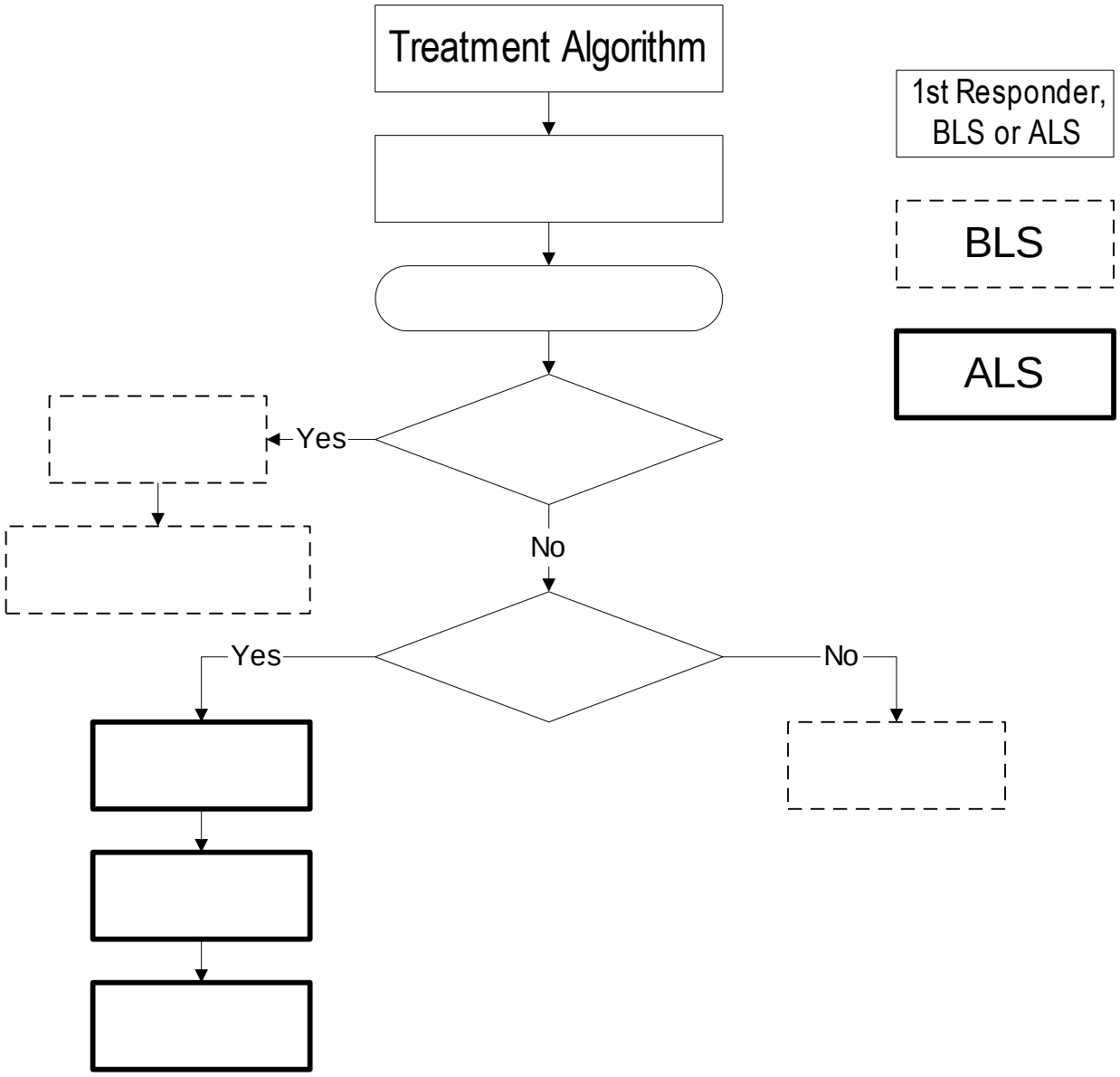
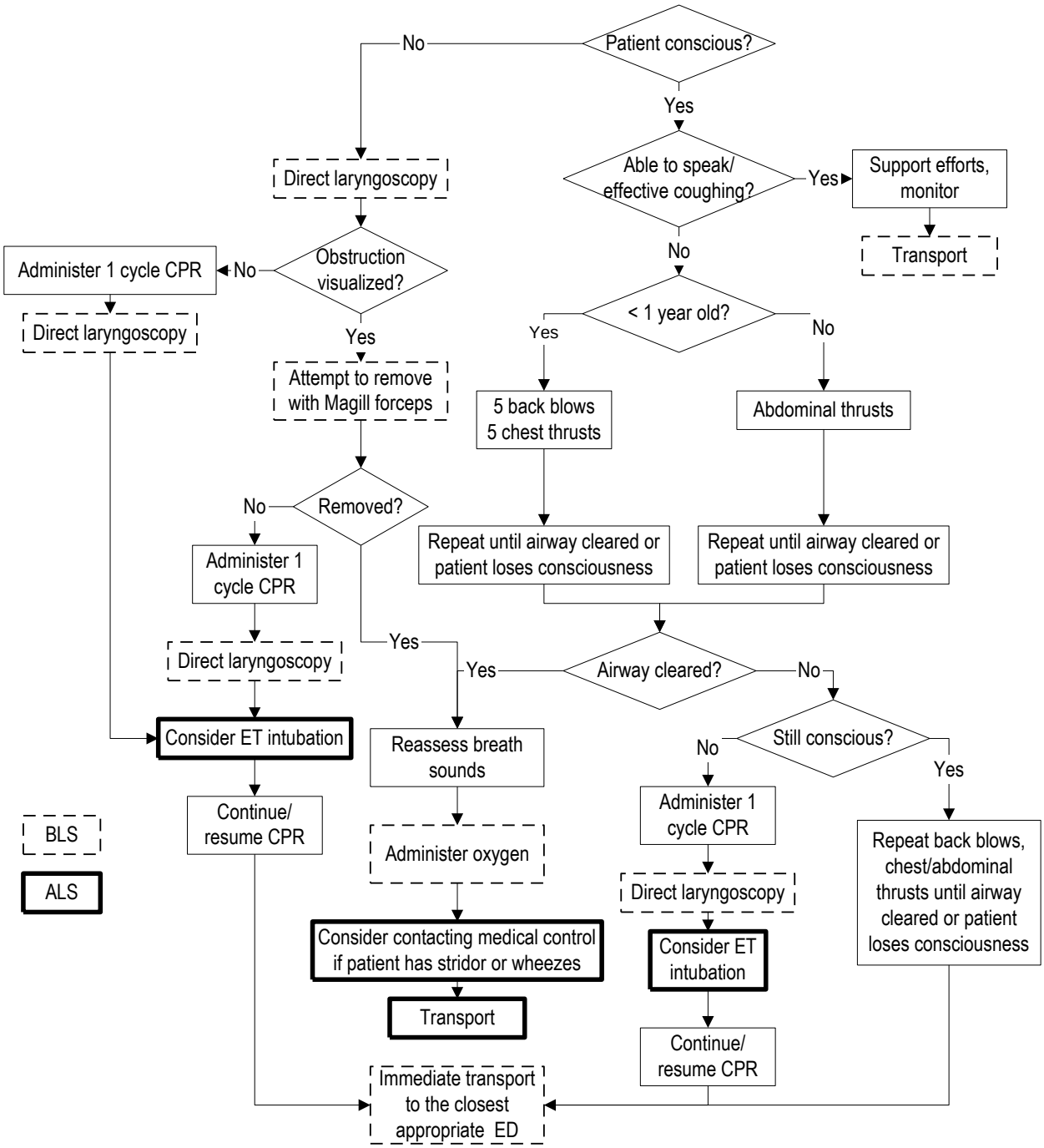
Initiated:	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**CHIEF COMPLAINT**	Signature:
Revision:		Page 1 of 1

History	Signs/Symptoms	Working Assessment
Not inclusive or exclusive Things to listen for that may lead you toward a specific working assessment	Not inclusive or exclusive Signs and/or symptoms to look for that may lead you toward a specific working assessment	What the patient's history and assessment of the physical findings lead you to believe the patient needs to be treated for



Notes:

- Important points to keep in mind when treating patients with the specific working assessment.
- Defibrillation energies are documented as **M ###** = monophasic energy waveform and number of joules administered; **B ###** = biphasic energy waveform and number of joules administered.

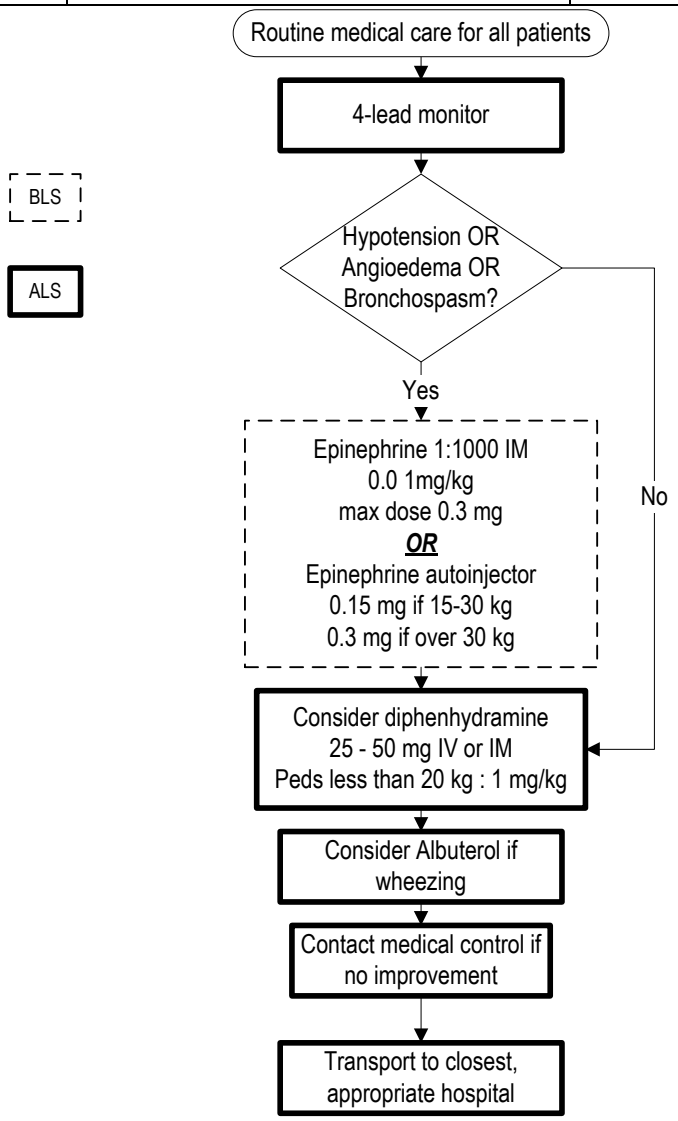


NOTES:

- Abdominal thrusts are no longer indicated in unconscious patients.
- If unable to clear patient's airway, continue attempts to remove/ventilate and begin *immediate* transport to the closest most appropriate ED.
- Combitube insertion is not indicated in respiratory distress secondary to airway obstruction.

