of comfort.

Pediatric Seizure



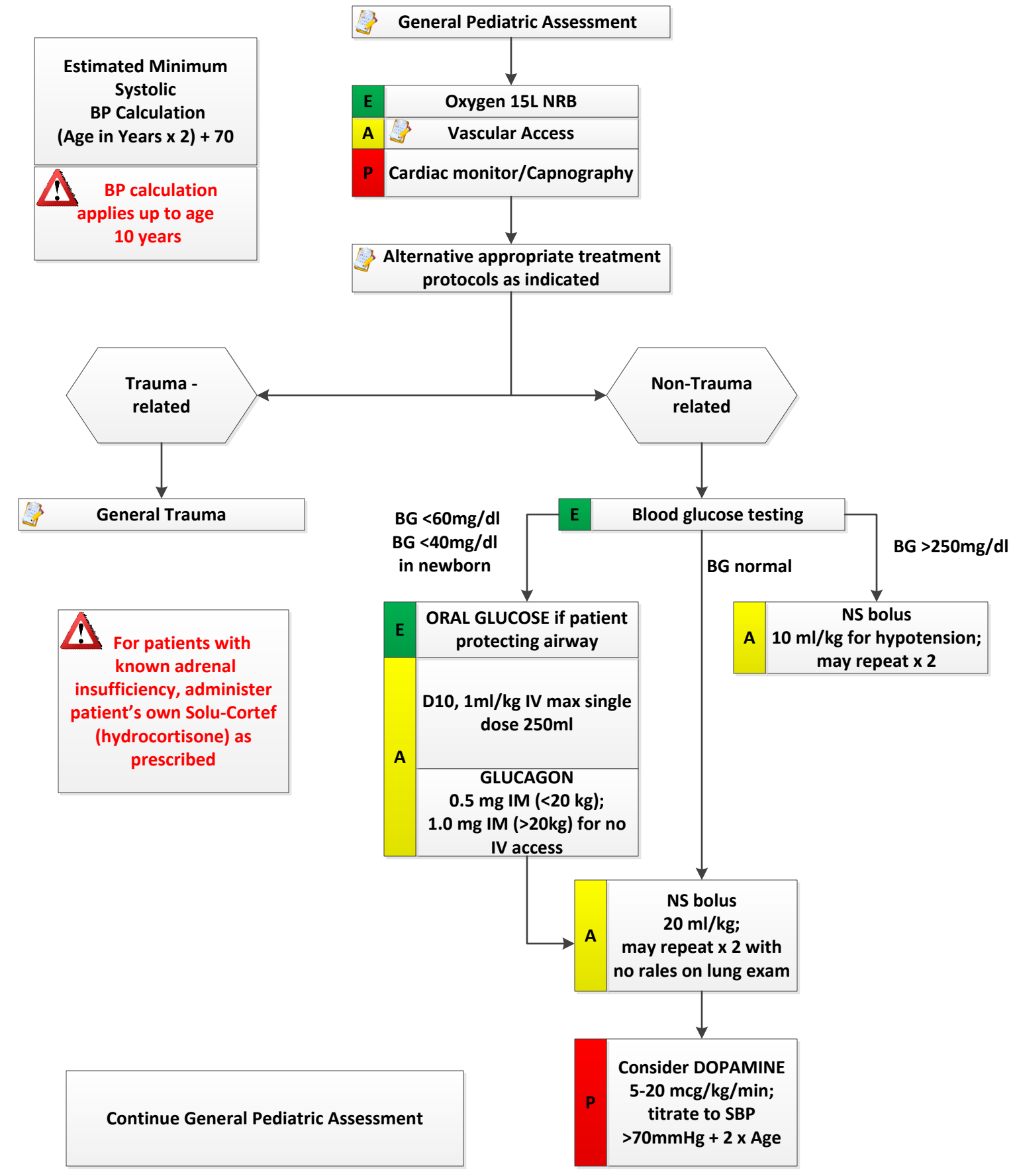
History
- Reported or witnessed seizure activity
- Previous seizure history
- Seizure medications
- History of trauma
- History of diabetes
- Time of seizure onset
- Number of seizures
- Alcohol use, abuse or abrupt cessation
- Fever

Signs and Symptoms
- Decreased mental status
- Sleepiness
- Incontinence
- Observed seizure activity
- Evidence of trauma
- Unconsciousness

Differential
- CNS trauma
- Tumor
- Metabolic, hepatic or renal failure
- Hypoxia
- Electrolyte abnormality (Na, Ca, Mg)
- Drugs, medications non-compliance
- Infection, fever
- Alcohol withdrawal
- Hyperthermia
- Hypothermia

Pearls
- Recommended exam: Mental Status, HEENT, Heart, Lungs, Extremities, Neuro.
- Benzodiazepines are effective in terminating seizures; do not delay IM/IN administration while initiating an IV.
- Status epilepticus is defined as two or more seizures successively without an intervening lucid period, or a seizure lasting over five minutes.
- Grand mal seizures (generalized) are associated with loss of consciousness, incontinence and oral trauma.
- Focal seizures affect only part of the body and are not usually associated with a loss of consciousness.
- Be prepared to address airway issues and support ventilations as needed.
- Consider cardiac and $ETCO_2$ monitoring.

Pediatric Shock



History
- Blood loss-vaginal bleeding, ectopic, GI bleeding or AAA
- Fluid loss-vomiting, diarrhea, fever
- Infection
- Cardiac tamponade
- Medications
- Allergic reaction
- Pregnancy
- History of poor oral intake

Signs and Symptoms
- Restlessness, confusion
- Weakness, dizziness
- Weak rapid pulse
- Pale, cool, clammy skin
- Delayed capillary refill
- Hypotension
- Coffee-ground emesis
- Tarry stools

Differential
- Hypovolemic shock
- Cardiogenic shock
- Septic shock
- Neurogenic shock
- Anaphylactic shock
- Ectopic pregnancy
- Dysrhythmias
- Pulmonary embolis
- Tension pneumothorax
- Medication effect or overdose
- Vasovagal

For patients with known adrenal insufficiency, administer patient's own Solu-Cortef (hydrocortisone) as prescribed.

Causes of Adrenal Insufficiency:
Addison's Disease
Congenital Adrenal Hyperplasia
Long term administration of steroids
Others

Pearls
- Recommended exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- Hypotension can be defined as a systolic BP of <90. This is not always reliable and should be interpreted in context and patient's typical BP, if known. Shock may present with a normal BP initially.
- Shock often is present with normal vital signs and may develop insidiously. Tachycardia may be the only manifestation.
- Consider all possible causes of shock and treat per appropriate protocol.
-

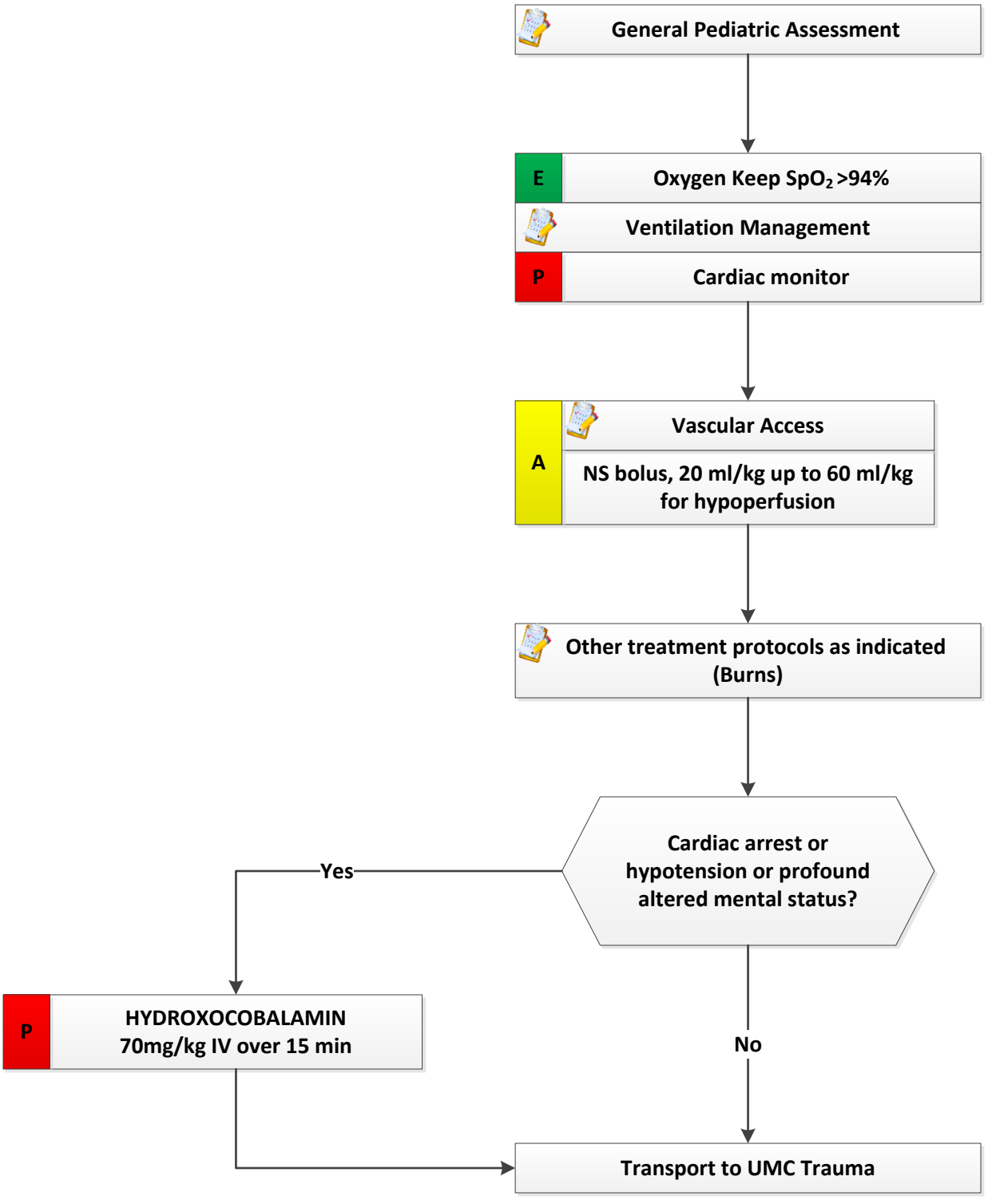
Hypovolemic shock
- Hemorrhage, trauma, GI bleeding, ruptured aortic aneurysm or pregnancy-related bleeding

Cardiogenic shock
- Heart failure, MI, cardiomyopathy, myocardial contusion, toxins

Distributive shock
- Sepsis, anaphylaxis, neurogenic, toxins

Obstructive shock
- Pericardial tamponade, pulmonary embolus, tension pneumothorax

Pediatric Smoke Inhalation



History
- Exposed to smoke in a structure fire
- Exposed to smoke in a vehicle fire
- Exposed to smoke from other sources, industrial, confined space, wilderness fire etc.

Signs and Symptoms
- Facial burns
- Singed nasal hairs or facial hair
- Shortness of breath
- Facial edema
- Stridor
- Grunting respirations

Differential
- COPD
- CHF
- Toxic inhalation injury
- Caustic inhalation injury

Pearls
- Protect yourself and your crew.
- Have a high index of suspicion when treating patients at the scene of a fire.
- If the medication is not available on scene do not delay transport waiting for it.
- Carefully monitor respiratory effort and correct life threats immediately.
- Decide early on if you want to intubate as burned airways swell making intubation difficult.
- Profound altered mental status can be defined as a deficit that includes disorientation, bewilderment and difficulty following commands.

Preparation and Administration of Hydroxocobalamin

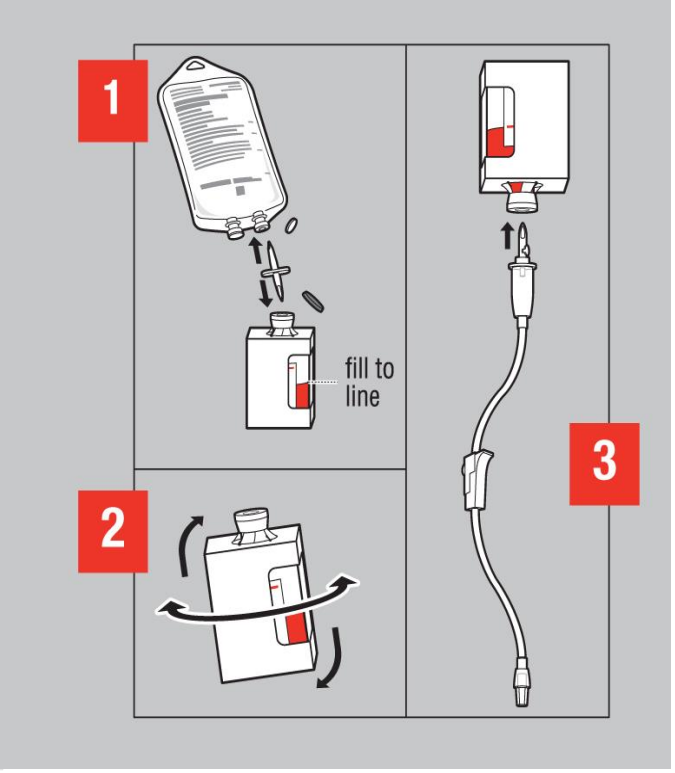
Complete Starting Dose: 5 g

1. Reconstitute: Place the vial in an upright position.
Add **200 mL** of 0.9% Sodium Chloride Injection* to the vial using the transfer spike. **Fill to the line.**

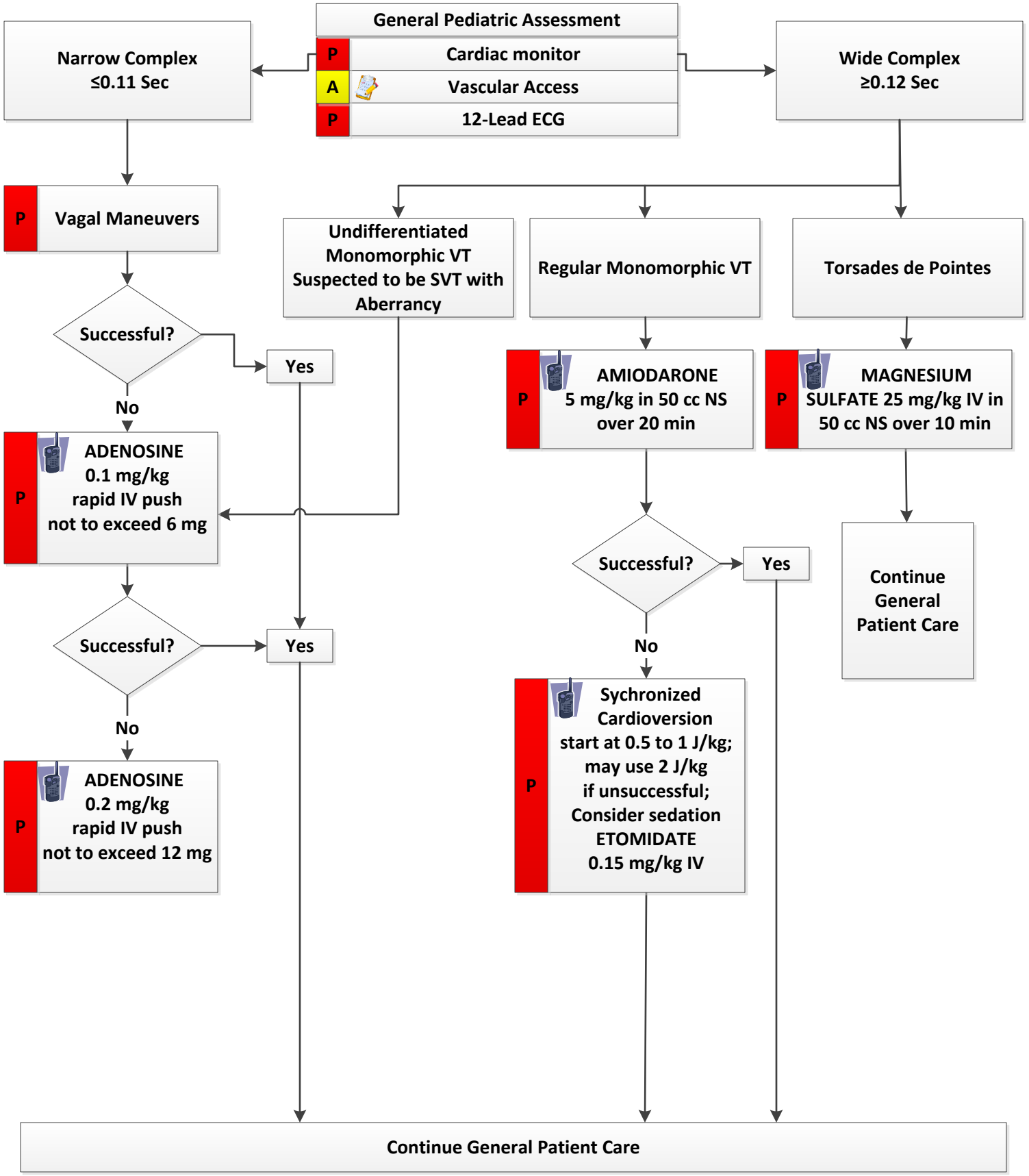
*0.9% Sodium Chloride Injection is the recommended diluent (diluent not included in the kit). Lactated Ringer's Solution and 5% Dextrose Injection have also been found to be compatible with hydroxocobalamin.

2. Mix: The vial should be repeatedly inverted or rocked, not shaken, for at least **60 seconds** prior to infusion.

3. Infuse Vial: Use vented intravenous tubing, hang and infuse 70 mg/kg over **15 minutes**.



Pediatric Tachycardia / Stable
(Normal Mental Status, Palpable Radial Pulse)



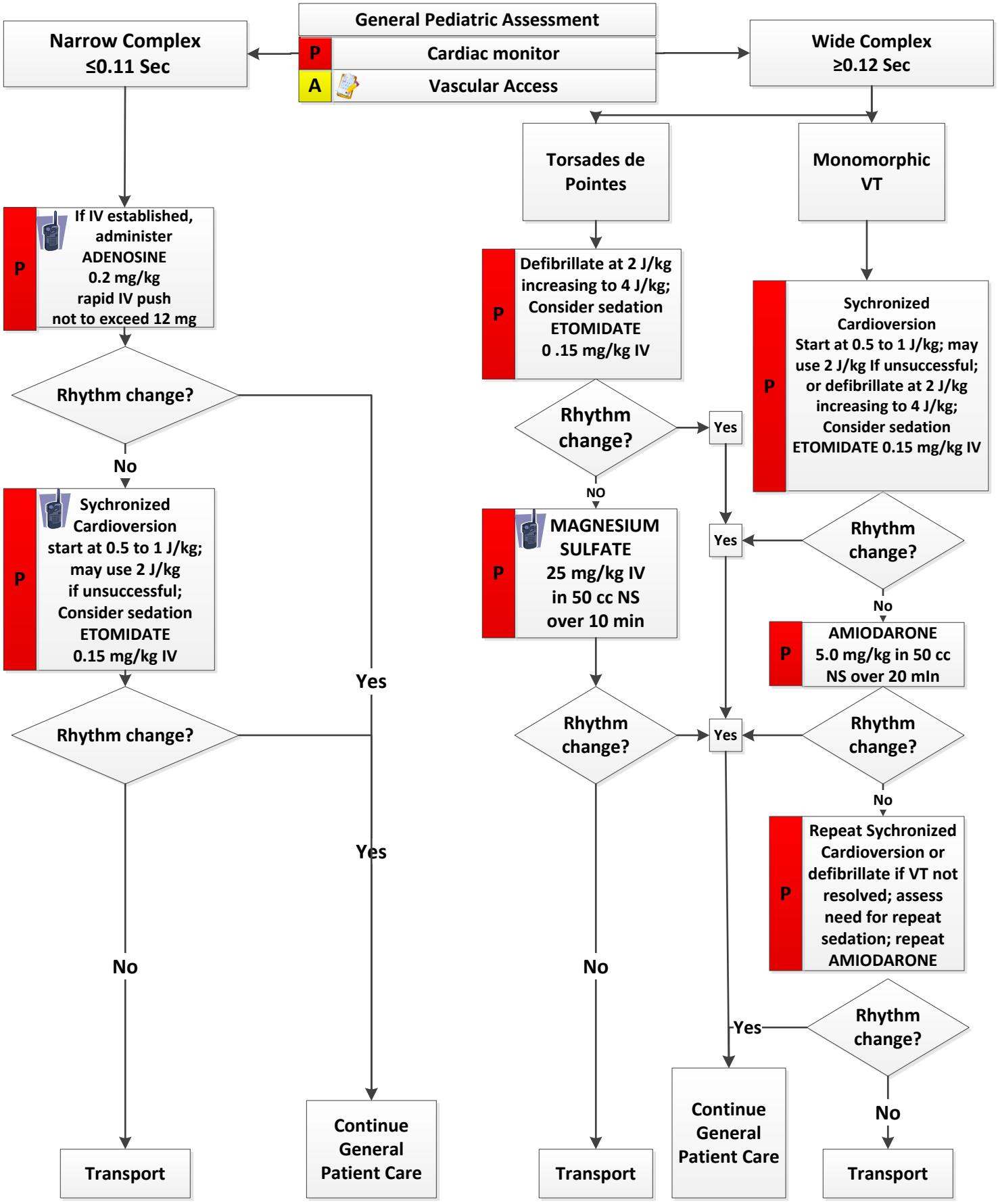
History
- Medications
- Diet (caffeine)
- Drugs (cocaine, methamphetamines)
- Past medical history
- Syncope/near syncope
- History of palpitations/racing heart

Signs and Symptoms
- Heart rate ≥ 180 in children
- Heart rate ≥ 220 in infants
- Dizziness, CP, SOB
- Diaphoresis

Differential
- Heart disease (WPW, valvular)
- Sick sinus syndrome
- Electrolyte imbalance
- Exertion, fever, pain, emotional stress
- Hypoxia
- Hypovolemia
- Drug effect, overdose
- Hyperthyroidism

Pearls
- Recommended exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- Carefully monitor patients as you treat them; stable tachycardias may convert to unstable rhythms/conditions quickly.
- Sedate patients prior to cardioversion, if time allows.
- The most common tachyarrythmia in children is sinus.

Pediatric Tachycardia / Unstable (Mental Status Changes, No Palpable Radial Pulse)



History
- Medications
- Diet (caffeine)
- Drugs (cocaine, methamphetamines)
- Past medical history
- Syncope/near syncope
- History of palpitations/racing heart

Signs and Symptoms
- Cardiac Arrest
- Heart rate ≥ 180 in children
- Heart rate ≥ 220 in infants
- Dizziness, CP, SOB
- Diaphoresis

Differential
- Heart disease (WPW, valvular)
- Sick sinus syndrome
- Electrolyte imbalance
- Exertion, fever, pain, emotional stress
- Hypoxia
- Hypovolemia
- Drug effect, overdose
- Hyperthyroidism

Pearls
- Recommended exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro.
- If patient is in arrest, efforts should focus on quality chest compressions and rhythm correction.
- Administer Adenosine at a proximal IV site, rapidly followed by a saline flush.
- The most common tachyarrythmia in children is sinus.

Pediatric Ventilation Management

Use supplemental oxygen to maintain an oxygen saturation of >94%; >90% for patients on home oxygen for chronic conditions

E
Basic Airway Maneuvers
- Open airway, Chin lift/Jaw thrust
- NPA or OPA as needed
- Suction as needed

Consider Cervical Stabilization

Consider Altered Mental Status/Syncope

Respiratory Distress and/or Tracheostomy Tube Replacement Protocol if needed

E
Administer oxygen
BVM as needed

Intervention effective?

No

Yes

A
Extraglottic Airway

Endotracheal Intubation

ECG Monitor

P
Consider Sedation Administer MIDAZOLAM 0.1 mg/kg IV/IN Titrated to Effect. Maximum Single Dose : 5 mg. Must be Given Slowly Over 3-5 Minutes. Additional Doses by Physician Order Only. Or; KETAMINE 2 mg/kg IV Or 4 mg/kg IM

Maintain Sedation Administer DIAZEPAM 0.2mg/kg IV. Maximum dose 5 mg. May Repeat After 5 Minutes with Physician Order. Or;
DIAZEPAM 0.5 mg/kg PR via #5 or #8 French feeding tube, Maximum Dose 20 mg

Extraglottic/ETT placement successful?

Yes

No

Able to ventilate without extraglottic/ ETT in place?

Yes

No

P
Cricothyroidotomy

Continue Care and Transport as Appropriate

Pearls

- Capnometry (Color) or capnography is mandatory with all methods of intubation. Document results.
- Continuous capnography ($ETCO_2$) is mandatory for the monitoring of all patients with an ET tube.
- If an effective airway is being maintained by BVM and/or basic airway adjuncts (e.g. nasopharyngeal airway) with continuous pulse oximetry values of ≥90%, or values expected based on pathophysiologic condition with otherwise reassuring vital signs (e.g. pulse oximetry of 85% with otherwise normal vitals in a postdrowning patient), it is acceptable to continue with basic airway measures instead of using an extraglottic airway device or intubation.
- For the purposes of this protocol, a secure airway is achieved when the patient is receiving appropriate oxygenation and ventilation.
- An Intubation Attempt is defined as passing the laryngoscope blade or endotracheal tube past the teeth or inserted into the nasal passage.
- An appropriate ventilatory rate is one that maintains an $ETCO_2$ of 35 - 45. Avoid hyperventilation.
- Paramedics should use an extraglottic airway device if oral-tracheal intubation is unsuccessful.
- Maintain C-spine stabilization for patients with suspected spinal injury.
- Cricoid pressure and BURP maneuver may assist with difficult intubations. They may worsen view in some cases.
- Gastric tube placement should be considered in all intubated patients if time allows.
- It is important to secure the endotracheal tube well.

OPERATIONS PROTOCOLS

COMMUNICATIONS

**Telemetry contact should be established by radio.
Telephone contact may only be used if the call is recorded via a phone patch through the FAO at 702-382-9007.**

1. **Telemetry contact shall be established:**
   - **A. For all Code 3 transports.**
   - **B. For any medical emergency in which the EMS provider's judgment suggests consultation with a telemetry physician is necessary.**
   - **C. For all trauma patients going to a trauma center.**
   - **D. When telemetry contact is required per protocol.**
2. **For patients who meet Trauma Field Triage Criteria, telemetry reports shall include:**
   - **A. Patient age**
   - **B. Gender**
   - **C. Mechanism of injury**
   - **D. Ambulatory at scene**
   - **E. Suspected injuries**
   - **F. Vital signs**
   - **G. Airway status**
   - **H. Neurologic status**
   - **I. ETA**
   - **J. An incident identifier if multiple patients are involved (e.g. fire department command code "Main Street Command")**

.....

3. **For all other patients, telemetry reports shall include, at a minimum:**
   - **A. Attendant/vehicle identification**
   - **B. Nature of call: INFORMATION ONLY or REQUEST FOR PHYSICIAN ORDERS**
   - **C. Patient information (i.e. number, age, sex)**
   - **D. Patient condition (i.e. stable, full arrest)**
   - **E. History**
     - **1) Basic problem or chief complaint**
     - **2) Pertinent associated symptoms**
     - **3) Time since onset**
     - **4) Past history, if pertinent**
   - **F. Objective findings**
     - **1) General status of patient**
     - **2) Level of responsiveness**
     - **3) Vital signs**
     - **4) Pertinent localized findings**
     - **5) Working impression of patient's problem**
   - **G. Treatment**
     - **1) In progress**
     - **2) Requests for drugs or procedures**
   - **H. Estimated time of arrival, including any special circumstances that may cause a delay in transport.**
   - **I. For patients meeting "Code White" or "Code STEMI" criteria, a preliminary telemetry report should be made to notify the receiving facility of the type of activation, and an estimated arrival time. An "Information Only" telemetry should follow once transport has been initiated.**

COMMUNICATIONS (Cont.)

Telemetry contact should be established by radio.
Telephone contact may only be used if the call is recorded via a phone patch through the FAO at 702-382-9007.