Initiated: 5/22/98	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/12/10	**MEDICAL PROTOCOL**	Signature:
Revision: 8	**ALLERGIC REACTION**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Known allergy New medication Insect sting/bite History of allergic reactions Listen for history of: Hypertension, coronary artery disease or current pregnancy Asthma	Hives, itching, flushing Anxiety, restlessness Shortness of breath, wheezing, stridor Chest tightness Hypotension/shock Swelling/edema Cough	Anaphylaxis Asthma Shock



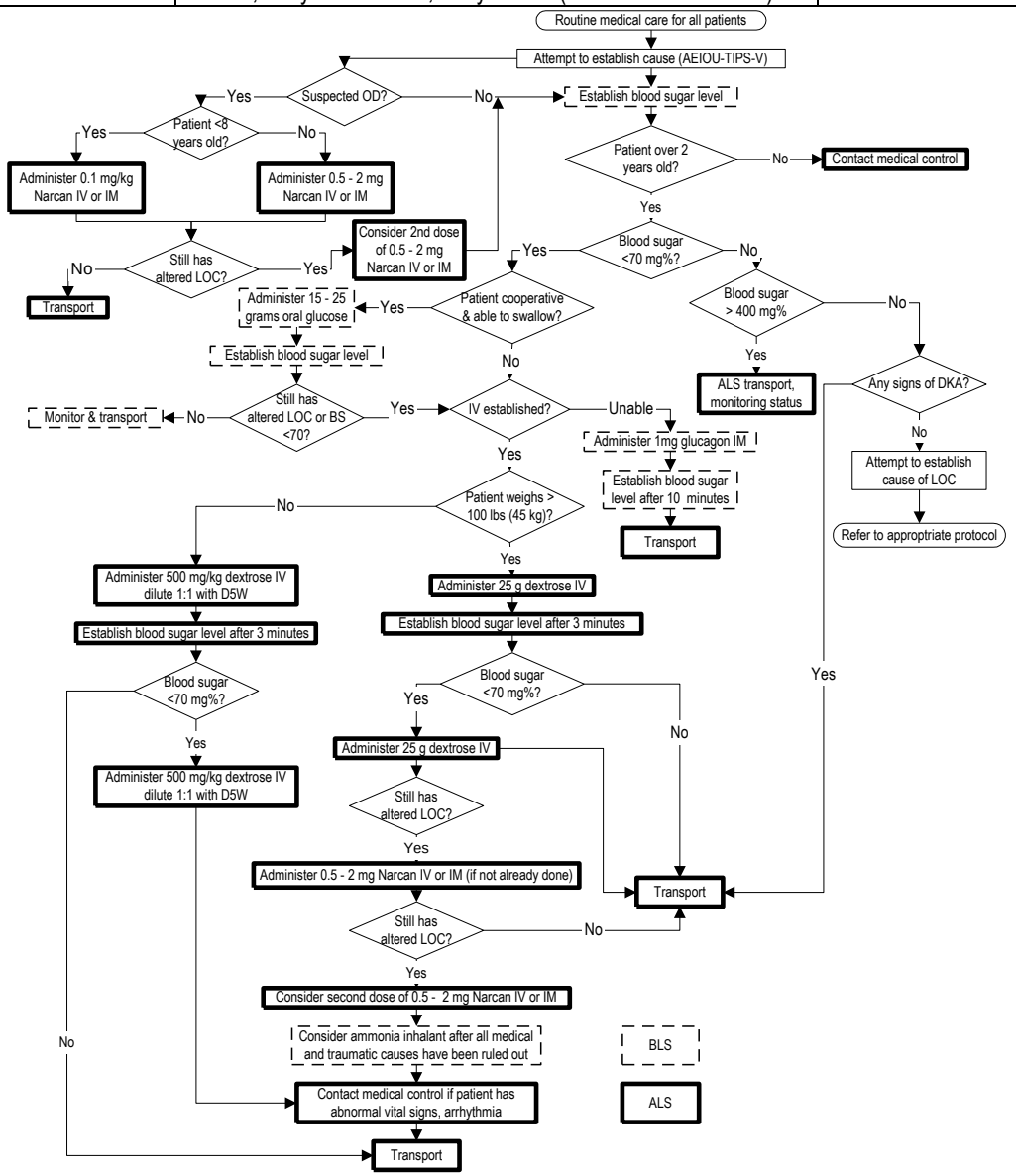
Notes:

- Anaphylactic reactions include a wide spectrum of signs/symptoms that range from minor wheezing to overt shock. Early recognition and treatment, including the use of epinephrine, greatly improves patient outcomes.
- The preferred site for IM injections is the mid-anterolateral thigh.
- IV fluid resuscitation should be initiated for all hypotensive patients.
- There are NO absolute contraindications to epinephrine administration in life-threatening emergencies.
- A MED unit must transport any patient receiving epinephrine (self- or EMS-administered).

Initiated: 9/21/90	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/20/09		Signature:
Revision: 14		Page 1 of 1

ALTERED LEVEL OF CONSCIOUSNESS

History:	Signs/Symptoms:	Working Assessment:
History of seizure disorder Known diabetic History of substance abuse History of recent trauma Presence of medical alert ID	Unresponsive Bizarre behavior Cool, diaphoretic skin (hypoglycemia) Abdominal pain, Kussmaul respirations, warm & dry skin, fruity breath odor, dehydration (diabetic ketoacidosis)	Altered LOC Insulin shock Hypoglycemia Diabetic ketoacidosis Overdose

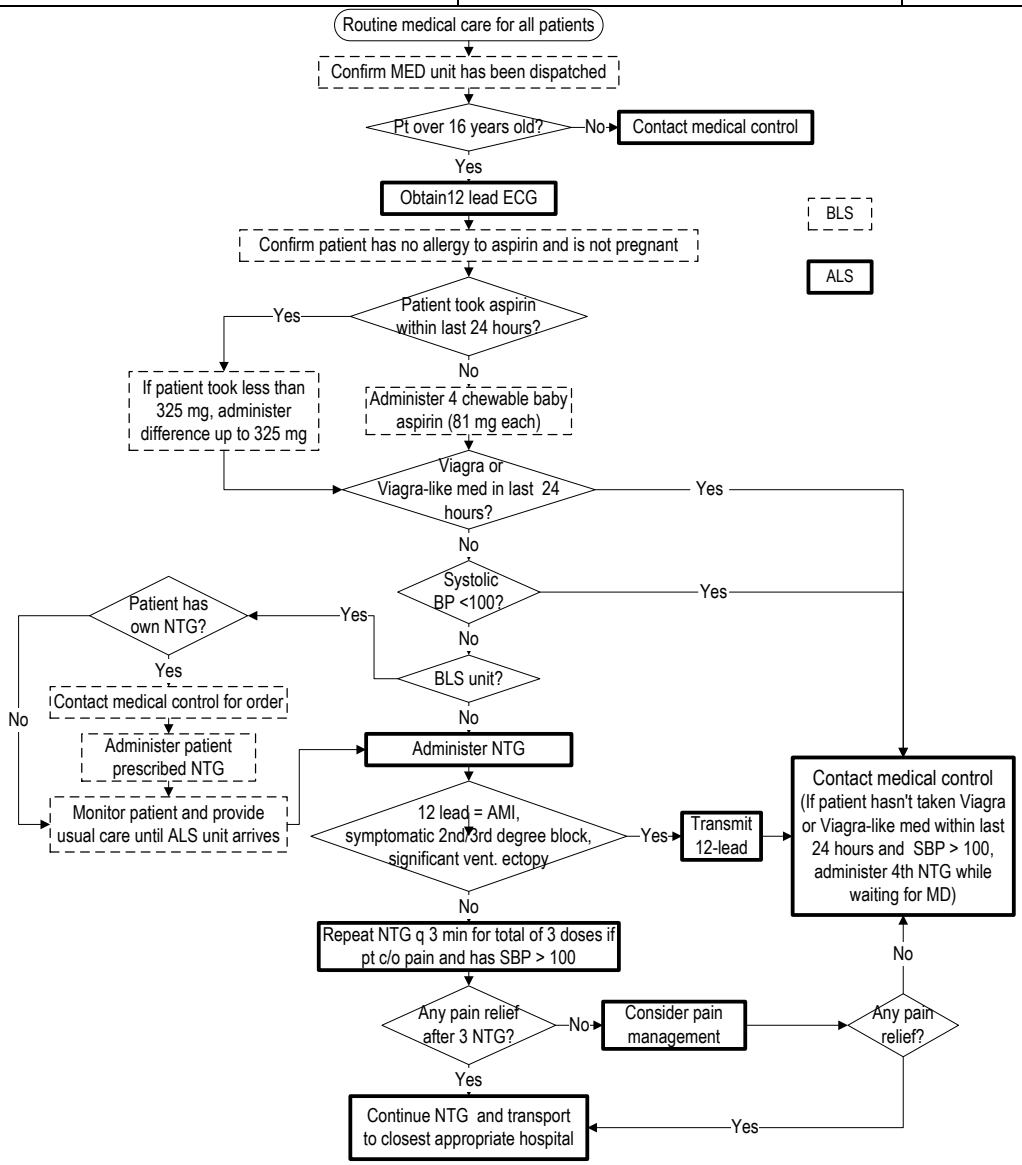


NOTES:

- AEIOU-TIPS-V = A - alcohol, airway, arrest; E- epilepsy, electrolytes, endocrine; I - insulin; O - overdose, oxygen depletion, opiates; U - Uremia/chronic organ failure; T - trauma, tumors, temperature; I - infection; P - psychiatric, pseudoseizures; S - Syncope, shock, stroke, sickle cell crisis; V - vascular/lack of blood flow
- If the patient is suspected of being unconscious due to a narcotic overdose, restraining the patient may be considered before administering Narcan.
- Patients with a blood sugar in excess of 400 mg% and/or with signs/symptoms of diabetic ketoacidosis (Kussmaul respirations, dehydration, abdominal pain, altered LOC) must be monitored and transported by the ALS unit.
- A 12-lead ECG should be obtained for all diabetic patients with atypical chest pain or abdominal pain or other symptoms that may be consistent with atypical presentation of angina or acute myocardial infarction.
- BLS personnel may assist in patient prescribed IM administration of 1mg glucagon if IV access is not available.

Initiated: 12/10/82	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/17/10	**ANGINA/MI**	Signature:
Revision: 20		Page 1 of 1

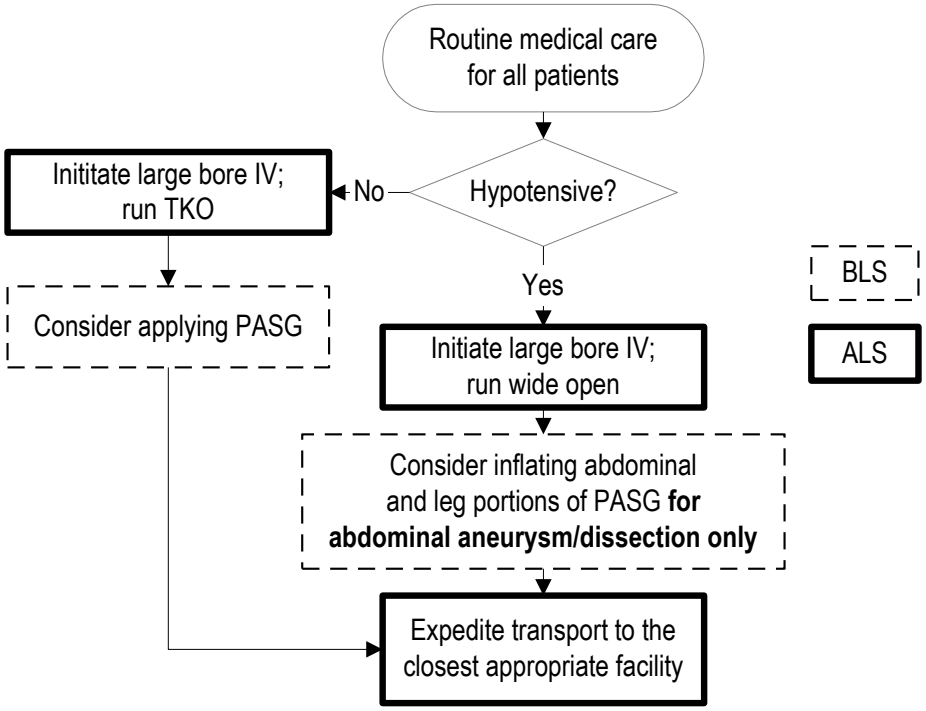
History:	Signs/Symptoms:	Working Assessment:
History of cardiac problems: bypass, cath, stent, CHF Hypertension Diabetes Positive family history Smoker Cocaine use within last 24 hours Available nitroglycerine prescribed for patient	Chest, jaw, left arm, epigastric pain Nausea Diaphoresis Shortness of breath Acute fatigue/ Generalized weakness Syncope Palpitations Abnormal rhythm strip: ectopy, BBB, new onset atrial fibrillation	Angina/MI



Notes:

- BLS units must confirm that a MED unit is en route before administering medications.
- A 12-lead ECG should be done on all patients with a working assessment of Angina/MI, even if pain free.
- A 12-lead ECG should be done as soon as possible after treatment is started; standard is within ten minutes.
- If the patient's symptoms have been relieved but return, repeat 12-lead ECG and continue NTG every 3 minutes until the patient is pain free.
- An IV line should be established before, or as soon as possible, after administering NTG.
- If a patient experiences sudden hypotension (SBP < 90 mm Hg) after administration of NTG, begin administration of a 500 ml Normal Saline fluid bolus and contact medical control.

History:	Signs/Symptoms:	Working Assessment:
History of hypertension History of arteriosclerosis Elderly male	Abdominal or back pain Pulsating mass in abdomen "Ripping", "tearing", "sharp" pain Unequal pulses in left and right pedal pulse points Hyper- or hypotension	Abdominal aortic aneurysm/ dissection
	Chest pain "Ripping", "tearing", "sharp" pain Distended neck veins (JVD) Unequal pulses in left and right radial pulse points Narrow pulse pressure Different blood pressures in left and right arms Hyper- or hypotension	Thoracic aortic aneurysm/ dissection

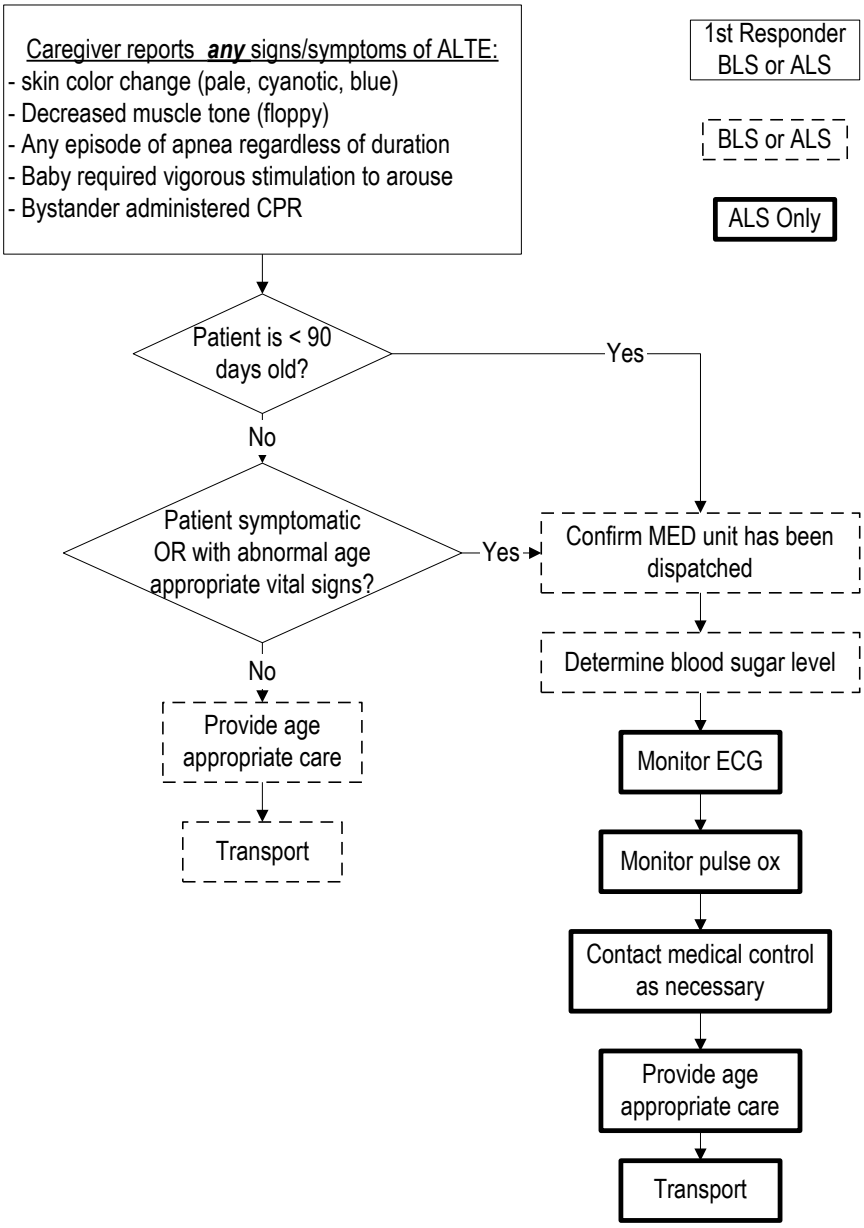


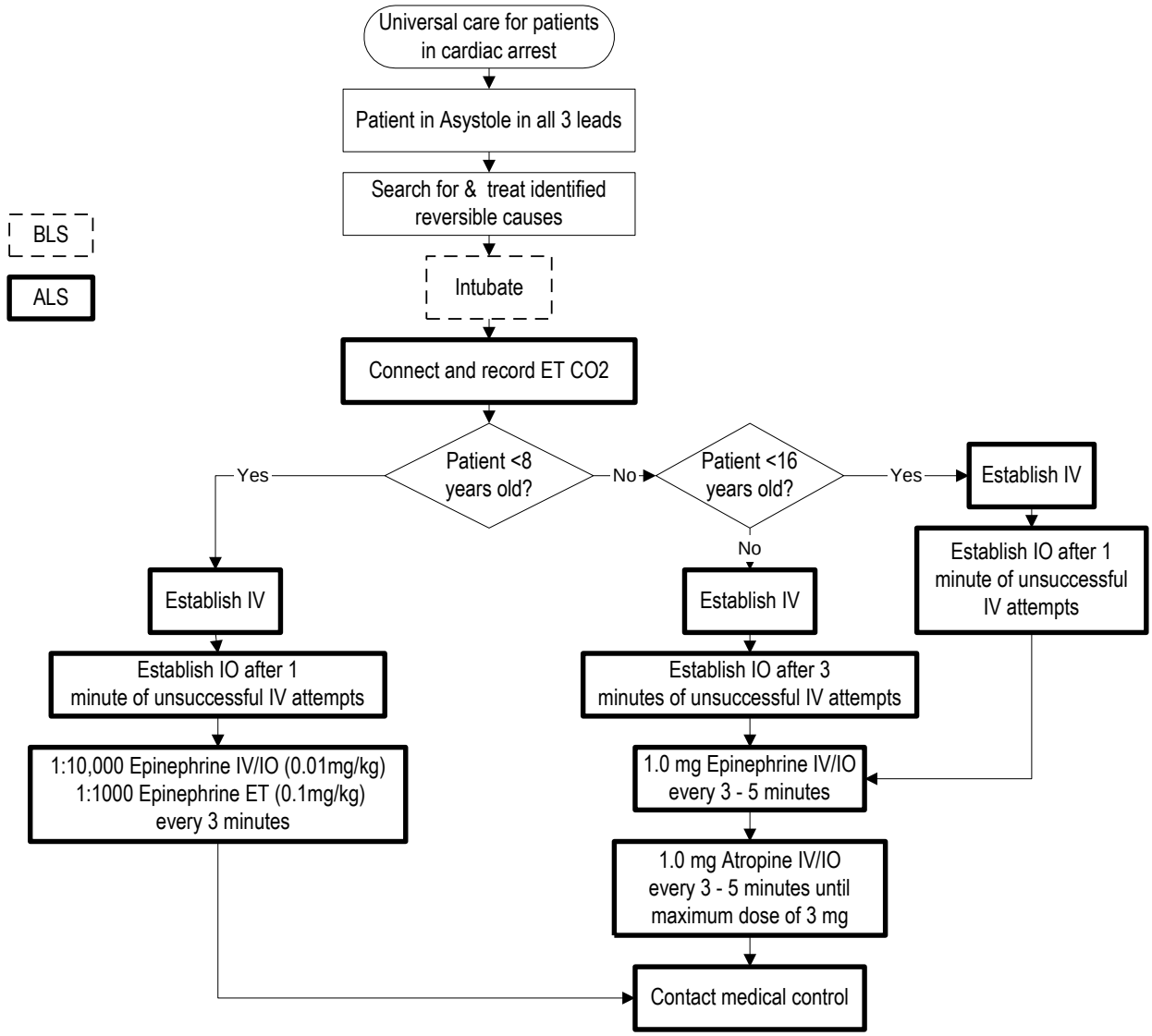
NOTES:

- PASG is contraindicated in thoracic aneurysm/dissection.
- Rapid transport to the closest appropriate facility is mandatory for all suspected aortic aneurysms and dissections. These patients may need immediate surgery.
- Aortic aneurysms occur most often in elderly males with a history of hypertension and/or arteriosclerosis.
- Thoracic aortic aneurysms may have signs and symptoms of stroke or myocardial infarction.