4. **Notification of transport shall be provided to the receiving hospital for ALL other calls.**
   - **A. Notification can be completed via:**
     1) **Radio**
     2) **Telephone**
     3) **EMSystem**
   - **B. Notification reports shall include:**
     1) **Patient age**
     2) **Chief complaint**
     3) **Type of bed required (monitored/unmonitored)**
     4) **Unit number**
     5) **ETA**
5. **Providers will relay assessment findings and treatment provided to the individual(s) assuming responsibility for the patient(s).**
6. **Patient confidentiality must be maintained at all times.**
7. **All patients should be treated with dignity and respect in a calm and reassuring manner.**

DO NOT RESUSCITATE (DNR/POLST)

1. **All patients with absent vital signs who do not have conclusive signs of death (refer to Prehospital Death Determination protocol) shall be treated with life-resuscitating measures unless EMS personnel are presented with a valid Do-Not-Resuscitate (DNR)/Physician Order for Life-Sustaining Treatment (POLST) Identification/Order.**

   A. **A valid DNR Identification is a form, wallet card, or medallion issued by the Southern Nevada Health District, Nevada Division of Public and Behavioral Health, or an identification issued by another state indicating a person's desire and qualification to have life-resuscitating treatment withheld.**
   B. **A valid DNR Order is a written directive issued by a physician licensed in this state that life-resuscitating treatment is not to be administered to a qualified patient. The term also includes a valid Do-Not-Resuscitate order issued under the laws of another state.**
   C. **A valid POLST form signed by a physician that records the wishes of the patient and directs a healthcare provider regarding the provision of life-resuscitating treatment and life-sustaining treatment.**

   Note: Verbal instructions from friends or family members *DO NOT* constitute a valid DNR/POLST.

2. **In preparation for, or during a inter-facility transfer, a valid DNR Order/POLST in the qualified patient's medical record shall be honored in accordance with this protocol.**
3. **If the EMS provider is presented with a DNR/POLST Order or Identification, he shall attempt to verify the validity of the Order or Identification by confirming the patient's name, age, and condition of identification.**
4. **The DNR/POLST Order or Identification shall be determined *INVALID* if at any time the patient indicates that he/she wishes to receive life-resuscitating treatment. The EMS provider shall document the presence of the DNR/POLST Order or Identification, and how the patient indicated that he/she wanted the Order or Identification to be revoked. EMS personnel shall relay this information to any subsequent medical providers, including but not limited to, flight crews and staff at the receiving medical facility.**
5. **Once the DNR/POLST Order or Identification is determined to be valid and has not been revoked by the patient, the emergency care provider shall provide *ONLY* supportive care and withhold life-resuscitating treatment.**
6. **Faxed, copied or electronic versions of the DNR Identification/POLST are legal and valid.**

Supportive Care:

- **Suction the airway**
- **Administer oxygen**
- **Position for comfort**
- **Splint**
- **Control bleeding**
- **Provide pain medication (ALS only)**
- **Provide emotional support**
- **Contact hospice, home health agency, attending physician or hospital as appropriate**
- **Be attentive of any actions the patient may take to revoke his authorization to withhold life-resuscitating treatment**

DO NOT RESUSCITATE (Cont.)

Withhold Life-Resuscitating Treatment:

CPR and its components including:

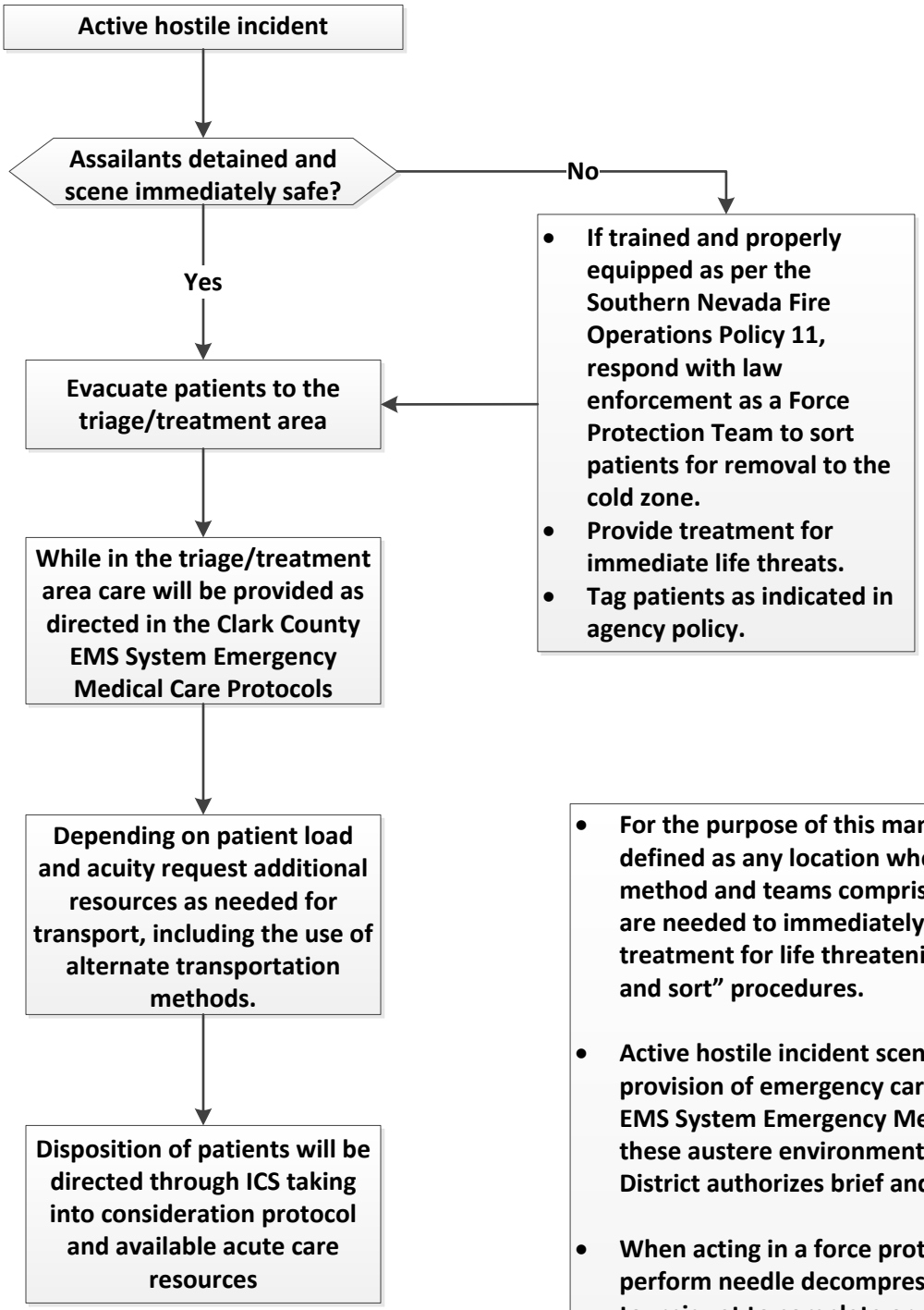
- **Chest compressions**
- **Defibrillation**
- **Cardioversion**
- **Assisted ventilation**
- **Airway intubation**
- **Administration of cardiotonic drugs**

6. **EMS personnel will document on the PCR the presence of the DNR/POLST Order or Identification. Documentation should include the patient's name, and the physician's name and identification number, which are found on the DNR/POLST Order or Identification.**
7. **An EMS provider who is unwilling or unable to comply with the DNR protocol shall take all reasonable measures to transfer a patient with a DNR/POLST Order or Identification to another provider or facility in which the DNR/POLST protocol may be followed.**

DOCUMENTATION

1. A Patient Care Record (PCR) will be completed for each incident/patient encounter, in accordance with current EMS Regulations. A patient is any individual that, upon contact with an EMS system, has any of the following:
   A. A complaint or mechanism suggestive of potential illness or injury.
   B. Obvious evidence of illness or injury.
   C. An individual or informed 2nd/3rd party caller requests evaluation for potential illness or injury.
2. PCRs shall include no less than the following information:
   A. Patient's name, address, age, and sex;
   B. Date and location of call;
   C. Time of dispatch, arrival at scene, departure from scene, and arrival at hospital;
   D. Mechanism of injury—chief complaint;
   E. Medication(s) used by patient and allergies;
   F. Pertinent patient history, including current medication(s) and allergies;
   G. Signs and symptoms identified during patient assessment, and changes;
   H. Care and treatment given at scene and during transport;
   I. Patient destination;
   J. Name of attendant(s);
   K. If care is provided as authorized by protocol;
   L. In cases involving cardiac monitoring, a copy of the ECG strip identifying all rhythm changes shall be included as part of the PCR;
   M. In cases of trauma, the patient's trauma score, TFTC status, and any injury mitigation devices shall be documented, i.e. car seats, seat belts, air bags, helmets, etc.;
   N. At least one full set of vital signs;
      1) Blood pressure
      2) Heart rate
      3) Respiratory rate
      4) Temperature as indicated
      5) Oxygen saturation as indicated
      6) Reassessment after interventions, i.e. pain score after medications;
      7) Any complications or other relevant information.
3. Any agency that provides patient care activities prior to the arrival of the transporting agency shall provide the transporting agency with, at a minimum, a verbal report reflecting those activities. This verbal report must be documented in the transporting agency's PCR.

Hostile Mass Casualty Incident



- For the purpose of this manual, an active hostile incident can be defined as any location where persons are under assault by whatever method and teams comprised of police and fire department personnel are needed to immediately enter the warm zone to provide initial treatment for life threatening injuries and to complete patient "sift and sort" procedures.
- Active hostile incident scenes represent challenges in regard to the provision of emergency care. Specific adherence to the Clark County EMS System Emergency Medical Care Protocols may not be feasible in these austere environments. Therefore, the Southern Nevada Health District authorizes brief and limited departures from protocol.
- When acting in a force protection team licensed providers may perform needle decompression, basic airway maneuvers or apply a tourniquet to complete or partial amputations regardless of observed exsanguination.
- Patients who are moved to the triage/treatment area will be treated in accordance with the Clark County EMS System Emergency Medical Care Protocols.

INTER-FACILITY TRANSFER OF PATIENTS BY AMBULANCE

1. **Ambulance attendants should only transfer a patient whose therapy required during the transfer lies within the ambulance attendant's capabilities, unless capable personnel accompany the patient.**
   - **A. Ambulance attendants are authorized to administer or monitor all medications listed on the official drug inventory as appropriate for their level of licensure and as per protocol.**
   - **B. AEMT/EMT-I and Paramedic/EMT-P ambulance attendants are authorized to administer or monitor any crystalloid IV solution during transport.**
   - **C. Arterial lines should be discontinued unless appropriate personnel from the initiating facility accompany the patient.**
   - **D. Heparin locks/implantable catheters with/without reservoirs may be closed off and left in place. If they are to be used during transport, then an IV drip should be established if tolerated by the patient.**
   - **E. IV pump systems should be discontinued unless capable personnel accompany the patient.**
   - **F. Orogastric or nasogastric tubes may be left in place and should either be closed off or left to suction per order of the transferring physician.**
   - **G. Orthopedic devices may be left in place at the ambulance attendant's discretion as to ability to properly transport the patient with existing device(s) in place.**
   - **H. Trained personnel authorized to operate the apparatus should accompany any patient requiring mechanical ventilation during transport. If the patient will require manual ventilatory assistance, then at least two persons shall be available to attend to the patient.**
2. **Prior to the transfer, the transferring physician is responsible for notifying the receiving physician of the following:**
   1) **Reason for transfer**
   2) **Patient condition**
   3) **Estimated time of arrival**
3. **The transferring physician must provide the ambulance attendants with the name of the receiving facility and receiving physician, copies of any available diagnostic tests, X-rays, medical records, copy of code status, DNR, POLST, or advanced directive paperwork as applicable, any isolation precaution information, and the EMTALA form prior to releasing the patient.**
4. **Any agency that provides patient care activities prior to the arrival of the transporting agency shall provide the transporting agency with, at a minimum, a verbal report reflecting those activities. This verbal report must be documented in the transporting agency's PCR.**

PEDIATRIC PATIENT DESTINATION

Pediatric patients (<18 years of age) shall be transported in accordance with the following criteria:

1. **Pediatric patients (including psychiatric patients) shall be transported, based on the preference of the parent or legal guardian, to one of the following facilities:**
   - **A. St. Rose Dominican – Siena Campus**
   - **B. Summerlin Hospital Medical Center**
   - **C. Sunrise Hospital & Medical Center**
   - **D. University Medical Center**
2. **If the parent or legal guardian does not have a preference, the patient shall be transported to the closest of the above facilities.**
3. **If, in the judgment of prehospital personnel, the transport time to one of the above facilities would be detrimental to a critically ill/unstable pediatric patient, the patient should be transported to the closest Emergency Department.**
4. **The patient may be transported to a non-designated facility:**
   - **A. At the request of the parent or legal guardian, and if the child is deemed stable by the EMS provider; or**
   - **B. The incident is greater than 50 miles from the closest pediatric facility; and**
   - **C. The receiving facility and physician are contacted and agree to accept the patient.**
5. **Pediatric sexual assault victims shall be transported as follows:**
   - **A. Victims <13 years of age shall be transported to Sunrise Hospital and Medical Center.**
   - **B. Victims 13 years of age and up to 18 years of age shall be transported to either Sunrise Hospital & Medical Center or University Medical Center.**
   - **C. For sexual assault victims outside a 50-mile radius from the above facilities, the licensee providing emergency medical care shall transport the patient to the nearest appropriate facility.**

PREHOSPITAL DEATH DETERMINATION

For all emergency scenes where patient needs exceed available EMS resources, initial assessment and treatment shall be in accordance with the START/SMART triage methodology.

1. **Patients who appear to have expired will not be resuscitated or transported by Clark County EMS personnel if any of the following obvious signs of death are present:**

   A. Body decomposition

   B. Decapitation

   C. Transection of thorax (hemicorpectomy)

   D. Incineration

   ***OR* if *ALL* four (4) presumptive signs of death *AND AT LEAST* one (1) conclusive sign of death are identified.**

The four (4) presumptive signs of death that *MUST* be present are:

1) Unresponsiveness
2) Apnea
3) Pulselessness
4) Fixed, dilated pupils

Conclusive signs of death include:

1) Dependent lividity of any degree
2) Rigor mortis
3) Massive trauma to the head, neck or chest with visible organ destruction

2. **If there is any question regarding patient viability, to include potential hypothermia, resuscitation will be initiated.**

3. **Once it has been determined that the patient has expired and resuscitation will not be attempted:**

   A) Immediately notify the appropriate authority;

   B) *DO NOT* leave a body unattended. You may be excused once a responsible person (i.e. Coroner's investigator, police, security, or family member) is present;

   C) *DO NOT* remove any property from the body or the scene for any purpose;

   D) *NEVER* transport/move a body without permission from the Coroner's office except for assessment or its protection.

If the body is in the public view and cannot be isolated, screened, or blocked from view, and is creating an unsafe situation with citizens/family, the body can be covered with a clean, *STERILE BURN SHEET* obtained from the EMS vehicle.

PUBLIC INTOXICATION

1. **A person who is suspected to be intoxicated and has no other emergent need should be transported to an approved alcohol and drug abuse facility rather than a hospital's emergency department *IF* the patient meets *ALL* of the following criteria:**

   A. **Patient is able to stand with minimal assistance of one or two people.**
   B. **Vitals as follows:**
      1. **Blood Pressure: Systolic: 90 – 180**
         Diastolic: 60 – 100
      2. **Pulse Rate: 60 – 120**
      3. **Respiratory Rate: 12 – 22**
      4. **Blood Glucose between 60 – 250**
      5. **Glasgow Coma Score $\geq$ 14**
      6. **SPO2 >94% or 90% if smoker**
      7. **No acute medical complications**
      8. **No signs of trauma**
      9. **No suspected head injury**
      10. **Approval of the physician or medical staff upon assessment prior to transport to an alternative facility**

   All of the above parameters must be met and the patient must be clinically stable.

2. **If there is *ANY* doubt about whether the person is in need of emergency medical care, the person should be transported to a receiving emergency facility.**

QUALITY IMPROVEMENT REVIEW

When EMS or hospital personnel wish to have an incident involving patient care reviewed within the Clark County EMS system, the following steps shall be taken:

1. **The person requesting a review of an incident should contact the designated representative of the agency/ hospital involved to initiate the process. If after gathering appropriate information and discussing the incident both parties are satisfied a problem does not exist, nothing further needs to be done.**
2. **If either party would like to pursue an investigation of the incident, the "Southern Nevada Health District EMS Incident Report" should be completed and a copy should be forwarded to the OEMSTS.**
3. **Upon receipt of the "Southern Nevada Health District EMS Incident Report" OEMSTS staff will review the case, gather information from the agencies/hospitals involved, and evaluate the need for further investigation. The agency/hospital may be asked to conduct an internal investigation, involving their medical director when appropriate, and provide a summary of their findings to the OEMSTS.**
4. **The personnel involved in the incident may be interviewed by the EMS medical director or his designee and their agency/hospital medical director to gather additional information.**
5. **Upon completion of the investigation, a report will be prepared and given to the agency/hospital representatives involved. Direct communication between the agency/hospital and complainant is recommended with a brief written summary of actions taken provided to the OEMSTS.**
6. **A quarterly aggregate summary of the incidents reviewed by the OEMSTS will be prepared and reported at the Quality Improvement Directors and Medical Advisory Board meetings.**
7. **All documentation and correspondence regarding this quality improvement activity; to monitor, review, evaluate, and report on the necessity, quality, and level of care provided a patient is confidential pursuant to NRS 49.117 – NRS 49.123, NRS 49.265, NRS 450B.810 and NRS 629.061.**

TERMINATION OF RESUSCITATION

1. **Resuscitation that is started in the field by licensed EMS personnel *CANNOT* be discontinued without a physician order. Licensed EMS personnel are not obligated to continue resuscitation efforts that have been started by other persons at the scene if the patient meets the criteria listed in the Prehospital Death Determination protocol. This includes telephone CPR initiated by Emergency Medical Dispatchers.**

2. **Resuscitation started in the field may be discontinued only by physician order when the following conditions have been met:**

   A. **For medical arrest:**

      The patient remains in persistent asystole or agonal rhythm and has capnography <10 after twenty (20) minutes of appropriate Paramedic/EMT-P resuscitation, to include:

      1) **CPR**
      2) **Effective ventilation with 100% oxygenation**
      3) **Administration of appropriate ACLS medications**

   B. **For traumatic arrest:**

      1) **Open airway with basic life support measures**
      2) **Provide effective ventilation with 100% oxygenation for two (2) minutes**
      3) **Perform bilateral needle thoracentesis if tension pneumothorax suspected**

   C. **The patient develops, or is found to have one of the following conclusive signs of death at any point during the resuscitative effort:**

      1) **Lividity of any degree**
      2) **Rigor mortis of any degree**

3. **When resuscitation has been terminated in the field, all medical interventions shall be left in place.**
4. **If possible, do not leave a body unattended. Once a responsible person (i.e. Coroner's investigator, police, security, or family member) is present at the scene, you may be excused.**
5. ***NEVER* transport/move a body without permission from the Coroner's office, except for assessment or its protection.**

If the body is in the public view and cannot be isolated, screened, or blocked from view, and is creating an unsafe situation with citizens/family, the body can be covered with a clean, *STERILE BURN SHEET* obtained from the EMS vehicle.

TRANSPORT DESTINATIONS

1. Patients sustaining traumatic injuries shall be transported in accordance with the Trauma Field Triage Criteria Protocol.
2. Patients sustaining burn injuries shall be transported in accordance with the Burns Protocol.
3. Pediatric patients (<18 years of age for transport purposes *ONLY*) shall be transported in accordance with the Pediatric Destination Protocol.
4. Patients with evidence of an acute cerebrovascular accident shall be transported in accordance with the Stroke Protocol.
5. Sexual assault victims shall be transported as follows:
   A. Victims <13 years of age shall be transported to Sunrise Hospital & Medical Center.
   B. Victims 13 years of age and up to 18 years of age shall be transported to either Sunrise Hospital & Medical Center or University Medical Center.
   C. Victims 18 years of age and older shall be transported to University Medical Center.
   D. For sexual assault victims outside a 50-mile radius from the above facilities, the licensee providing emergency medical care shall transport the patient to the nearest appropriate facility.
6. All patients in cardiac arrest or in whom the ability to adequately ventilate cannot be established should be transported to the closest facility.
7. Stable patients should be transported to the hospital of their choice. If the patient does not have a preference, the patient should be transported to the closest appropriate facility.
8. If a hospital declares an *Internal Disaster*, that facility is to be bypassed for *ALL* patients except patients in cardiac arrest, or in whom the ability to adequately ventilate has not been established.
9. For patients outside a 50 mile radius from protocol designated transport destinations, the licensee providing emergency medical care shall transport the patient to the nearest appropriate facility.

Remote Outpatient Emergency Department Alternate Destination Criteria

1. Patients who require a medical or psychiatric evaluation and do not have evidence of any potentially life-threatening illness or injury at the time of transport may be transported to a remote outpatient emergency department if;
2. The patient has normal vital signs, telemetry contact is made, and;
3. The patient does not meet any of the following exclusions criteria:
   A. Violent or uncooperative patients
   B. Obstetric patients > 20 weeks gestation
   C. Any patient in need of time-critical intervention that can be provided only at a hospital-based emergency department. For example, but not limited to STEMI, Stroke, or ACS.
   D. Any condition covered by another destination directive:
      - Trauma Field Triage Criteria
      - Stroke Protocol
      - Burns Protocol
      - Pediatric Destination Protocol
      - Sexual Assault Victims
      - Cardiac Arrest

   Normal Vital Signs:
   - Heart Rate 60-100
   - Respiratory Rate 10-20
   - Systolic BP 100-180
   - Diastolic BP 60-100
   - Room air pulse oximetry >94%
   - Alert and oriented X4
4. Alternate transportation and destination decisions should be consistent with medical necessity and with consideration for patient preference when the patient's condition allows.

TRAUMA FIELD TRIAGE CRITERIA

A licensee providing emergency medical care to a patient at the scene of an injury shall use the following procedures to identify and care for patients with traumas:

1. **Step 1 – Measure vital signs and level of consciousness. If the patient's:**
   - **A. Glasgow Coma Scale is 13 or less;**
   - **B. Systolic blood pressure is less than 90 mmHg; or**
   - **C. Respiratory rate is less than 10 or greater than 29 breaths per minute (less than 20 in infant aged less than 1 year), or is in need of ventilatory support**

   the adult patient *MUST* be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated. The pediatric patient MUST be transported to a pediatric center for the treatment of trauma.
2. **Step 2 – Assess anatomy of injury. If the patient has:**
   - **A. Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee;**
   - **B. Chest wall instability or deformity (e.g. flail chest);**
   - **C. Two or more proximal long-bone fractures;**
   - **D. Crushed, degloved, mangled, or pulseless extremity;**
   - **E. Amputation proximal to wrist or ankle;**
   - **F. Pelvis fractures;**
   - **G. Open or depressed skull fractures; or**
   - **H. Paralysis**

   the adult patient *MUST* be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated. The pediatric patient *MUST* be transported to a pediatric center for the treatment of trauma.
3. **Step 3 – Assess mechanism of injury and evidence of high-energy impact, which may include:**
   - **A. Falls**
     - **1) Adults: greater than 20 feet (one story is equal to 10 feet)**
     - **2) Children: greater than 10 feet or two times the height of the child**
   - **B. High-risk auto crash**
     - **1) Motor vehicle was traveling at a speed of at least 40 miles per hour immediately before the collision occurred;**
     - **2) Intrusion, including roof: greater than 12 inches occupant site; greater than 18 inches any site;**
     - **3) Ejection (partial or complete) from automobile;**
     - **4) Motor vehicle rolled over with unrestrained occupant(s);**
     - **5) Death in same passenger compartment**
   - **C. Motorcycle crash greater than 20 mph**
   - **D. Auto vs pedestrian/bicyclist thrown, run over, or with significant (greater than 20 mph) impact**

   the patient *MUST* be transported to a Level 1, 2, or 3 center for the treatment of trauma in accordance with the catchment area designated. For patients who are injured outside a 50-mile radius from a trauma center, the licensee providing emergency medical care shall call and consider transport to the nearest receiving facility.

TRAUMA FIELD TRIAGE CRITERIA (Cont.)

4. **Step 4 – Assess special patient or system considerations, such as:**
   - **A. Older adults**
     1) **Risk of injury/death increases after age 55 years**
     2) **SBP less than 110 mmHg might represent shock after age 65 years**
     3) **Low impact mechanisms (e.g. ground level falls) might result in severe injury**
   - **B. Children should be triaged preferentially to a trauma center.**
   - **C. Anticoagulants and bleeding disorders: Patients with head injury are at high risk for rapid deterioration.**
   - **D. Burns**
     1) **Without other trauma mechanisms: transport in accordance with the Burns protocol**
     2) **With trauma mechanism: transport to UMC Trauma/Burn Center**
   - **E. Pregnancy greater than 20 weeks**
   - **F. EMS provider judgment**

The person licensed to provide emergency medical care at the scene of an injury shall transport a patient to a designated center for the treatment of trauma based on the following guidelines:

St. Rose Dominican Hospital - Siena Campus (Level 3 Trauma Center) Catchment Area

All trauma calls that meet Step 3 or in the provider's judgment meet Step 4 of the Trauma Field Triage Criteria Protocol and occur within the City of Henderson or the geographical area bordered by Interstate 15 to the west and Sunset road to the north, and the county line to the east, are to be transported to St. Rose Dominican Hospital – Siena Campus and the medical directions for the treatment of the patient must originate at that center;

Sunrise Hospital & Medical Center (Level 2 Trauma Center) Catchment Area

All adult trauma calls and pediatric Step 3 trauma calls that meet the Trauma Field Triage Criteria Protocol and occur within the geographical area bordered by Paradise Road to the west, Sahara Avenue to the north, Sunset Road to the south, and the county line to the east, are to be transported to Sunrise Hospital & Medical Center and the medical directions for the treatment of the patient must originate at that center;

In addition, adult trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria Protocol and occur within the St. Rose Dominican Hospital – Siena Campus Catchment Area, City of Henderson, or the geographical area bordered by Paradise Road to the west continuing along that portion where it becomes Maryland Parkway, Sunset Road to the north, and the county line to the east, are to be transported to Sunrise Hospital & Medical Center and the medical directions for the treatment of the patient must originate at that center.

University Medical Center (Level 1 Trauma Center and Pediatric Level 2 Trauma Center) Catchment Area

All trauma calls that meet the Trauma Field Triage Criteria and occur within any other area of Clark County are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

All pediatric Step 1 and Step 2 trauma calls that occur within Clark County are to be transported to University Medical Center/Trauma and medical directions for the treatment of the patient must originate at that center.

In addition, adult trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria Protocol and occur in the geographical area bordered by Paradise road to the east, Sunset Road to the north, Interstate 15 to the west, and the county line to the south, are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

TRAUMA FIELD TRIAGE CRITERIA (Cont.)

All trauma calls that meet the Trauma Field Triage Criteria Protocol, regardless of location, that are transported by air ambulance are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

EXCEPTIONS:

1. **Nothing contained within these guidelines precludes transport to any trauma facility if, in the provider's judgment, time to transport to the designated center would be unduly prolonged due to traffic and/or weather conditions and might jeopardize the patient's condition.**
2. **Additionally, nothing contained within these guidelines precludes transport to the closest facility if, in the provider's judgment, an ability to adequately ventilate the patient might result in increased patient mortality.**

WAITING ROOM CRITERIA

Upon arrival in the emergency department, if transfer of care has not occurred in accordance with NRS 450B.790, any patient, excluding patients placed on a legal psychiatric hold, meeting *ALL* the following criteria may be placed in the hospital waiting room or other appropriate location:

1. **Normal vital signs**
   - **A. Heart rate 60 - 100**
   - **B. Respiratory rate 10 - 20**
   - **C. Systolic BP 100 - 180**
   - **D. Diastolic BP 60 - 100**
   - **E. Room air pulse oximetry >94%**
   - **F. Alert and oriented x 4**
2. **Did not receive any parenteral medications during EMS transport except a single dose of a narcotic and/or an anti-emetic.**
3. **In the judgment of the Paramedic/EMT-P, does not require continuous cardiac monitoring. Note: Any ECG monitoring initiated by a transferring facility may not be discontinued by EMS personnel.**
4. **Can maintain a sitting position without adverse impact on their medical condition.**
5. **Is left with a verbal report to hospital personnel.**

PROCEDURES
PROTOCOLS

CERVICAL STABILIZATION

LEVEL: EMT/AEMT/Paramedic

Cervical stabilization is indicated in any patient who meets the indications (A-E) below:

Indications:

This procedure may be performed on any patient with potential for spinal injury based upon the following (NEXUS) criteria:

- **A. Midline cervical spinal tenderness**
- **B. Focal neurologic deficit**
- **C. Altered mental status**
- **D. Evidence of drug and/or alcohol intoxication**
- **E. Any painful, distracting injury**

Contraindications:

Cervical stabilization is *NOT* performed in the following conditions:

- **A. Penetrating trauma to the head and/or neck and no evidence of spinal injury**
- **B. Injuries where placement of the collar might compromise patient assessment, airway management, ventilation and/or hemorrhage control**
- **C. Patients in cardiac arrest**

Key procedural considerations:

- **A. If (A-E) above are *ALL NEGATIVE*, cervical stabilization is not required.**
- **B. If required, cervical stabilization is the placement of an approved, properly-sized cervical collar before the patient is moved.**
- **C. Backboards are only indicated for extrication and patient movement. Patients are not to be transported on backboards (unless movement off the backboard would delay immediate transport of patients with life-threatening injuries or acute spinal injuries).**
- **D. Tape, head straps, wedges, and head and/or neck support devices are not recommended.**
- **E. Patients found in motor vehicles should be asked if they are able to exit the motor vehicle on their own. If so, they should be assisted to a soft stretcher and secured for transport. Patients unable to exit the vehicle on their own accord should be removed by the appropriate extrication method.**
- **F. Once on the stretcher, the patient may be moved to a semi-Fowler's or high-Fowler's position for comfort.**
- **G. If a backboard is used for extrication or movement, the patient should be immediately moved to a soft mattress, if possible.**
- **H. In special situations, alternate stabilization devices (e.g. vacuum mattress, KED, etc. may be used as indicated).**
- **I. Pediatric patients may be stabilized in an approved car seat or with a commercial pediatric stabilization device.**

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

LEVEL: Paramedic

Indications:

This procedure may be performed on any patient 18 years old or older in CHF, Respiratory Distress with Bronchospasm, and pneumonia, who has *TWO* of the following:

A. Retractions or accessory muscle use
B. Respiratory rate >25 per minute
C. SpO_2 ≤94%

Contraindications:

A. Apnea
B. Vomiting or active GI bleed
C. Major trauma/pneumothorax
D. Altered Mental Status

Use device per manufacturer instructions

Key procedural considerations:

A. Assess patient and document VS, SpO_2 and $ETCO_2$ prior to applying oxygen.
B. Select the appropriate size face mask for the patient.
C. Inform patient about procedure process.
D. Gradually increase the flow rate, slowly reaching the desired CPAP pressure.
E. Secure face mask onto patient face using the head harness.
F. Check the mask and tubing for leaks.
G. Reassess patient and document every five minutes.
H. If patient develops any of the contraindications or requires definitive airway control, discontinue CPAP and provide necessary airway control.