Initiated: 10/13/04	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**APPARENT LIFE THREATENING EVENT (ALTE)**	Signature:
Revision:		Page 1 of 1

History	Signs/Symptoms	Working Assessment
Respiratory infection GI reflux Seizure Premature birth Drug exposure Shaken baby syndrome (child abuse) Cardiac arrhythmia	May be asymptomatic at time of assessment	Apparent Life Threatening Event (ALTE)



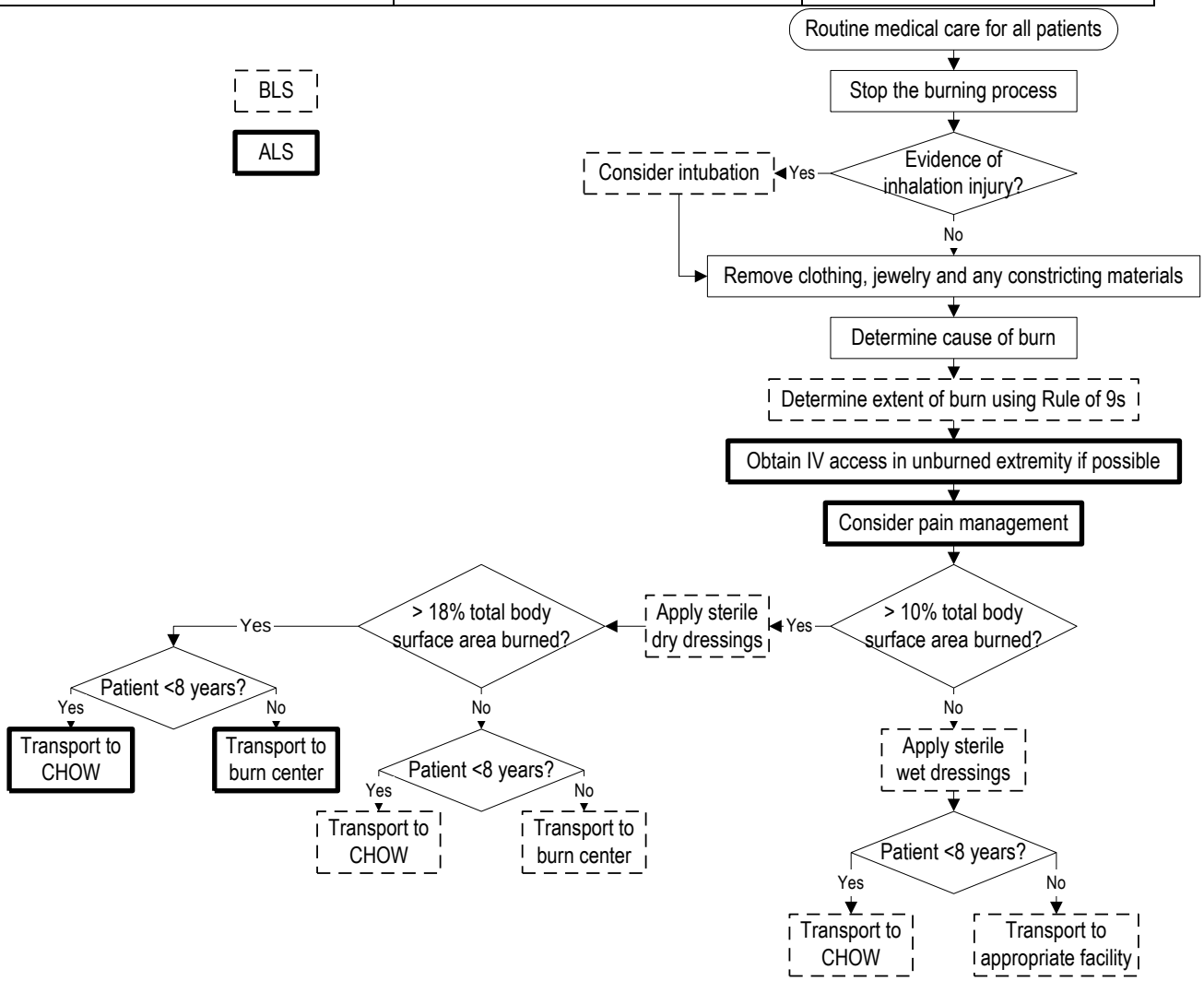


NOTES:

- Potentially reversible causes of asystole: OD, hypovolemia, pneumothorax, tamponade, hypothermia, hypoxia, acidosis, hyper/hypokalemia, PE, coronary thrombosis.
- When unable to establish an IV, epinephrine and atropine are to be administered via ETT at 2.0 mg doses.
- The maximum total dose of atropine is 3 mg.
- For pediatric patients:
  - Atropine is not indicated in patients less than 8 years old.
  - High dose epinephrine is not indicated in pediatric patients with IV/IO access.
  - High dose epinephrine is only indicated when administered via ETT.

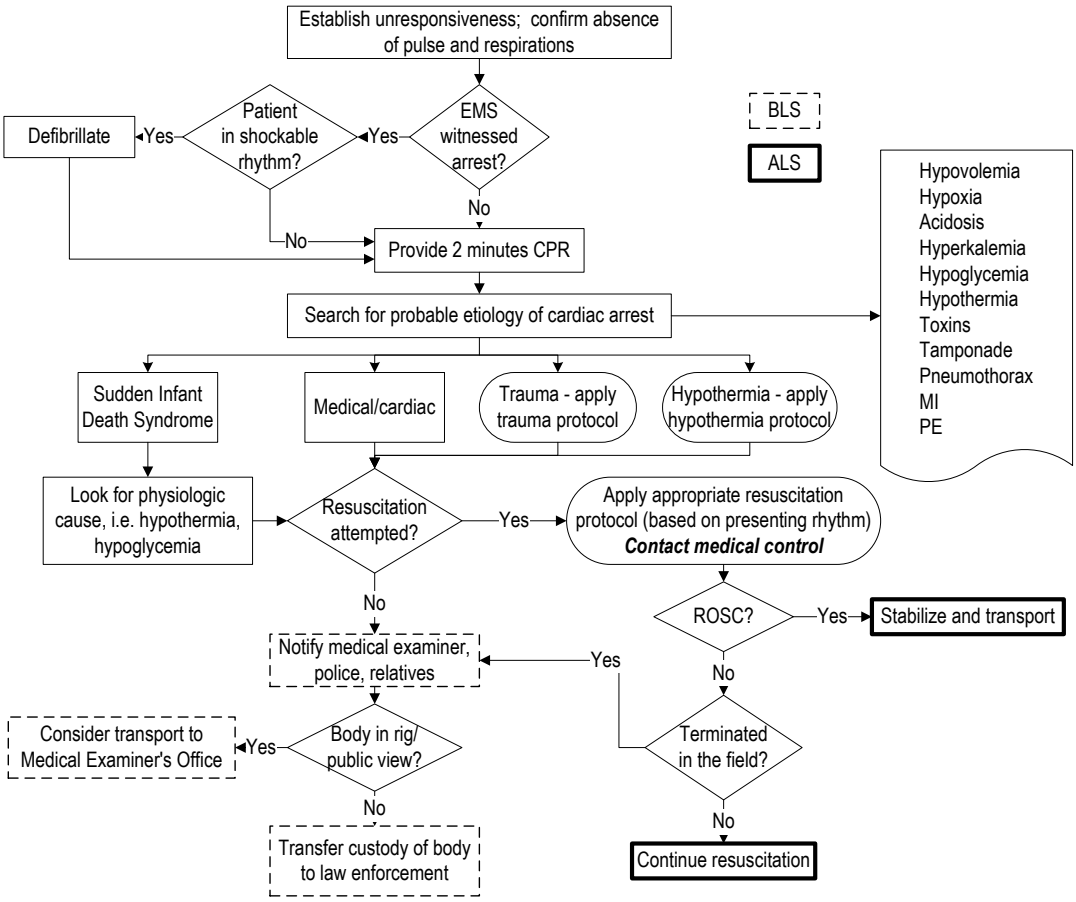
Initiated: 9/92	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/15/08	**BURNS**	Signature:
Revision: 8		Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Type of burn: thermal, electrical, chemical, radiation Inhalation injury Confined space Associated trauma Loss of consciousness	Burn, pain, swelling Dizziness/ loss of consciousness Hypotension/shock Airway compromise/distress Singed facial or nasal hair Hoarseness Soot in airway passages	1st degree - red and painful 2nd degree (partial thickness)- blistering 3rd degree (full thickness) - painless and charred or leather-like appearance



NOTES:

- Burn patients who also sustained major/multiple trauma must be transported to the Trauma Center.
- Patients who suffered electrical injury must have continuous ECG monitoring en rout to the hospital.

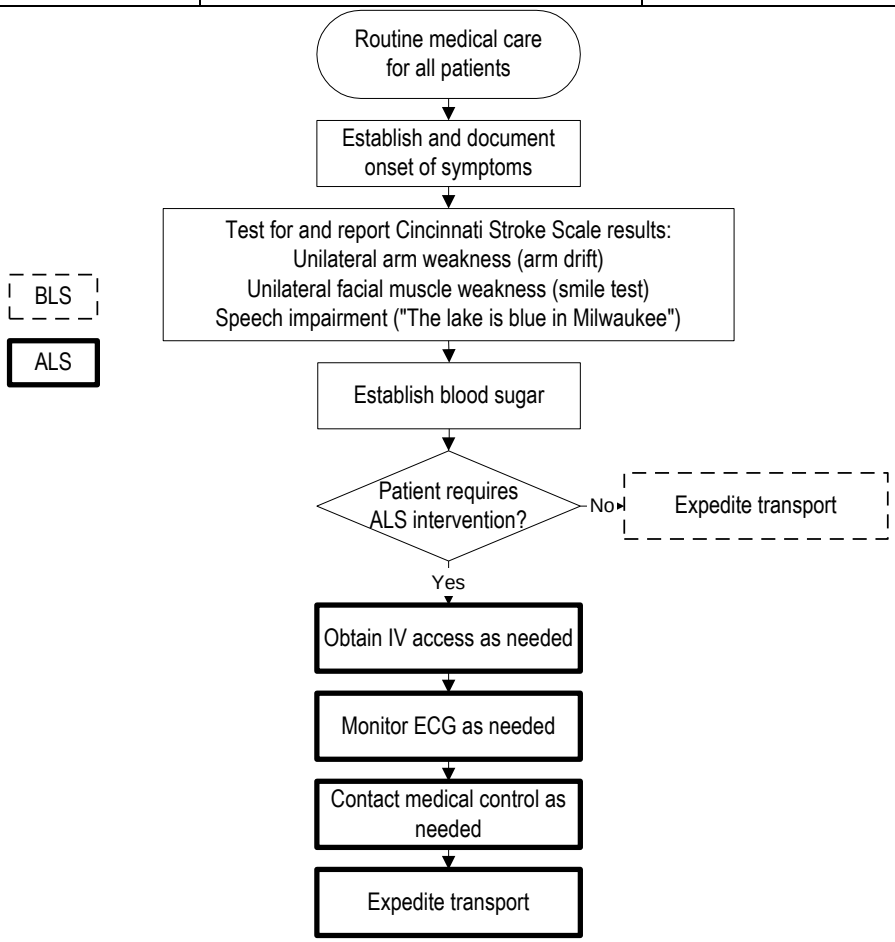


NOTES:

- BLS shall be started on all patients in cardiac arrest with the exception of victims with: decapitation; rigor mortis; evidence of tissue decomposition; dependent lividity; presence of a valid Do-Not-Resuscitate or POLST (Physician Orders for Life-Sustaining Treatment); fire victim with full thickness burns to 90% or greater body surface area.
  - A responding paramedic may cease a BLS initiated resuscitation attempt if:
    - No treatment other than CPR non-visualized airway insertion, and/or AED application with no shock advised ***OR***
    - Patient is in traumatic arrest and ECG shows asystole or PEA at a rate less than 30
  - If the patient does not meet the above criteria, and a resuscitation attempt is initiated, an order from medical control is required to terminate the attempt regardless of the circumstances.
- Medical control is to be consulted on ***all*** resuscitation attempts unless ROSC in adults with SBP > 90 and no ectopy.
- Medical control is to be consulted on all questionable resuscitations. CPR and ALS procedures will neither be withheld nor delayed while the decision regarding resuscitation is made.
- Routine use of Amiodarone or lidocaine after successful defibrillation is not indicated.
- For the suspected hypothermic patient in cardiac arrest, transport immediately to the Trauma Center. If the hypothermic patient is in Vfib, defibrillate once.
- Resuscitation must be attempted in traumatic cardiac arrests if the patient is in Vfib (defibrillate once and transport) or if the patient has a narrow QRS complex, regardless of the rate.
- For SIDS patients consider possible physiologic causes: hypothermia - warm the baby; hypoglycemia - check blood sugar and contact medical control.

ACCIDENT/ TRANSIENT ISCHEMIC ATTACK (CVA/TIA)

History:	Signs/Symptoms:	Working Assessment:
High blood pressure Cigarette smoking History of CVA or TIAs Heart Disease Diabetes mellitus Atrial fibrillation Medications (anticoagulants) Positive family history	Unilateral paralysis or weakness Numbness, weakness Facial droop Language disturbance Visual disturbance Monocular blindness Vertigo Headache Seizures	CVA or TIA *Consider other causes*: Hypoglycemia Seizure disorder Trauma Ingestion



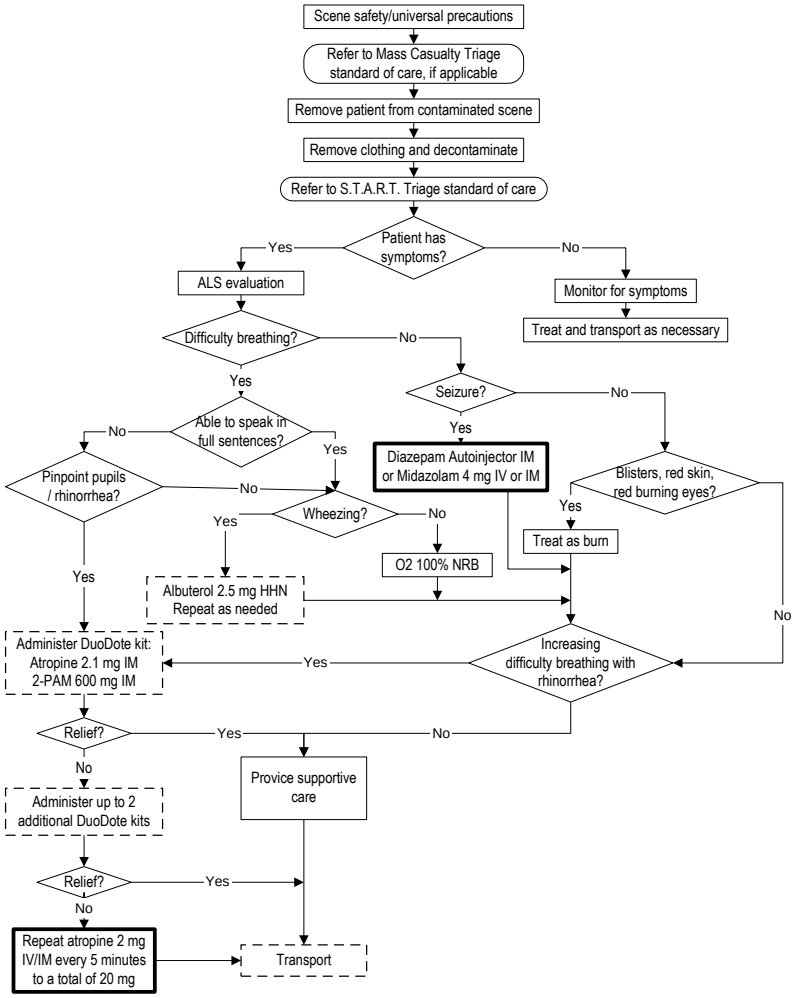
NOTES:

- Report to receiving hospital should include positive ***and*** negative results for Cincinnati Stroke Scale, addressing all three areas. Take precautions to avoid accidental injury to paralyzed extremities during patient movement.
- If time of symptom onset is well established as less than three hours, ***total scene time should be less than ten minutes.*** Patients may be candidates for aggressive stroke intervention treatments.

Initiated: 5/14/03	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**CHEMICAL EXPOSURE**	Signature:
Revision: 2		Page 1 of 1

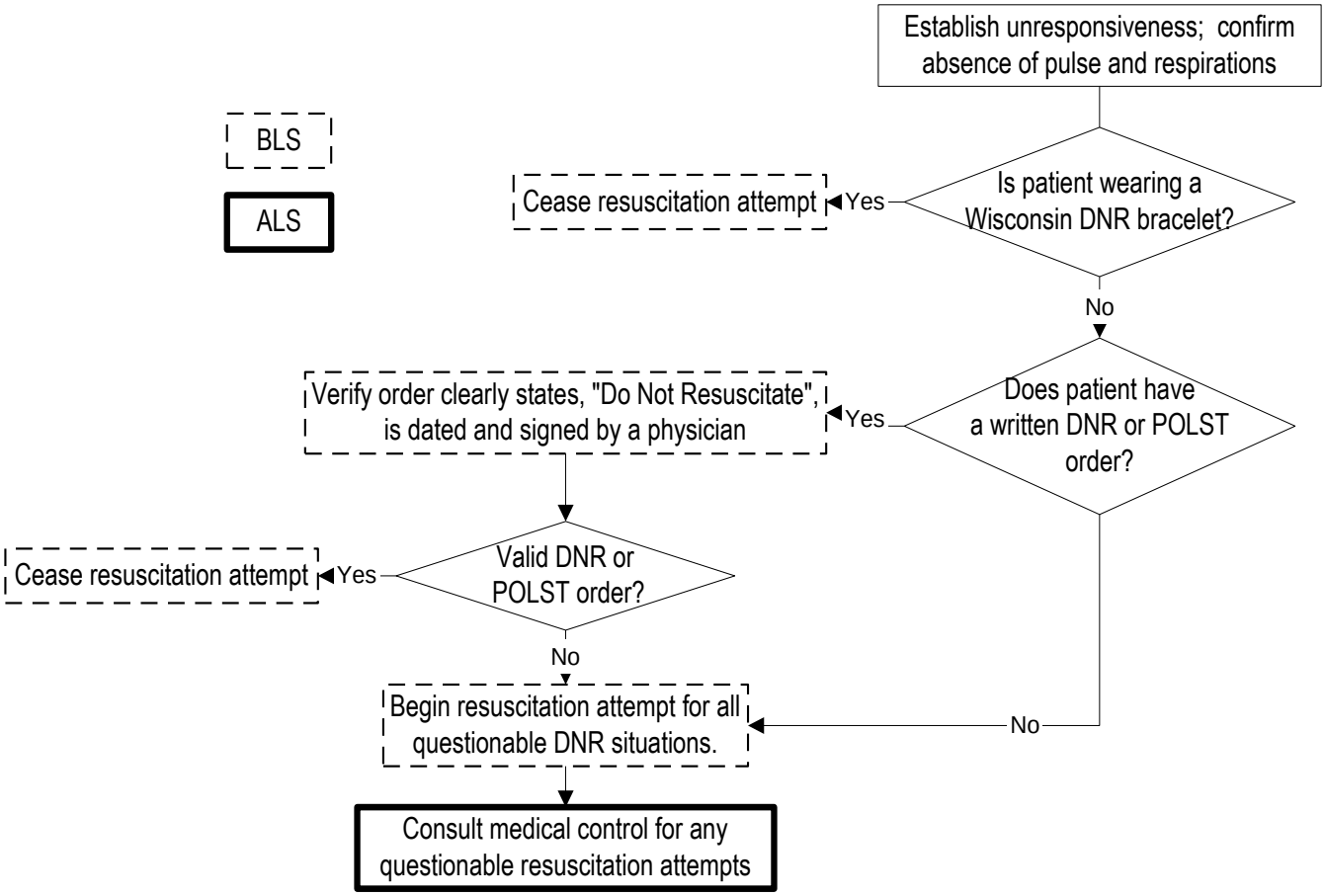
History	Signs/Symptoms	Working Assessment
Known chemical exposure Multiple patients with similar symptoms (e.g. seizures)	**S**alivation (drooling) **L**acrimation (tearing) **U**rination **D**efecation (diarrhea) **G**eneralized twitching/seizures **E**mesis (vomiting) **M**iosis (pinpoint pupils)	Exposure to nerve agents or organophosphates (e.g. insecticides)

This is intended to be used only in cases of possible exposure to nerve agents or other organophosphates (e.g. insecticides).



NOTES:

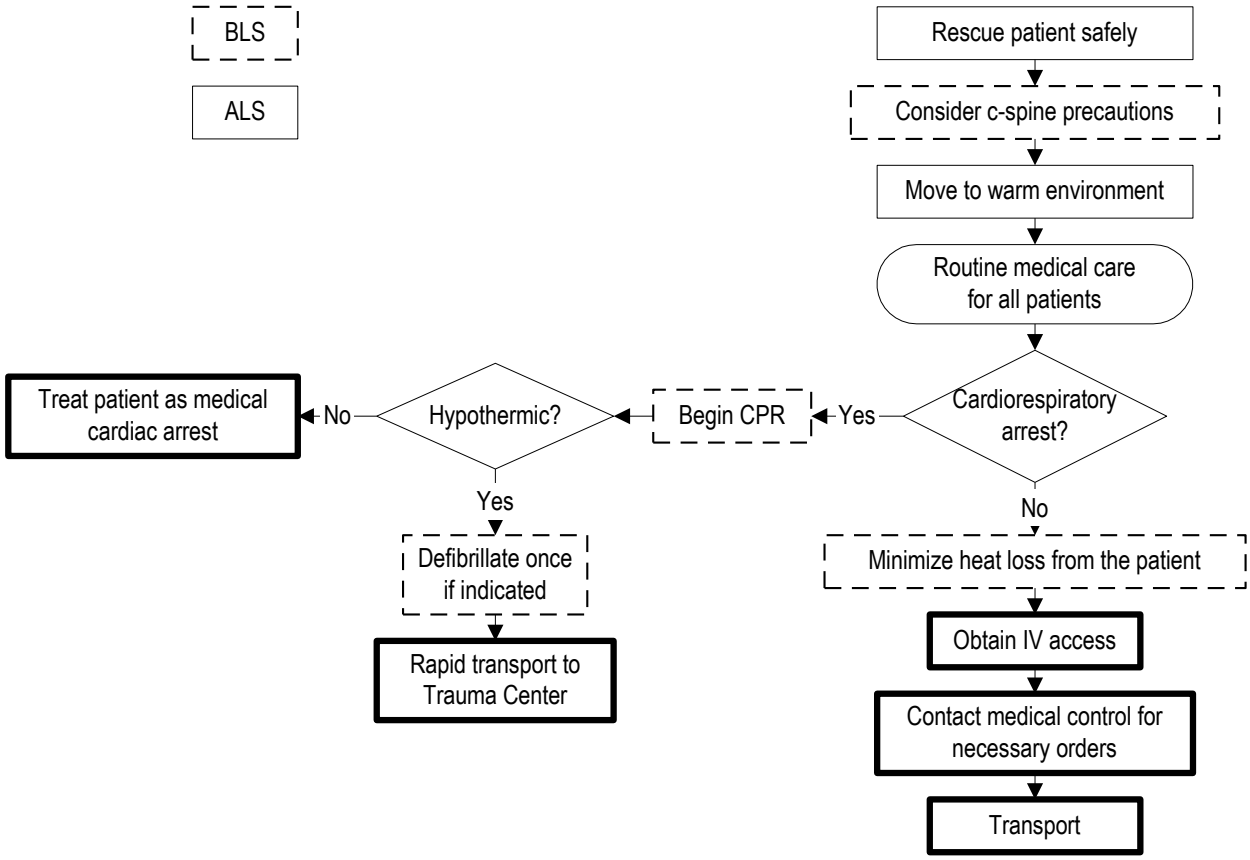
- If symptoms of SLUDGEM appear, the first step is to remove the patient from the contaminated area as quickly as possible. This is often the only treatment needed.
- If vapor exposure alone, no need for skin decontamination.
- Administration of atropine is indicated only if there is an increasing difficulty breathing (inability to speak in full sentences) and rhinorrhea. If miosis alone, do not administer atropine.
- A total of three DuoDote kits may be administered to a single patient.
- Premature administration of the DuoDote kit poses a higher risk of death due to atropine-induced MI