ELECTRICAL THERAPY/DEFIBRILLATION

LEVEL: Paramedic

Indications:

This procedure may be performed on any patient experiencing:

A. Ventricular fibrillation
B. Pulseless ventricular tachycardia
C. Torsades de Pointes

Contraindications: None

Use device per manufacturer instructions

Key procedural considerations:

A. The initial and subsequent attempts shall be at the energy level(s) sugggested by the device manufacturer and/or the agency's medical director.
B. Defibrillation should be immediately provided in an arrest *WITNESSED* by EMS personnel. In an arrest that is *UNWITNESSED* by EMS personnel, two minutes of CPR should be provided prior to defibrillation.
C. Patients with automatic implantable cardioverter-defibrillators (AICD) will need external defibrillation if the AICD is ineffective.
D. If defibrillation is needed on a patient with a permanent implanted pacemaker, the defibrillator paddles or self adhesive electrodes should be placed at least one inch from the pulse generator of the pacemaker.

Initial attempt at pediatric defibrillation shall be at 2 J/kg. If unsuccessful, defibrillation should be attempted at 4 J/k and continue at 4 J/k until conversion occurs. Adult paddles/pads may be used in children weighing more than 15 kg.

ELECTRICAL THERAPY/SYNCHRONIZED CARDIOVERSION

LEVEL: Paramedic

The patient *MUST* be on a cardiac monitor and *SHOULD* have Vascular Access

Indications:

This procedure may be performed on any patient experiencing:

A. Ventricular tachycardia with inadequate perfusion

B. Supraventricular tachycardia with inadequate perfusion

C. Ventricular tachycardia with adequate perfusion, but refractory to drug therapy

Adjunctive therapy: Consider sedation prior to defibrillation in the awake patient, administer Etomidate 0.15 mg/kg IV.

Contraindications: None

Key procedural considerations:

A. Biphasic device: The initial and subsequent attempts shall be at the energy level(s) suggested by the device manufacturer and/or the agency's medical director.

B. Monophasic device:

1. **Ventricular dysrhythmias: 100 J escalating to 200, 300, and 360**
2. **Supraventricular dysrhythmias: 50 J with subsequent attempts at 100 J**

Initial attempt at pediatric cardioversion shall be at 0.5 J/kg.
If unsuccessful, cardioversion should be attempted at 2 J/kg.
Adult paddle/pads may be used in children weighing more than 15 kg.

ELECTRICAL THERAPY/TRANSCUTANEOUS PACING

LEVEL: Paramedic

Indications:

This procedure may be performed on any patient experiencing:

A. Hemodynamically unstable bradycardia
B. Unstable clinical condition that is likely because of bradycardia
C. For pacing readiness (i.e. standby mode) in the setting of MI with bradycardia, second degree type II AV block, third degree AV block, new left or right alternating BBB or bifascicular block
D. Overdrive pacing of tachycardias refractory to drug therapy or electrical cardioversion

Contraindications: None

Adjunctive therapy:

In the conscious patient with a systolic blood pressure of >90mmHg consider:

Sedation: Midazolam 0.1 mg/kg IN/IM/IV. May repeat every five minutes at 0.05 mg/kg IN/IM/IV or;

Diazepam 5 mg IV. May repeat after five minutes with physician order.

Analgesia: Morphine Sulfate up to 0.1 mg/kg slow IV to a maximum single dose of 10 mg. May repeat every 10 minutes until pain is relieved or respiratory/mental status depression occurs or;

Fentanyl up to 1.0 mcg/kg IN/IM/IV to a maximum single dose of 100 mcg. May repeat dose after 10 minutes with physician order or;

Hydromorphone up to 1.0 mg IV. May repeat dose after ten minutes with physician order.

Key procedural considerations:

A. Apply pacing pads, begin pacing at a rate of 60 beats per minute at the lowest available current.
B. Increase current by 20 milliamp increments until electrical capture.
C. In the event of electrical capture and no pulses, continue pacing and CPR.

Pediatric pacing is by telemetry physician order only

ENDOTRACHEAL INTUBATION

LEVEL: Paramedic

1. **All intubations *MUST* have initial, en route, and at transfer of care End-Tidal CO_2 detection/capnography performed and recorded on the PCR.**
2. **All intubation attempts *MUST* be documented on the PCR.**

Indications:

This procedure may be performed on any patient in whom attempts at basic airway and ventilatory support are unsuccessful *AND* who has at least one of the following:

- **A. Hypoxia**
- **B. Respiratory arrest/failure**

Contraindications:

Absolute Contraindications: None

Relative Contraindications:

- **A. Presence of gag reflex**
- **B. Suspected narcotic overdose/hypoglycemia prior to administration or Naloxone/Glucose 50%**

Adjunctive Therapy:

If patient is 12 years of age or greater, administer Etomidate 0.3 mg/kg IV for induction.

If patient is less than 12 years of age, administer Midazolam 0.1 mg/kg IV/IN titrated to effect. Maximum single dose: 5 mg. Must be given slowly over a period of 3-5 minutes. Additional pediatric doses by telemetry physician order only.

Ketamine can be used for all patients for induction: 2.0 mg/kg IV or 4.0 mg/kg IM.

Maintain patient sedation. Administer Midazolam 0.1 mg/kg IV/IN. May repeat every five minutes at .05 mg/kg IV/IN/IM.

Check and prepare the endotracheal airway device prior to insertion

Key procedural considerations:

- **A. Position head properly.**
- **B. Insert blade while displacing tongue and elevate mandible with laryngoscope.**
- **C. Introduce ET tube and advance to proper depth.**
- **D. Inflate cuff to proper pressure and disconnect syringe.**
- **E. Ventilate patient and confirm proper placement.**
- **F. Verify proper tube placement by secondary confirmation such as capnography or colorimetric device.**
- **G. Secure device or confirm that the device remains properly secured.**

ENDOTRACHEAL INTUBATION (Cont.)

LEVEL: Paramedic

Nasotracheal Intubation:

Contraindications:

A. Apnea or near-apnea
B. Suspected basilar skull, nasal, or midface fractures
C. Coumadin anticoagulation therapy or hemostatic disorders
D. Upper neck hematomas
E. Should *NOT* be attempted in children

Adjunctive Therapy:

Prep the nostrils with Phenylephrine 2-3 drops or 1-2 sprays in each nostril, and Lidocaine 2% lubricant.

Check and prepare the endotracheal airway device prior to insertion

Key procedural considerations:

A. Position patient semi-Fowler, sitting or supine.
B. Insert lubricated ET tube into dilated nostril and advance straight back (posteriorly).
C. Listen to end ET tube for sounds of patient's breathing.
D. During inhalation, smoothly advance tube through glottic opening.
E. Inflate cuff to proper pressure and disconnect syringe.
F. Verify proper tube placement by secondary confirmation such as capnography or colorimetric device.
G. Secure device or confirm that the device remains properly secured.

EXTRAGLOTTIC AIRWAY DEVICE

LEVEL: AEMT/Paramedic

Indications:

This procedure may be performed on any patient in which attempts at basic airway and ventilatory support are unsuccessful *AND* who has at least one of the following:

A. Hypoxia
B. Respiratory arrest/failure
C. Obtundation
D. Failed endotracheal intubation

Contraindications:

A. Gag reflex
B. History of esophageal trauma, or known esophageal disease
C. Recent ingestion of a caustic substance
D. Tracheostomy or laryngectomy
E. Suspected foreign body obstruction

Check and prepare the extraglottic airway device prior to insertion

Key procedural considerations:

A. Pre-oxygenate the patient.
B. Position the patient's head in a neutral or slightly flexed position if no suspected spinal injury (if a spine injury is suspected, maintain a neutral, in-line head position).
C. Perform a tongue-jaw lift.
D. Insert device to proper depth. *NEVER* force. If device does not advance, readjust the insertion.
E. Secure device in the patient (inflate cuff(s) with proper volume(s) and immediately remove syringe).
F. Ventilate patient and confirm proper ventilation (correct lumen and proper insertion depth) by auscultation bilaterally over lungs and over epigastrium.
G. Adjust ventilation as necessary (ventilate through additional lumen or slightly withdraw tube until ventilation is optimized).
H. Verify proper tube placement by secondary confirmation such as capnography or colorimetric device.
I. Secure device or confirm that the device remains properly secured.

FIRST RESPONSE EVALUATE/RELEASE

LEVEL: Paramedic/AEMT

Inclusion Criteria:

- **A. Coded and dispatched using MPDS as an Alpha or Omega category**
- **B. Patient age ≥ 18 ≤ 65**
- **C. Full assessment performed by first response**
- **D. Patient deemed to have decision making capacity**
- **E. Normal vital signs including SPO_2**
- **F. Patient has a phone, ability and willingness to call 9-1-1 if their condition worsens**
- **G. In the opinion of the paramedic and the patient it is safe to release until an ambulance arrives**

Exclusion Criteria:

- **A. Abnormal vital signs including SPO_2**
- **B. Pregnancy**
- **C. Any high risk complaints/symptoms**
  - **a. Chest pain**
  - **b. Signs/symptoms of possible stroke**
  - **c. Allergic reaction**
  - **d. Shortness of breath**
  - **e. Abdominal pain/flank pain above umbilicus age >35**
  - **f. Syncope, near syncope, dizziness**
  - **g. Seizure**
  - **h. History or sign of head trauma**
  - **i. Active bleeding**
  - **j. Threat to self or others**
  - **k. Overdose or ingestional error**
  - **l. Patients meets Trauma Field Triage Criteria**
- **D. No SNHD EMS Protocol indication for obtaining EKG or placing the patient on a cardiac monitor**

EMS patient care record must be completed within four hours of clearing the call

The Field Response Low-Risk Alpha Evaluate and Release Form must be completed and a copy left with the patient for inclusion in the secondary responder's patient care report

HEMORRHAGE CONTROL TOURNIQUET

LEVEL: EMT/AEMT/Paramedic

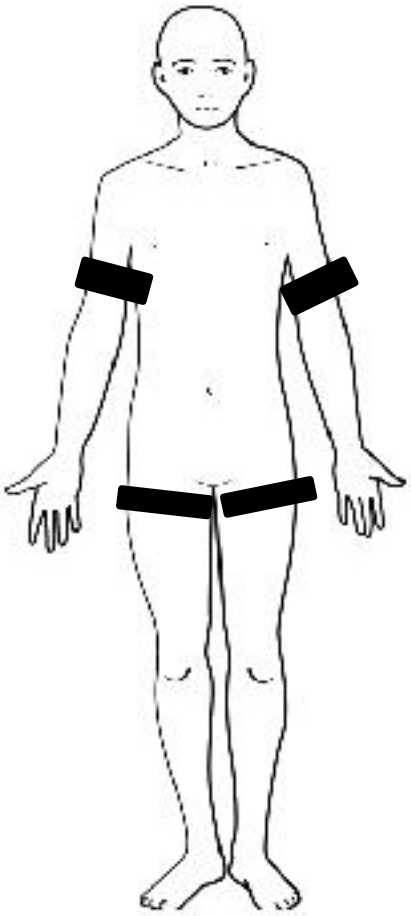
Indications:

This procedure may be performed on any patient that has bleeding from an extremity than can not be controlled by direct pressure.

Contraindications: None

Key procedural considerations:

A. Apply tourniquet proximal to the bleeding site.
B. Absolute contraindication: Bleeding has stopped
C. If bleeding is not controlled, consider additional tightening or applying a second tourniquet proximal side by side to the first.
D. Record the time of tourniquet application, on the patient, that is clearly visible.



MEDICATION ADMINISTRATION

LEVEL: EMT/AEMT/Paramedic (based on medication)

Indications:

This procedure may be performed on any patient that requires the administration of a medication.

Key procedural considerations (GENERAL):

A. Inquire about allergies and previous medication reactions
B. Check and recheck medication
C. Solution clarity and expiration date
D. Right drug
   Right patient
   Right dose
   Right time
   Right route
   Right documentation
E. Dispose of syringe and other material in proper container

Intravenous and Intraosseous Bolus Medications

Key procedural considerations:

A. Identify and cleanse injection site closest to the patient
B. Administer correct dose at proper push rate
C. Turn IV on and adjust drip rate to TKO/KVO

Intramuscular and Subcutaneous Drug Administration

Key procedural considerations:

A. Needle should be 20 gauge or smaller
B. Locate administration site
   Deltoid muscle
   Vastus lateralis (lateral thigh) muscle
   Ventrogluteal or dorsogluteal muscles (buttocks)

IM	SQ
Pull skin tight	Pinch to lift skin slightly
Insert needle at a 90° angle to the skin	Insert needle at a 45° angle to the skin
Advance into muscle layer	Advance into subcutaneous layer

MEDICATION ADMINISTRATION (Cont.)