NOTES:

- POLST – Physician Orders for Life-Sustaining Treatment
- A metal “medic alert” bracelet qualifies as a DNR order for all EMS providers
- A patient’s guardian may override the DNR order. For these situations, begin resuscitation efforts and consult medical control for further orders.
- EMS providers may not accept verbal orders from a private physician who is not physically present at the scene. Input from the private physician is welcomed, but should be communicated directly to medical control. The EMS team should facilitate the communication between those physicians.
- An on-scene physician accepting responsibility for the care of the patient must write, sign and date a "Do-Not-Resuscitate" order on the EMS run report.
- Modification of or withholding medical care based on a "Living Will" or "Medical/Health Care Power of Attorney" or other document must be approved by medical control. Appropriate medical care will be provided to the patient while a direct order from medical control is obtained.

History:	Signs/Symptoms:	Working Assessment:
Patient found submerged in water	Altered level of consciousness Vomiting/aspiration Possible c-spine injury Possible hypothermia Possible cardiac arrest	Drowning

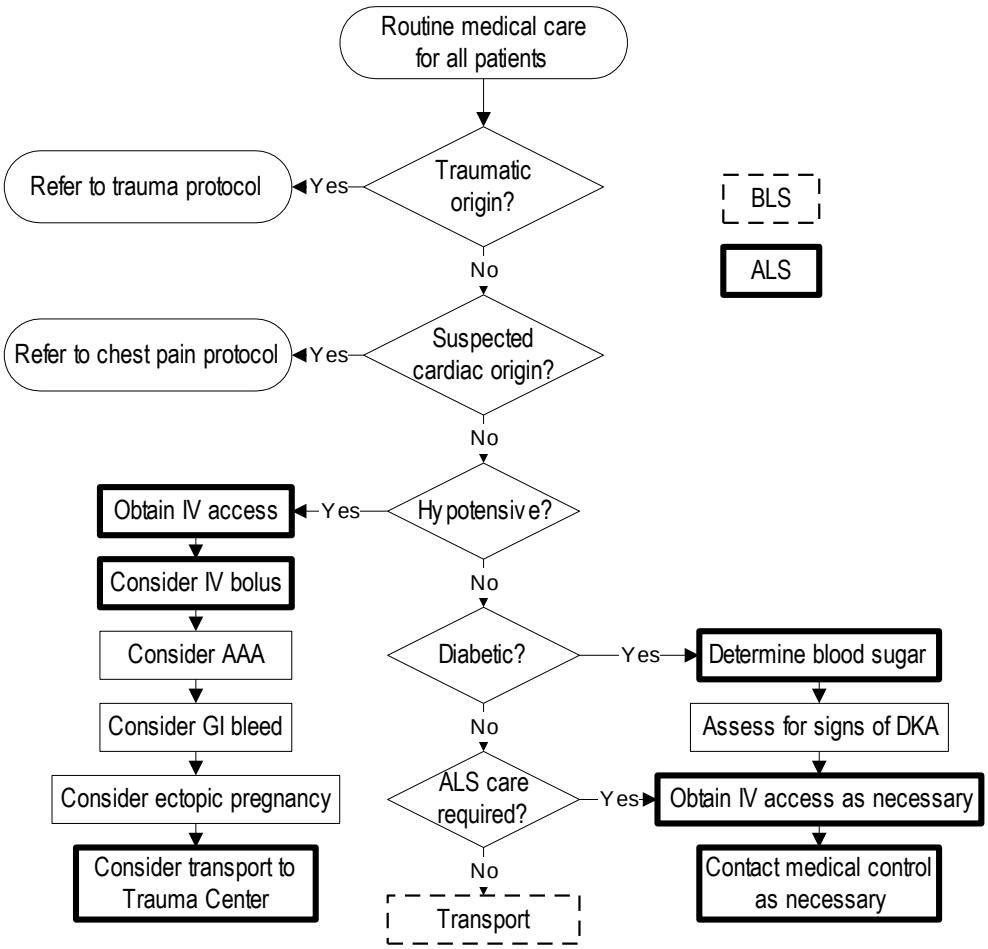


NOTES:

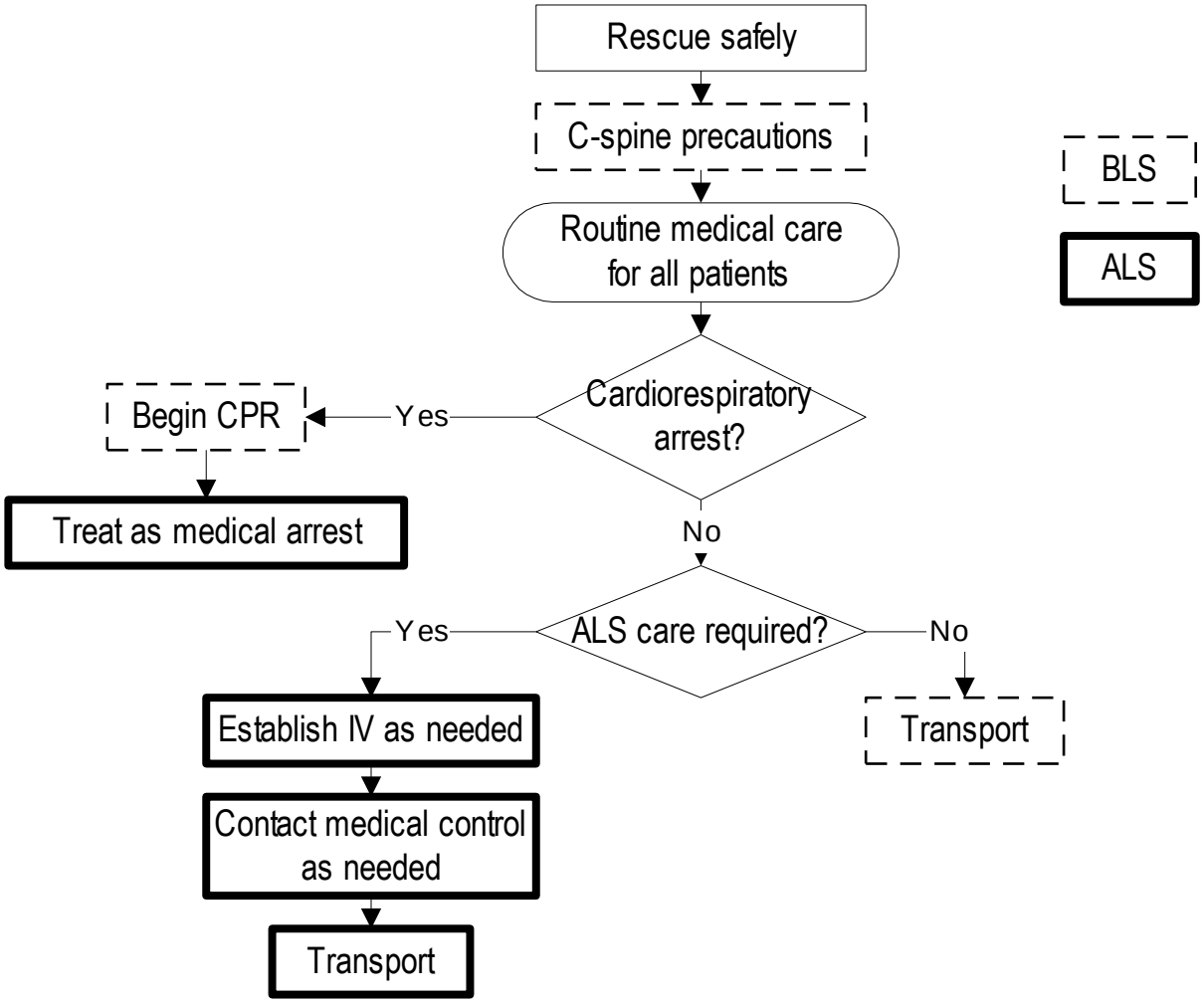
- Estimate the time of submersion.
- Note the type of water involved, i.e. bathtub, pool, lake, polluted, etc.
- Estimate the temperature of the water.
- Resuscitation should not be terminated until patient is adequately rewarmed.

Initiated: 9/94	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**GASTROINTESTINAL/**	Signature:
Revision: 2	**ABDOMINAL COMPLAINTS**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
History of abdominal problems: Ulcers, hiatal hernia, surgery Renal, liver, pancreatic, gall bladder disease Onset, duration, severity, radiation of pain Character of pain: crampy, sharp, dull, constant Last meal	Pain Nausea, vomiting Diarrhea Change in elimination patterns Guarding, rigidity Hematemesis, melena Distention	Abdominal pain GI bleed Acute abdomen Organ disease *Consider other causes:* Acute MI Abdominal aneurysm Ectopic pregnancy Diabetic ketoacidosis



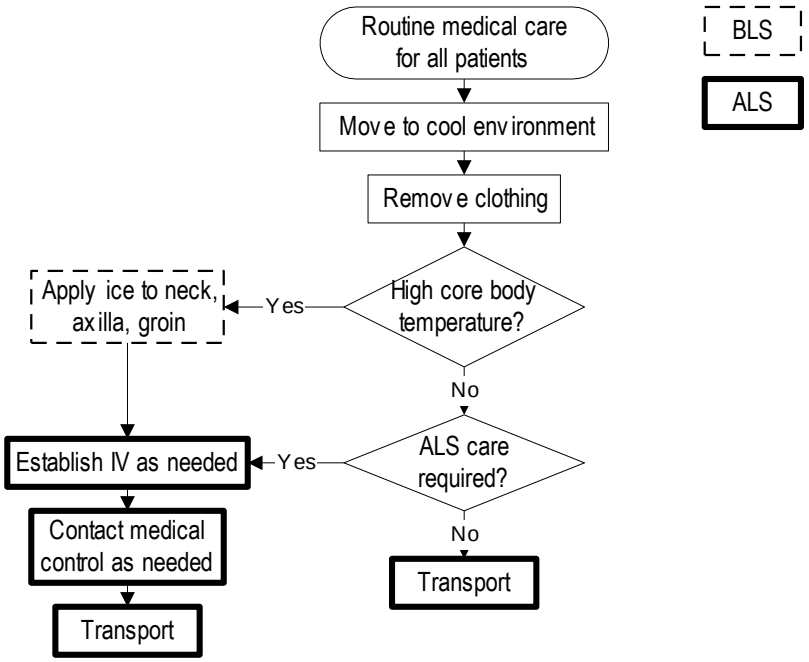
History:	Signs/Symptoms:	Working Assessment:
Patient found hanging	Altered level of consciousness Possible c-spine injury Possible cardiac arrest Respiratory distress	Hanging



NOTES:

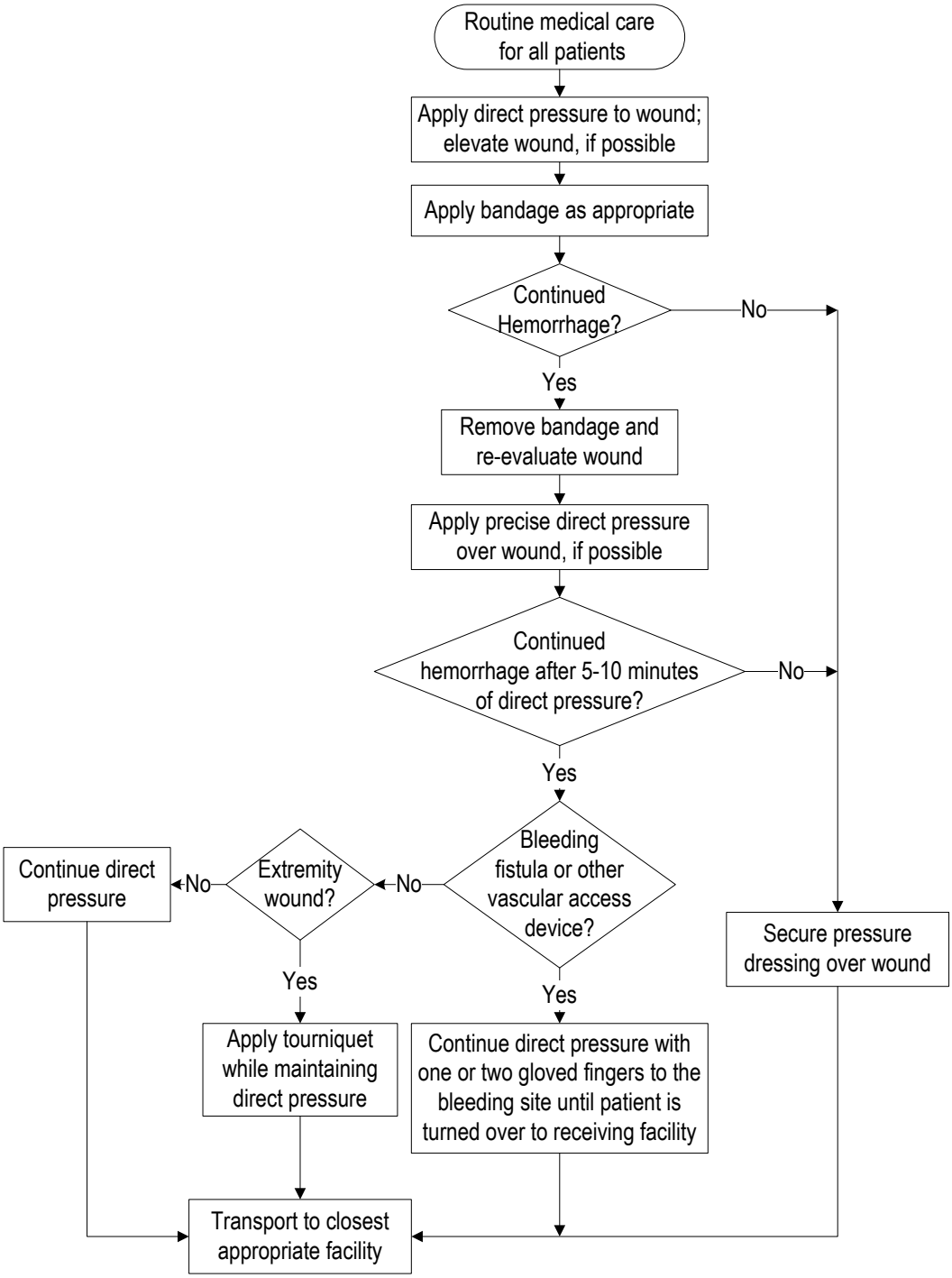
- A patient in cardiorespiratory arrest is to be treated as a medical arrest and resuscitation is to be attempted at the scene.
- Attempt to determine and document accidental versus intentional injury, history of substance abuse and history of prior suicide attempts.
- Attempt to determine length of time patient was hanging.

History:	Signs/Symptoms:	Working Assessment:
Exposure to increased temperatures and/or humidity Physical exertion Decreased fluid intake Patient taking antidepressants or antipsychotic medications Patient age - very young or elderly	Altered level of consciousness Hot, dry or sweaty skin Hypotension or shock Seizures Nausea/vomiting Fatigue Muscle cramping	Heat cramps Heat exhaustion Heat stroke



NOTES:

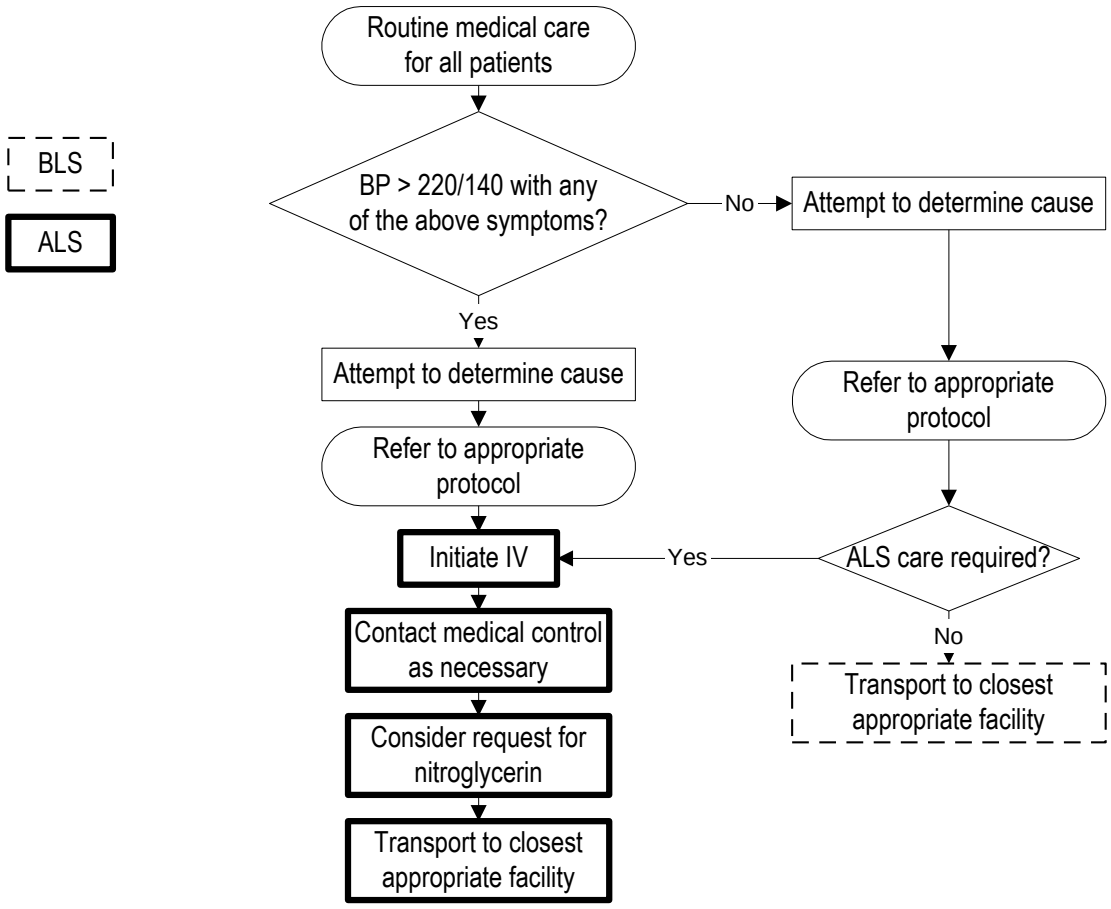
- The following patients are more prone to heat related illnesses:
  - Very young and elderly patients;
  - Patients on antidepressants, antipsychotic medications, or patients who have ingested alcohol.
- Cocaine, amphetamines, and salicylates may elevate body temperature.
- **Heat cramps** consist of benign muscle cramping due to dehydration and are not associated with elevated core temperature.
- **Heat exhaustion** consists of dehydration, dizziness, fever, mental status changes, headache, cramping, nausea and vomiting. Patients are usually tachycardic, hypotensive and hyperthermic.
- **Heat stroke** consists of dehydration, tachycardia, hypotension, temperature >104°F (40°C). Patients with heat stroke generally lose the ability to sweat.



Notes:

- Direct pressure is the best method to control bleeding.
- Tourniquets should not be used on limbs with dialysis fistulas except in cases of traumatic penetration, amputation, or crush injury without response to direct pressure.
- Direct pressure should be applied with a gloved hand and/or pressure dressing.