LEVEL: EMT/AEMT/Paramedic (based on medication)

Mucosal Atomizer Device (MAD) Administration

Medications: Fentanyl, Midazolam, Naloxone Hydrochloride

Key procedural considerations:

A. Using the free hand, hold the crown of the head stable.
B. Place the tip of the MAD snugly against the nostril, aiming slightly up and outward (toward the top of the ear).
C. Briskly compress the syringe to deliver half the medication into the nostril.
D. Move the device over to the opposite nostril and administer the remaining medication.

Intravenous and Intraosseous Bolus Medications

Key procedural considerations:

A. Identify and cleanse injection site closest to the patient
B. Administer correct dose at proper push rate
C. Turn IV on and adjust drip rate to TKO/KVO

Indications:

This procedure may be performed on any patient that requires the administration of a medication.

Key procedural considerations (GENERAL):

A. Inquire about allergies and previous medication reactions
B. Check and recheck medication
C. Solution clarity and expiration date
D. Right drug
Right patient
Right dose
Right time
Right route
Right documentation
E. Dispose of syringe and other material in proper container

NEEDLE CRICOTHYROIDOTOMY

LEVEL: Paramedic

Indications:

This procedure may be performed on any patient with:

A. Total airway obstruction by any BLS or ALS procedures, *OR*

B. Inability to be adequately ventilate with any provider level emergency care procedures prior to the attempt.

Contraindications:

A. Inability to identify landmarks (cricothyroid membrane)

B. Underlying anatomical abnormality (tumor)

C. Tracheal transection

D. Acute laryngeal disease due to infection or trauma

- Pediatric needle cricothyroidotomy is by Telemetry Physician order only.

- You *MUST* use a 14 gauge over-the-needle catheter attached to a 10 cc syringe or commercial cricothyroidotomy device.

Key procedural considerations:

A. Position patient supine (if possible), hyperextending the head.

B. Locate cricothyroid membrane and clean site thoroughly.

C. Stabilize cricoid and thyroid cartilages with one hand.

D. Insert needle/catheter at a 45° angle; gently aspirate with attached syringe while inserting.

E. When syringe is able to aspirate air, stop advancing needle.

F. Continue to advance catheter downward and withdraw needle.

G. Ventilate the patient allowing an inspiratory/expiratory ratio of 1:3.

H. Secure the device and auscultate lung fields.

I. Apply a 3-way stopcock to the end of the hose assembly when utilizing a Transtracheal Jet Insufflator.

NEEDLE THORACENTESIS

LEVEL: Paramedic

Indications:

This procedure may be performed on any patient who has evidence of a tension pneumothorax, demonstrated by the presence of:

Progressive respiratory distress and/or increased resistance to bagging, *AND* unilateral diminished/absent breath sounds, associated with:

A. Tracheal deviation, or
B. Jugular venous distension, or
C. Signs of shock, low BP with chest trauma present

Contraindications: None

Needle Thoracentesis is permitted in pediatric patients.

Key procedural considerations:

A. Primary site is the 2nd intercostal space mid-clavicular line of the affected side.
B. Alternate location is the 4th- 5th intercostal space in the mid-axillary line of the affected side.
C. Use a site specific, appropriate length needle to decompress the chest.
D. Prep site with iodine and/or alcohol.
E. Place tip of needle on top of appropriate rib and insert over top of rib into intercostal space.
F. Advance catheter and remove needle.
G. Secure catheter and consider attaching a flutter valve assembly.

TRACHEOSTOMY TUBE REPLACEMENT

LEVEL: Paramedic

Indications:

This procedure may be performed on any patient that has A *TRACHEOSTOMY TUBE* and *WHO HAS*:

A. Hypoxia
B. Respiratory arrest/failure
C. Obtundation
D. Secretions unable to be cleared by suctioning

Contraindications: None

Key procedural considerations:

A. If the patient or family has a replacement tube available, it may be used. If a replacement tube is not available, an endotracheal tube of a similar outer diameter may be used.
B. Premoisten the tube with water soluble lubricant.
C. Extend the neck and, if necessary, place a roll between the patient's shoulder blades to aid in visualizing the stoma.
D. If the tube cannot be placed easily, withdraw the tube; administer oxygen and positive pressure ventilation. *NEVER* force the tube.
E. Secure the device to the patient.
F. If the tube cannot be easily placed, a suction catheter may be used as a guide.

TRACTION SPLINT

LEVEL: EMT/AEMT/Paramedic

Indications:

This procedure may be performed on any patient with an isolated closed midshaft femur fracture.

Contraindications:

A. Pelvic fracture or instability
B. Knee, lower leg, or ankle instability

Key procedural considerations:

A. Assess motor, sensory, and circulatory function in the involved extremity.
B. Apply traction splint per the manufacturer's guidelines.
C. Initiate mechanical traction to match manual traction.
D. Reassess motor, sensory, and circulatory function in the involved extremity.

VAGAL MANEUVERS

LEVEL: Paramedic

The patient *MUST* be attached to a cardiac monitor and *MUST* have vascular access prior to performing the procedure

Indications:

This procedure may be performed on any patient who is experiencing Supraventricular Tachycardia with adequate perfusion.

Contraindications:

None

Key procedural considerations:

A. Approved methods include:

1. **Valsalva maneuver**
2. **Head-down tilt with deep inspiration**
3. **Activation of the "diving reflex" by facial immersion in ice water (unless ischemic heart disease is present)**
4. **Carotid massage (only on patients under 40 years of age)**

B. In infants and young children, the most effective vagal maneuver is the application of ice to the face. IV access is not mandatory prior to vagal maneuvers in children.

VASCULAR ACCESS

LEVEL: AEMT/Paramedic

Vascular access attempts should not unnecessarily delay transport: attempts should be completed en route. All attempts are to be documented on the PCR.

Indications for Peripheral Vascular Access:

This procedure may be performed on any patient whenever there is a potential need for:

A. Intravenous drug administration
B. Need to administer IV fluids for volume expansion

Contraindications: None

Key procedural considerations:

A. Saline locks may be used when appropriate and flushed with a 3 cc bolus of NS as needed.
B. Extension tubing should be used on all IV lines.

Indications for Intraosseous Access (Paramedic for Adult and Peds, AEMT for Adult Only):

This procedure may be performed on any patient who requires IV drugs or IV fluids *AND* who is:

A. Unconscious and unresponsive; and
B. Peripheral line cannot be immediately established.

Contraindications: Placement in, or distal to a fractured bone

Key procedural considerations: Only 1 (one) attempt is permitted per extremity

Indications for use of Previously Established Central Line Access:

This procedure may be performed on any critically ill or injured patient who requires IV drugs or IV fluids AND in whom a peripheral line cannot be established.

Contraindications: Inability to freely aspirate blood out of the catheter.

Key procedural considerations: Central line access (Implantable Ports, Port-A-Caths, Medports)

A. May only be used if the device has already been accessed and IV fluid set-up has been established and running.

B. These devices require special needles (non-coring type) for access. The device may be damaged if standard jumper (conventional) needles are used to access the ports.

FORMULARY

ACETYLSALICYLIC ACID (Aspirin)

CLASS

Nonsteroidal anti-inflammatory (NSAID)

ACTION

Platelet inhibition

DOSE

Adult

324 mg PO (81 mg tablets x 4)

Pediatric

Not recommended for use

ROUTE

PO (chew and swallow)

CONTRAINDICATIONS

Allergy to Aspirin

ADVERSE REACTIONS

None

RELATED PROTOCOLS

Acute Coronary Syndrome

ACTIVATED CHARCOAL

CLASS

Adsorbent

ACTION

Inhibits gastrointestinal absorption of toxic substances

DOSE

Adult

50 gm PO

Pediatric

1.0 gm/kg PO; min. dose 10 gm; max. dose 50 gm

ROUTE

PO

CONTRAINDICATIONS

Altered mental status; ingestion of acids, alkalis or petroleum distillates; inability to swallow; previous administration of an emetic

ADVERSE REACTIONS

Nausea; vomiting

RELATED PROTOCOLS

Overdose/Poisoning, Pediatric Overdose/Poisoning

ADENOSINE (Adenocard)

CLASS

Antiarrhythmic

ACTION

Slows conduction through the AV Node and can interrupt re-entry pathways

DOSE

Adult

6-12 mg, rapid IV push

Pediatric

0.2 mg/kg, rapid IV push, not to exceed 12 mg

ROUTE

Rapid IVP

CONTRAINDICATIONS

Second or third-degree AV block or sick sinus syndrome (unless patient with a functional artificial pacemaker); atrial flutter; atrial fibrillation

Repeat doses of Adenosine are not indicated if the dysrhythmia reoccurs after conversion

Alternate pharmacological therapy may be necessary

ADVERSE REACTIONS

Facial flushing; headache; sweating; palpitations; chest pain

RELATED PROTOCOLS

Tachycardia/Stable, Tachycardia/Unstable, Pediatric Tachycardia/Stable, Pediatric Tachycardia/Unstable

ALBUTEROL (Proventil)

CLASS

Sympathomimetic

ACTION

Bronchodilator

DOSE

Adult

2.5 mg in 3.0 ml SVN; repeat until improvement

Pediatric

2.5 mg in 3.0 ml SVN; repeat until improvement

ROUTE

Inhalation by oxygen nebulization

CONTRAINDICATIONS

Hypersensitivity to the drug

ADVERSE REACTIONS

Tachycardia; palpitations; anxiousness; headache

RELATED PROTOCOLS

Allergic Reaction, Chest Pain, Drowning, Hyperkalemia, Respiratory Distress, Pediatric Allergic Reaction, Pediatric Drowning, Pediatric Respiratory Distress

AMIODARONE (Cordarone)

CLASS

Antiarrhythmic

ACTION

Suppresses ventricular ectopy; increases ventricular fibrillation threshold

DOSE

Adult

300 mg IV/IO; may repeat one dose of 150 mg if refractory after 5th shock

Pediatric

5 mg/kg IV/IO; may repeat once after 5th shock

ROUTE

IV/IO

CONTRAINDICATIONS

Hypersensitivity to the drug; cardiogenic shock; high grade AV block; marked sinus bradycardia, or bradycardia with ventricular escape beats

ADVERSE REACTIONS

Seizures; respiratory depression; dizziness; restlessness; confusion; tinnitus; blurred vision; numbness; muscle twitching; hypotension; bradycardia; heart block; nausea; vomiting

RELATED PROTOCOLS

Cardiac Arrest, Tachycardia/Stable, Tachycardia/Unstable, Cardiac Arrest Pediatric, Pediatric Tachycardia/Stable, Pediatric Tachycardia/Unstable

ATROPINE SULFATE

CLASS

Parasympathetic blocker

ACTION

Cholinergic blocking agent; increases rate of SA node discharge; increases conduction through AV node

DOSE

Adult

See specific protocol

Pediatric

See specific protocol

ROUTE

IV/IO

CONTRAINDICATIONS

None

ADVERSE REACTIONS

None

RELATED PROTOCOLS

Bradycardia, Overdose/Poisoning, Pediatric Bradycardia, Pediatric Overdose/Poisoning

BRONCHODILATOR METERED DOSE INHALER

CLASS

Sympathomimetic

ACTION

Bronchodilator

DOSE

Adult

Assist the patient in administering his or her own Bronchodilator Metered Dose Inhaler exactly as prescribed.

Pediatric

Assist the patient in administering his or her own Bronchodilator Metered Dose Inhaler exactly as prescribed.

ROUTE

Inhalation

CONTRAINDICATIONS

Hypersensitivity to the drug

ADVERSE REACTIONS

Tachycardia; palpitations; anxiousness; headache

RELATED PROTOCOLS

CALCIUM CHLORIDE

CLASS

Electrolyte

ACTION

Increases myocardial contractility; increases myocardial excitability; decreases heart rate

DOSE

Adult

1.0 gm (10% solution) slow IV/IO push

Pediatric

20 mg/kg (0.2 ml/kg of 10% solution) slow IV/IO push

ROUTE

Slow IVP

CONTRAINDICATIONS

Patients receiving digitalis

ADVERSE REACTIONS

None

RELATED PROTOCOLS

Bradycardia, Hyperkalemia, Overdose/Poisoning, Pediatric Overdose/Poisoning

DIAZEPAM (Valium)

CLASS

Antianxiety/Anticonvulsant

ACTION

CNS Depressant

DOSE

Adult

5.0 mg IV/IO may repeat titrating to effect

Pediatric

0.1 or 0.2 mg/kg IV/IO; maximum dose of 10 mg
0.5 mg/kg PR via #5 or 8 French feeding tube; maximum dose of 20 mg

ROUTE

IV/IO/PR

CONTRAINDICATIONS

Hypersensitivity; hypotension

ADVERSE REACTIONS

Respiratory depression; CNS depression; nausea; vomiting

RELATED PROTOCOLS

Behavioral Emergency, Obstetrical Emergency, Seizure, Ventilation Management, Pediatric Seizure, Pediatric Ventilation Management, Electrical Therapy/ Transcutaneous Pacing

DIPHENHYDRAMINE HYDROCHLORIDE (Benadryl)

CLASS

Antihistamine

ACTION

Blocks histamine receptors; has some sedative effects; anticholinergic

DOSE

Adult

50 mg IM/IV

Pediatric

1.0 mg/kg IM/IV, max. 50 mg

ROUTE

IV or deep IM

CONTRAINDICATIONS

Hypersensitivity to the drug

ADVERSE REACTIONS

Sedation; palpitations; decreased blood pressure; headache; dries (thickens) bronchial secretions; blurred vision

RELATED PROTOCOLS

Allergic Reaction, Pediatric Allergic Reaction

DOPAMINE HYDROCHLORIDE (Intropin)

CLASS

Sympathomimetic

ACTION

Positive inotrope with dose-related vascular effects

DOSE

Adult

5-20 mcg/kg/min; titrate to SBP >90mmHg

Pediatric

5-20 mcg/kg/min; titrate to SBP >70mmHg + 2 x age

ROUTE

IV by continuous infusion

CONTRAINDICATIONS

Hypovolemic shock

ADVERSE REACTIONS

Ventricular tachycardia; ectopic beats; nausea; vomiting; dyspnea; hypertension and extreme vasoconstriction may occur with high infusion rates; hypotension may occur with low infusion rates

RELATED PROTOCOLS

Bradycardia, Pulmonary Edema/CHF, Shock, Target Temperature Management & Post Resuscitation, Pediatric Shock

DROPERIDOL (Inapsine)

CLASS

Antiemetic

ACTION

Lowers incidence of nausea and vomiting

DOSE

Adult

1.25 mg IM/IV/IO followed by a saline flush or bolus; may repeat the dose after 5 minutes

Pediatric

Not indicated in patients under 12 years old

ROUTE

IM/IV/IO

CONTRAINDICATIONS

Patients with acute AMI; hypotensive patients; respiratory depression; hypersensitivity to Inapsine; known prolonged QT interval

ADVERSE REACTIONS

EPS; syncope; cardiac dysrhythmias

RELATED PROTOCOLS

Abdominal/Flank Pain, Acute Coronary Syndrome, Behavioral Emergency, Pain Management

EPINEPHRINE

CLASS

Sympathomimetic

ACTION

Bronchodilation; positive chronotrope; positive inotrope

DOSE

Adult

See specific protocol

Pediatric

See specific protocol

ROUTE

IM/IV/ETT/SVN

CONTRAINDICATIONS

Underlying cardiovascular disease/angina; hypertension; pregnancy; patient over 40 years of age; hyperthyroidism

ADVERSE REACTIONS

Palpitation due to tachycardia or ectopic beats may produce arrhythmia if cardiac disease present; elevation of blood pressure; headache; anxiousness

RELATED PROTOCOLS

Allergic Reaction, Cardiac Arrest, Pediatric Allergic Reaction, Pediatric Bradycardia, Cardiac Arrest Non-Traumatic

Pediatric, Neonatal Resuscitation, Pediatric Respiratory Distress

EPINEPHRINE AUTO-INJECTOR

CLASS

Sympathomimetic

ACTION

Bronchodilation; positive chronotrope; positive inotrope

DOSE

Adult

Assist patient with his or her own Epinephrine auto-injector

Pediatric

Assist patient with his or her own Epinephrine auto-injector

ROUTE

IM

CONTRAINDICATIONS

Underlying cardiovascular disease / angina; hypertension; pregnancy; patient over 40 years of age; hyperthyroidism

ADVERSE REACTIONS

Palpitation due to tachycardia or ectopic beats may produce arrhythmia if cardiac disease present; elevation of blood pressure; headache; anxiousness

RELATED PROTOCOLS

Allergic Reaction, Pediatric Allergic Reaction

ETOMIDATE (Amidate)

CLASS

Sedative / Hypnotic

ACTION

CNS depressant

DOSE

Adult

Induction 0.3 mg/kg IV; **Sedation** 0.15 mg/kg IV

Pediatric

Sedation 0.15 mg/kg IV

ROUTE

IV

CONTRAINDICATIONS

Known hypersensitivity to the drug

ADVERSE REACTIONS

Pain; transient skeletal movements; nausea; vomiting; hypoventilation; hypotension

RELATED PROTOCOLS

Tachycardia Stable, Tachycardia Unstable, Ventilation Management, Pediatric Tachycardia Stable, Pediatric Tachycardia Unstable, Electrical Therapy/ Synchronized Cardioversion, Endotracheal Intubation

FENTANYL CITRATE

CLASS

Analgesic

ACTION

CNS Depressant

DOSE

Adult

Up to 1.0 mcg/kg IN/IM/IV/IO, to a maximum single dose of 100 mcg. May repeat dose after 10 minutes. Additional doses require physician order.

Pediatric

Up to 1.0 mcg/kg IN/IM/IV/IO, to a maximum single dose of 100 mcg. Additional doses require physician order.

ROUTE

IN/IM/IV/IO

CONTRAINDICATIONS

Known hypersensitivity; patients less than two years old

ADVERSE REACTIONS

Respiratory depression; rapid infusion may produce “stiff chest syndrome”

RELATED PROTOCOLS

Pain Management, Pediatric Pain Management, Electrical Therapy/Transcutaneous Pacing

GLUCAGON

CLASS

Insulin antagonist

ACTION

Reverses the effects of hypoglycemia

DOSE

Adult

1.0 mg IM for no IV access

Pediatric

See specific protocol

ROUTE

IV/IM

CONTRAINDICATIONS

None

ADVERSE REACTIONS

Nausea; vomiting

RELATED PROTOCOLS

Altered Mental Status/Syncope, Bradycardia, Overdose/Poisoning, Seizure, Pediatric Altered Mental Status, Pediatric Overdose/Poisoning, Pediatric Seizure, Pediatric Shock

GLUCOSE

CLASS

Carbohydrate

ACTION

Quick infusion of sugar into blood for metabolism

DOSE ORAL GLUCOSE

Adult

25 gm Glucose between the gum and cheek, if gag reflex is present.

Pediatric

Up 25 gm Glucose between the gum and cheek, if gag reflex is present and as tolerated.

DOSE D10 (10% Dextrose in 250 ml NS)

Adult

25 gm IV may repeat x1 in 5 minutes

Pediatric

5ml/kg IV max dose 250 ml

ROUTE

Slow IVP, IV drip or PO

CONTRAINDICATIONS

None

ADVERSE REACTIONS

None

RELATED PROTOCOLS

Altered Mental Status/Syncope, Seizure, Pediatric Altered Mental Status, Pediatric Seizure, Pediatric Shock

HYDROMORPHONE (Dilaudid)

CLASS

Analgesic

ACTION

CNS Depressant

DOSE

Adult

Up to 1.0 mg IM/IV/IO may repeat after 10 minutes. Additional doses require physician order.

Pediatric

Not for use in children under 12 years old

ROUTE

IM/IV/IO

CONTRAINDICATIONS

Known hypersensitivity; intolerance to opiate analgesics

ADVERSE REACTIONS

Respiratory depression

RELATED PROTOCOLS

Pain Management, Electrical Therapy/Transcutaneous Pacing

HYDROXOCOBALAMIN

CLASS

Detoxifying agent

ACTION

Competitively binds to cyanide ions

DOSE

Adult

5.0 g IV over 15 minutes

Pediatric

70 mg/kg IV over 15 minutes

ROUTE

IVPB

CONTRAINDICATIONS

None

ADVERSE REACTIONS

None

RELATED PROTOCOLS

Overdose/Poisoning, Smoke Inhalation, Pediatric Overdose/Poisoning, Pediatric Smoke Inhalation

IPRATROPIUM BROMIDE (Atrovent)

CLASS

Anticholinergic

ACTION

Appears to inhibit vagally mediated reflexes

DOSE

Adult

2.5 ml of 0.02% solution

Pediatric

2.5 ml of 0.02% solution

ROUTE

Inhalation by oxygen nebulization

CONTRAINDICATIONS

Hypersensitivity to Ipratropium

ADVERSE REACTIONS

Headache; nausea

RELATED PROTOCOLS

Respiratory Distress, Pediatric Respiratory Distress

IPRATROPIUM BROMIDE and ALBUTEROL SULFATE (Duoneb)

CLASS

Anticholinergic/Sympathomimetic

ACTION

Appears to inhibit vagally mediated reflexes and acts as a bronchodilator

DOSE

Adult

3.0 ml

Pediatric

3.0 ml

ROUTE

Inhalation by oxygen nebulization

CONTRAINDICATIONS

Hypersensitivity to either if the base medications

ADVERSE REACTIONS

Tachycardia; palpitations; anxiousness; headache; nausea

RELATED PROTOCOLS

Respiratory Distress, Pediatric Respiratory Distress

KETAMINE (Ketalar)

CLASS

General anesthetic/Induction agent

ACTION

CNS depressant

DOSE

Adult

0.2mg/kg IV/IO/IN

2.0 mg/kg IV/IO

4.0 mg/kg IM

Pediatric

2.0 mg/kg IV/IO

4.0 mg/kg IM

ROUTE

IM/IV/IO/IN

CONTRAINDICATIONS

Known hypersensitivity; systolic over 180 mmHg; acute CVA; head trauma

ADVERSE REACTIONS

Respiratory depression

RELATED PROTOCOLS

Behavioral Emergency, Pain Management, Ventilation Management, Pediatric Ventilation Management

LIDOCAINE (Xylocaine) 2% LUBRICANT

CLASS

Topical anesthetic

ACTION

Produces anesthesia by interfering with nervous system transmission

ROUTE

Topical use only

CONTRAINDICATIONS

Hypersensitivity to the drug

ADVERSE REACTIONS

Seizures; respiratory depression; dizziness; restlessness; confusion; tinnitus; blurred vision; numbness; muscle twitching; hypotension; bradycardia; heart block; nausea; vomiting

RELATED PROTOCOLS

Ventilation Management, Endotracheal Intubation

MAGNESIUM SULFATE

CLASS

Electrolyte

ACTION

Membrane stabilization; raises seizure threshold

DOSE

Adult

2.0 gm in 50 cc NS over 10 minutes IV/IO

Pediatric

25 mg/kg in 50 cc NS over 10 minutes IV/IO

ROUTE

Medical: Mixed in 50 cc NS IV piggyback

Cardiac: Slow IVP

CONTRAINDICATIONS

Hypersensitivity to the drug; high degree heart block; renal failure

ADVERSE REACTIONS

Hypotension; asystole; respiratory depression; weakness

RELATED PROTOCOLS

Obstetrical Emergency, Respiratory Distress, Tachycardia/Stable, Tachycardia/Unstable, Pediatric Tachycardia/Stable, Pediatric Tachycardia/Unstable

MIDAZOLAM (Versed)

CLASS

Anxiolytic

ACTION

CNS depressant

DOSE

Adult

0.1 mg/kg IN/IM/IV; may repeat after 5 minutes at 0.05 mg/kg IN/IM/IV

Pediatric

If patient is less than 12 yrs of age, 0.1 mg/kg IN/IV, titrated to effect, max single dose 5.0 mg; must be given slowly over a period of 3-5 minutes; additional doses by telemetry physician order only.

ROUTE

Slow IVP, PR/IN/IM

CONTRAINDICATIONS

Hypersensitivity to the drug; hypotension; clinical signs of shock

ADVERSE REACTIONS

CNS depression; hypotension, respiratory depression

RELATED PROTOCOLS

Behavioral Emergency, Obstetrical Emergency, Seizure, Ventilation Management, Pediatric Seizure, Pediatric Ventilation Management, Electrical Therapy/ Transcutaneous Pacing, Endotracheal Intubation

MORPHINE SULFATE

CLASS

Narcotic

ACTION

CNS depressant

DOSE

Adult

0.1 mg/kg IM, slow IV, to a max single dose of 10 mg; may repeat at 10 minute intervals until pain is relieved or respiratory/mental status depression occur.

Pediatric

0.1 mg/kg IM, slow IV, to a max single dose of 10 mg. Additional doses by telemetry physician order only.

ROUTE

IM, Slow IVP

CONTRAINDICATIONS

Hypersensitivity to opiates; head injuries; chest or abdominal injury; clinical signs of shock

ADVERSE REACTIONS

Respiratory depression; nausea; vomiting; bradycardia; orthostatic hypotension; altered level of consciousness

RELATED PROTOCOLS

Pain Management, Pediatric Pain Management, Electrical Therapy/Transcutaneous Pacing

NALOXONE HYDROCHLORIDE (Narcan)

CLASS

Narcotic antagonist

ACTION

Reverses effects of narcotics

DOSE

Adult

0.4 - 2.0 mg IN/IM/IV; may repeat 2.0 mg IN/IM/IV if patient slow to respond; titrate to effect; max dose 10 mg.

Pediatric

0.1 mg/kg IN/IM/IV; may repeat if patient slow to respond; titrate to effect; max single dose 2.0 mg; max total dose 10 mg.

ROUTE

IN/IM/IV

CONTRAINDICATIONS

Patients with a history of hypersensitivity to the drug; intubated patients; the newly born during initial resuscitation

ADVERSE REACTIONS

Rapid administration causes projectile vomiting

RELATED PROTOCOLS

Altered Mental Status/Syncope, Overdose/Poisoning, Pediatric Altered Mental Status, Pediatric Overdose/Poisoning

NITROGLYCERIN

CLASS

Vasodilator

ACTION

Dilates systemic arteries and veins; reduces both preload and afterload

DOSE

Adult

See specific protocol

Pediatric

See specific protocol

ROUTE

Sublingual spray or tablet

CONTRAINDICATIONS

Hypotension (do not administer if systolic pressure below 100 mmHg unless ordered by a physician); use of Viagra (Sildenafil) or similar medication within the past 24 hours or 48 hours for Tadalafil (Cialis); patients with demonstrated hypersensitivity to nitrates or nitrites

ADVERSE REACTIONS

Hypotension

RELATED PROTOCOLS

Acute Coronary Syndrome, Pulmonary Edema/CHF

ONDANSETRON HYDROCHLORIDE (Zofran)

CLASS

Selective serotonin blocking agent

ACTION

Antiemetic

DOSE

Adult

4.0 mg ODT/IM/IV

Pediatric

0.15 mg/kg ODT up to a max dose of 4 mg (round up to the nearest ½ pill)

ROUTE

Slow IVP/IM/ODT

CONTRAINDICATIONS

Patients with a known hypersensitivity to the drug

ADVERSE REACTIONS

Headache; chest pain; dizziness; hypotension

RELATED PROTOCOLS

Abdominal/Flank Pain, Acute Coronary Syndrome, Pain Management, Pediatric Abdominal Pain,

Pediatric Pain Management

PHENYLEPHRINE (Neo-Synephrine)

CLASS

Sympathomimetic

ACTION

Direct local vasoconstriction

DOSE

Adult

2-3 drops or 1-2 sprays in each nostril, and Lidocaine 2% lubricant

Pediatric

Not recommended for use

ROUTE

IN

CONTRAINDICATIONS

Ventricular tachycardia; severe coronary artery disease; head injured patients with altered mental status

ADVERSE REACTIONS

None

RELATED PROTOCOLS

Endotracheal Intubation

SODIUM BICARBONATE

CLASS

Alkalinizing agent

ACTION

Increases blood pH

DOSE

Adult

1.0 mEq/kg; 50mEq/50 ml (8.4% solution) IV

Pediatric

1.0 ml/kg; 50mEq/50 ml (8.4% solution) IV/IO (use 4.2% solution for neonatal patients)

ROUTE

IV/IO

CONTRAINDICATIONS

Alkalotic states; respiratory acidosis

ADVERSE REACTIONS

None

RELATED PROTOCOLS

Hyperkalemia, Overdose/Poisoning, Pediatric Overdose/Poisoning

Solu-Cortef (Hydrocortisone Sodium Succinate)

CLASS

Corticosteroid

ACTION

Anti-inflammatory, replaces absent glucocorticoids, suppresses immune response

DOSE

Adult

As prescribed (usual dose 100mg)

Pediatric

As prescribed (usual dose 2 mg/kg to a max of 100 mg)

ROUTE

IM or Slow IV/IO over 30 seconds

CONTRAINDICATIONS

Systemic fungal infections, hypersensitivity to the drug

ADVERSE REACTIONS

ECG changes, hypertension, headache

USING THE ACT-O-VIAL

Press down on plastic activator to force diluent into the lower compartment

Gently agitate to effect solution

Remove plastic tab covering center of stopper

Swab top of stopper with a suitable antiseptic

Insert needle squarely through center of plunger-stopper until tip is just visible. Invert vial and withdraw the required dose.

RELATED PROTOCOLS

Shock, Pediatric Shock

First Response Low-Risk Alpha Evaluate and Release Form (example)

Incident #: EMS Agency:

Patient Name: Date of Birth:

Address: Phone #:

Responding Ambulance Service: **AMR** **MW** **Community Ambulance**

Medical Priority Dispatch System Code: Time of Patient Contact:

Patient Complaint(s):

Primary Survey Complete **Secondary Survey Complete**

Vital Signs: **HR** _____ **RR**_____ **BP**_____ **SPO2**_____ **BG (as applicable)**_____

General Impression:

Confirm the following:

Normal vital signs Time last taken:

Patient does not meet Trauma Field Triage Criteria

No indication for an ECG or cardiac monitoring per SNHD Emergency Medical Care Protocols

Patient is not a threat to self or others

Patient denies *AND* no evidence or suspicion of the following:

Pregnancy	Head trauma	Chest pain
Active bleeding	Seizure	Stroke
Allergic reaction	Shortness of breath	Syncope, near syncope, or dizziness
Overdose or investional error		Abdominal pain/flank pain above the Umbilicus if >35 years of age

Inclusion Criteria:

Call coded and dispatched using MPDS, Alpha or Omega category

Patient between 18 and 65 years of age

Patient has decision making capacity

Patient has a phone to call 9-1-1 if their condition worsens

We have assessed and examined you and have determined your condition as NOT THREATENING TO LIFE/LIMB. With your permission, we will return to service so we may be available in the case of another emergency. An ambulance is continuing to respond. If your condition worsens in any way, call 9-1-1.

I consent to waiting for the ambulance and understand that I can call 9-1-1 if I get worse in any way.

Patient signature Provider signature

SAMPLE
RELEASE OF MEDICAL ASSISTANCE

1. I (or my guardian) have been informed of the reason I should go to the hospital for further emergency care.
2. I (or my guardian) have been informed that only an initial evaluation has been rendered to me and have been advised that I seek the advice of a physician as soon as possible.
3. I (or my guardian) have been informed of the potential consequences and/or complications that may result in my (or my guardian's) refusal to go to the hospital for further emergency care.
4. I (or my guardian), the undersigned, have been advised that emergency medical care on my/the patient's behalf is necessary, and that refusal of recommended care and transport to a hospital facility may result in death, or imperil my/the patient's health by increasing the opportunity for consequences or complications. Nevertheless, and understanding all of the above, I (or my guardian), refuse to:

   ☐ accept emergency medical care

   ☐ accept transport to a hospital facility

   ☐ accept transport to _____ Hospital as directed by Southern Nevada EMS protocols, but request transport to _____ Hospital; and

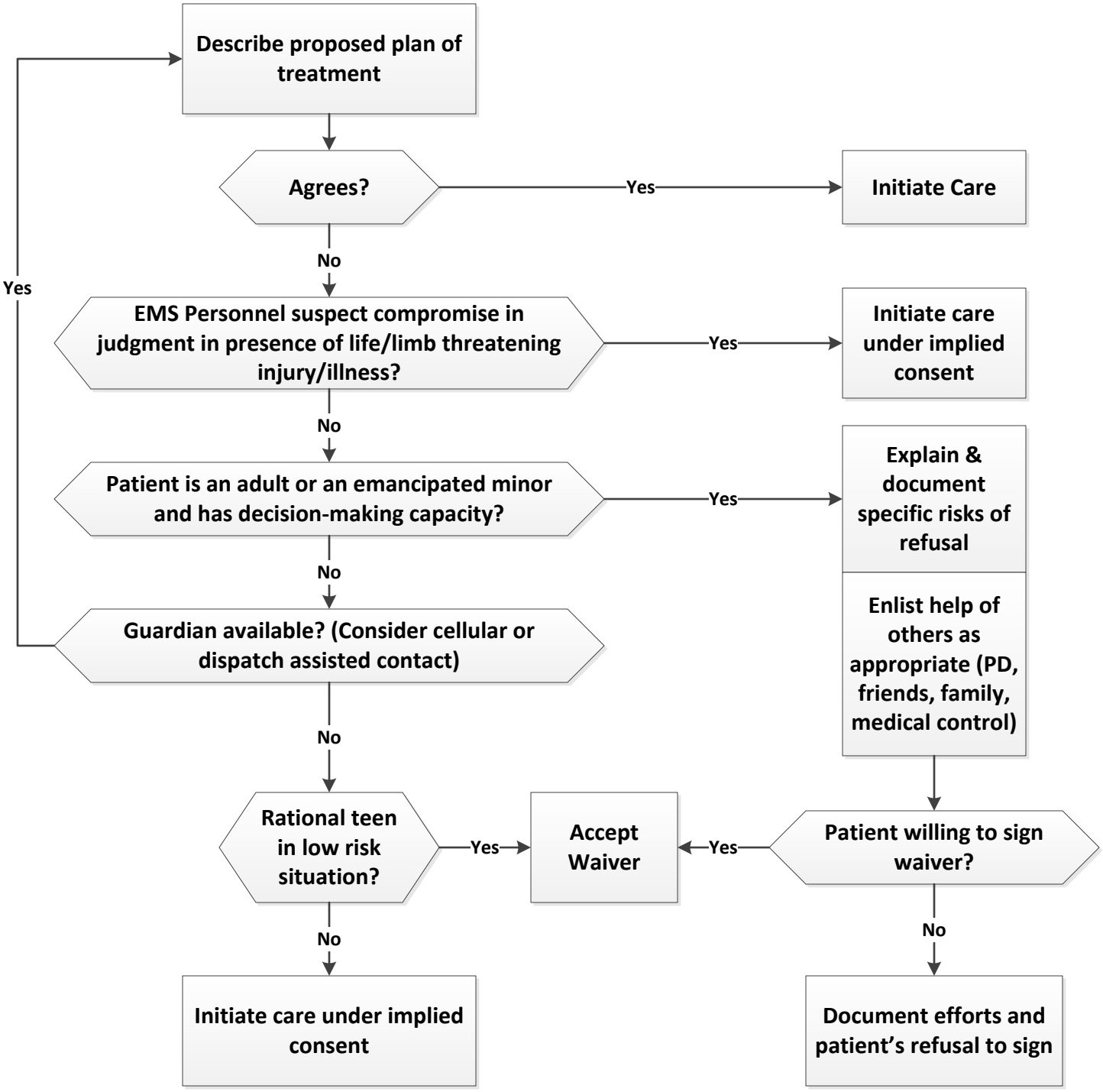
   assume all risks and consequences resulting from my (or my guardian's) decision, and release Clark County provider agencies, and all personnel directly or indirectly involved in my care from any and all liability resulting from my (or my guardian's) refusal. I have had the opportunity to ask all of the questions I feel necessary to provide this informed refusal.

5. The reason for this refusal is as follows: (to be completed by patient/guardian) _____

   _____

Patient's Name:		DOB:
Patient's Address:		
Patient's Phone Number:		
Signature (Patient/Guardian):		
Witness:		
Witness:		
Date:	Time:	Incident #:
Refused to Sign (Patient/Guardian):		
Telemetry Physician:		Hospital:

SAMPLE ALGORITHM, RELEASE OF MEDICAL ASSISTANCE



Note:

1. For all patients refusing transport who meet Trauma Field Triage Criteria protocol, contact a trauma center.
2. EMS personnel may make telemetry contact for further guidance at any time.

SCOPE OF PRACTICE

Southern Nevada Health District
Office of Emergency Medical Services & Trauma System
Authorized Medication List

The following is the fomulary used by EMS agencies in Clark County. Licensed EMS providers working in the EMS System for a permitted agency are authorized, within their level of certification and training, to administer medications as directed by the written treatment protocols.

Medications	EMT	AEMT	Paramedic
Acetylsalicylic Acid	X	X	X
Activated Charcoal	X	X	X
Adenosine			X
Albuterol		X	X
Amiodarone			X
Atropine Sulfate			X
Bronchodilator Metered Dose Inhaler	X	X	X
Calcium Chloride			X
Diazepam			X
Diphenhydramine Hydrochloride		X	X
Dopamine Hydrochloride			X
Droperidol			X
Epinephrine		X	X
Epinephrine Autoinjector	X	X	X
Etomidate			X
Fentanyl Citrate			X
Glucagon		X	X
Glucose - Oral	X	X	X
Glucose Sterile Injectable		X	X
Hydromorphone			X
Hydroxocobalamin			X
Ipratropium Bromide			X
Ipratropium Bromide & Albuterol Sulfate			X
Ketamine			X
Lidocaine 2% Lubricant			X
Magnesium Sulfate			X
Midazolam			X
Morphine Sulfate			X
Naloxone Hydrochloride		X	X
Nitroglycerin	X	X	X
Ondansetron Hydrochloride			X
Phenylephrine			X
Sodium Bicarbonate			X
Solu-Cortef		X	X

SCOPE OF PRACTICE

Southern Nevada Health District
Office of Emergency Medical Services & Trauma System
Authorized Skills List

The following are the authorized skills used by EMS providers in Clark County. Licensed EMS providers working in the EMS System for a permitted agency are authorized, within their level of certification and training, to perform the skills as directed by the written treatment protocols.

Skills	EMT	AEMT	Paramedic
12-Lead ECG Interpretation			X
3-Lead ECG Interpretation			X
Airway Adjunct - NPA	X	X	X
Airway Adjunct - OPA/NPA	X	X	X
Airway Suction	X	X	X
Capnometry (Color Change Device)		X	X
Capnometry (Continuous Waveform)			X
Carotid Massage			X
Cervical Stabilization	X	X	X
CPAP			X
CPR	X	X	X
Defibrillation - AED	X	X	X
Defibrillation - Manual			X
Endotracheal Intubation - Nasal			X
Endotracheal Intubation - Oral			X
Gastric Decompression			X
Glucose Measurement	X	X	X
Induced Hypothermia			X
Medication Administration	X	X	X
Needle Cricothyroidotomy			X
Needle Thoracentesis			X
Oxygen Administration	X	X	X
Patient Assessment	X	X	X
Pulse Oximetry	X	X	X
Restraints	X	X	X
Splinting	X	X	X
Stroke Screen	X	X	X
Supgraglottic Airway Device		X	X
Synchronized Cardioversion			X
Thermometer	X	X	X
Tracheostomy Tube Replacement			X
Transcutaneous Pacing			X
Vagal Maneuvers			X
Vascular Access IV		X	X
Vascular Access IO		X (Adult)	X

Southern Nevada Health District
Office of Emergency Medical Services and Trauma System
SUBJECT: Receiving Hospital Directory

This directory is subject to change and is provided for informational purposes only

HOSPITAL NAME ADDRESS PHONE	HOSP CODE	TRAUMA LEVEL	BURN CENTER	STROKE DEST	HYPO-THERMIA	PEDS DEST	L & D	HELIPAD	SPECIAL SERVICES
Boulder City Hospital 901 Adams Blvd Boulder City, NV 89005 (702) 293-4111	H-8							X	
Centennial Hills Hospital 6900 North Durango Dr Las Vegas, NV 89149-4409 (702) 360-9040	H-19			X	X		X	X	
Desert Springs Hospital 2075 E. Flamingo Rd. Las Vegas, NV 89119 (702) 733-8800	H-2			X	X			X	
Henderson Hospital 1050 Galleria Dr. Henderson, NV 89011 (702) 963-7000							X	x	
Mesa View Hospital 1299 Bertha Howe Avenue Mesquite, NV 89027 (702) 346-8040	H-75						X	X	
Mike O'Callaghan Federal Hospital 4700 Las Vegas Blvd N Nellis AFB, NV 89191-6600 (702) 653-2343	H-3						X		
Mountain View Hospital 3100 N Tenaya Way Las Vegas, NV 89128 (702) 255-5025	H-11			X	X		X		
North Vista Hospital 1409 East Lake Mead Blvd North Las Vegas, NV 89030 (702) 649-7711	H-5								
Southern Hills Hospital 9300 W. Sunset Road Las Vegas, NV 89148 (702) 880-2100	H-16			X	X		X	X	
Spring Valley Hospital 5400 South Rainbow Blvd Las Vegas, NV 89118 (702) 853-3000	H-15			X	X		X	X	
St. Rose de Lima 102 E. Lake Mead Pkwy Henderson, NV 89015 (702) 616-5000	H-7			X	X			X	
St. Rose San Martin 8280 West Warm Springs Rd Las Vegas, NV 89113 (702) 492-8000	H-73			X			X	X	
St. Rose Siena 3001 St. Rose Pkwy Henderson, NV 89052 (702) 616-5000	H-72 (-T/-P)	Level III		X	X	X	X	X	
Summerlin Medical Center 657 Town Center Dr. Las Vegas, NV 89144 (702) 233-7000	H-1 (-P)			X	X	X	X	X	
Sunrise Hospital 3186 South Maryland Pkwy Las Vegas, NV 89109 (702) 731-8000	H-6 (-T/-P)	Level II		X	X	X	X	X	SA Evaluation (Patients < 13 y/o)
University Medical Center 1800 W. Charleston Blvd Las Vegas, NV 89102 (702) 383-2000	H-4 (-T/-P)	Level I Pediatric Level II	X	X	X	X	X	X	SA Evaluation (Patients > 18 y/o)
Valley Hospital 620 Shadow Lane Las Vegas,, NV 89106 (702) 388-4000	H-9			X	X			X	
HOSPITAL NAME ADDRESS PHONE	HOSP CODE	TRAUMA LEVEL	BURN CENTER	STROKE DEST	HYPO-THERMIA	PEDS DEST	L & D	HELIPAD	SPECIAL SERVICES
				APP-C					