History:	Signs/Symptoms:	Working Assessment:
History of hypertension Taking antihypertensives Pregnant Renal disease or on renal dialysis Cocaine use within the last 24 hours	Blood pressure above ***220/140 and*** any of the following: Headache Dizziness Weakness Epistaxis Blurred vision Nausea, vomiting Seizure Altered level of consciousness	Hypertensive crisis Eclampsia Cocaine induced hypertension

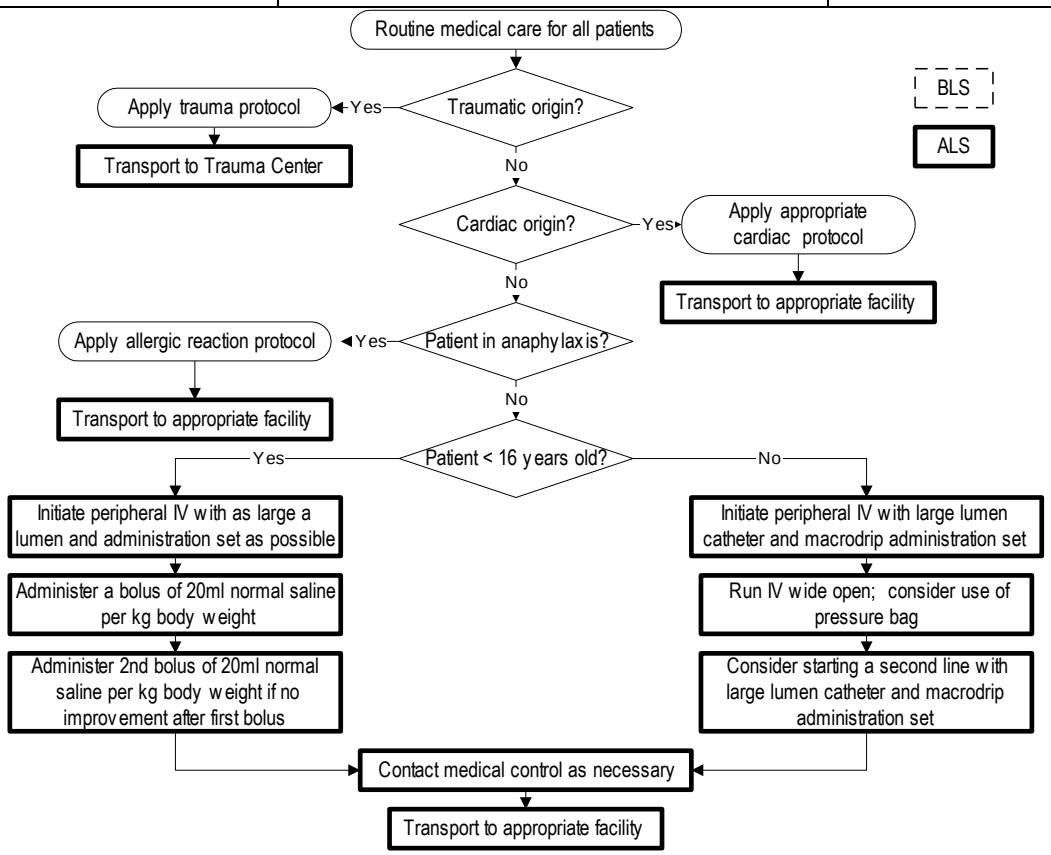


NOTES:

- Be sure to obtain multiple blood pressure readings.
- Treat the patient not the blood pressure.
- When considering request for nitroglycerin, be sure to determine if patient has used Viagra or Viagra-like medications within the last 24 hours.

Initiated: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**MEDICAL PROTOCOL**	Signature:
Revision: 2	**HYPOTENSION/SHOCK**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Blood loss: Trauma Vaginal bleed, GI bleed, AAA, ectopic pregnancy Fluid loss: Vomiting, diarrhea, fever Infection Cardiac ischemia (MI, CHF) Infection Spinal cord injury Allergic reaction Pregnancy	Restlessness, confusion Weakness, dizziness Weak, rapid pulse Cyanosis Increased respiratory rate Pale, cool, clammy skin Delayed capillary refill Systolic blood pressure less than 90 mmHg	Shock: Hypovolemic Cardiogenic Septic Neurogenic Anaphylactic Ectopic pregnancy Dysrhythmia Pulmonary embolus Tension pneumothorax Medication effect/overdose Vasovagal Physiologic (pregnancy)

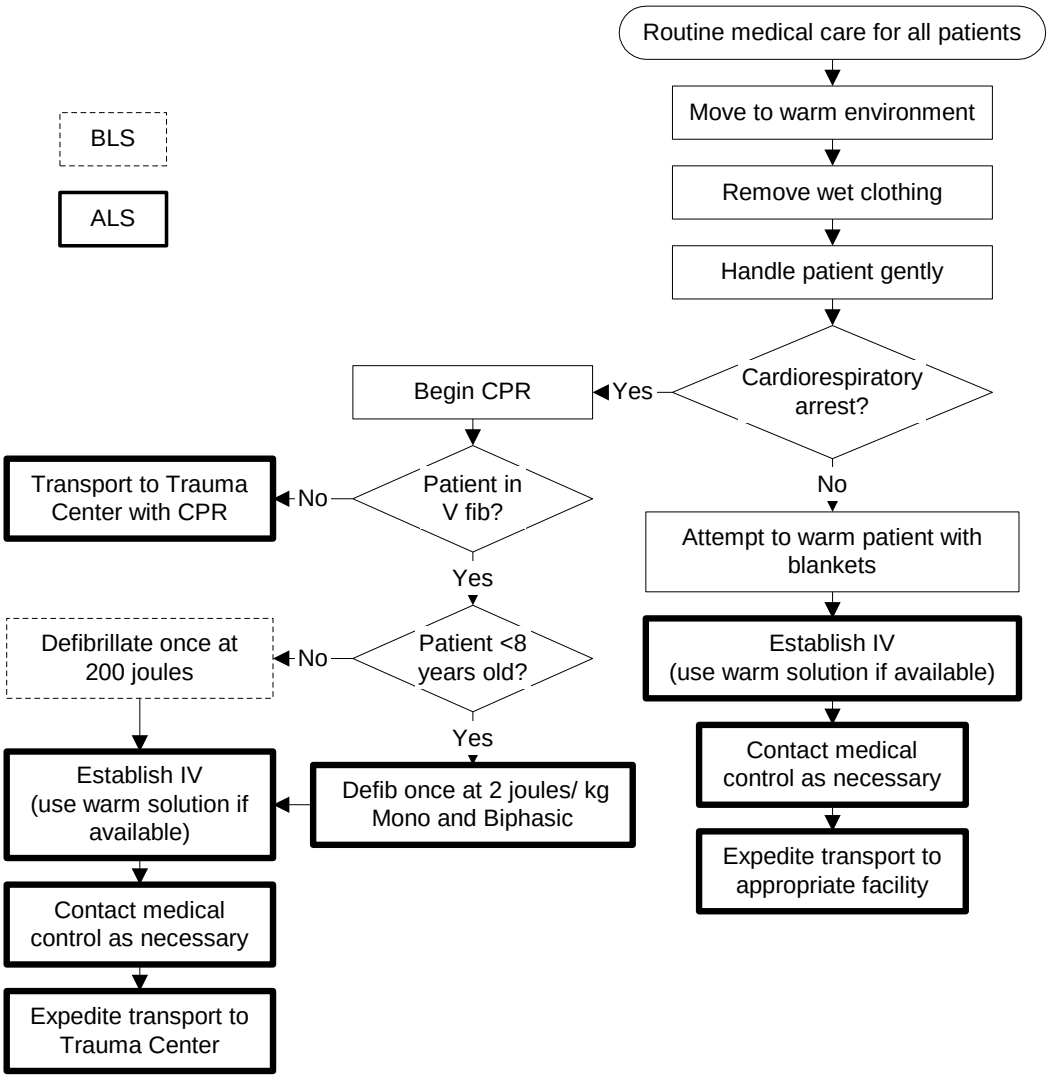


NOTES:

- Hypotension is defined as a systolic blood pressure less than 90 mmHg or a fall of more than 60 mmHg in a previously hypertensive patient.
- Consider performing orthostatic vital signs on patients who haven't sustained traumatic injuries if suspected blood or fluid loss.
- Consider all possible causes of shock and treat per appropriate protocol.
- Patients with preexisting heart disease who are taking beta-blockers or who have pacemakers installed, may not be able to generate a tachycardia to compensate for shock.

Initiated: 7/94	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/13/08	**HYPOTHERMIA**	Signature:
Revision: 4		Page 1 of 1

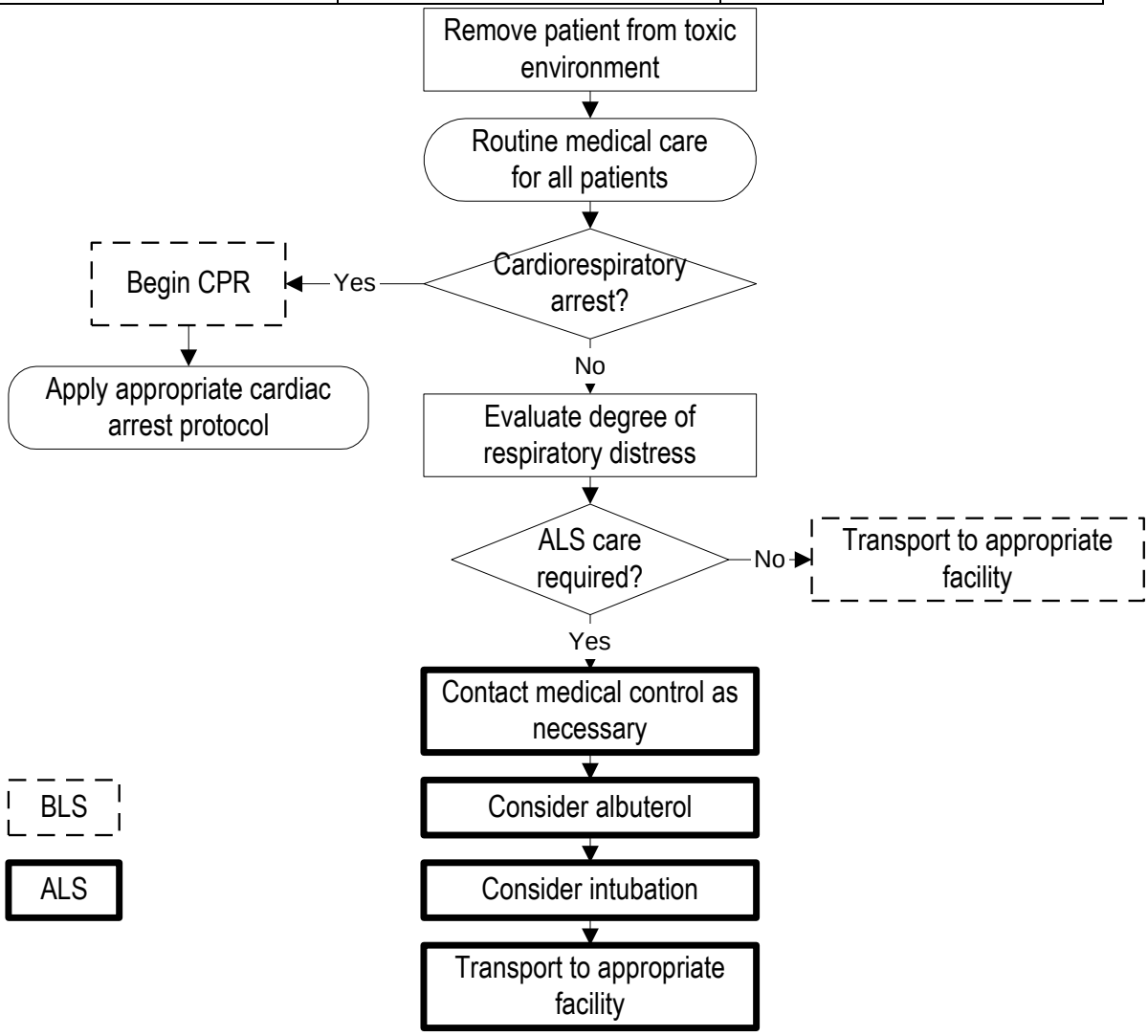
History:	Signs/Symptoms:	Working Assessment:
Exposure to environment Extremes of age Drug use: Alcohol, barbiturates Patient wet History of infection	Cold Shivering or not Altered level of consciousness Pain or altered sensation to extremities Bradycardia Hypotension/shock	Hypothermia



NOTES:

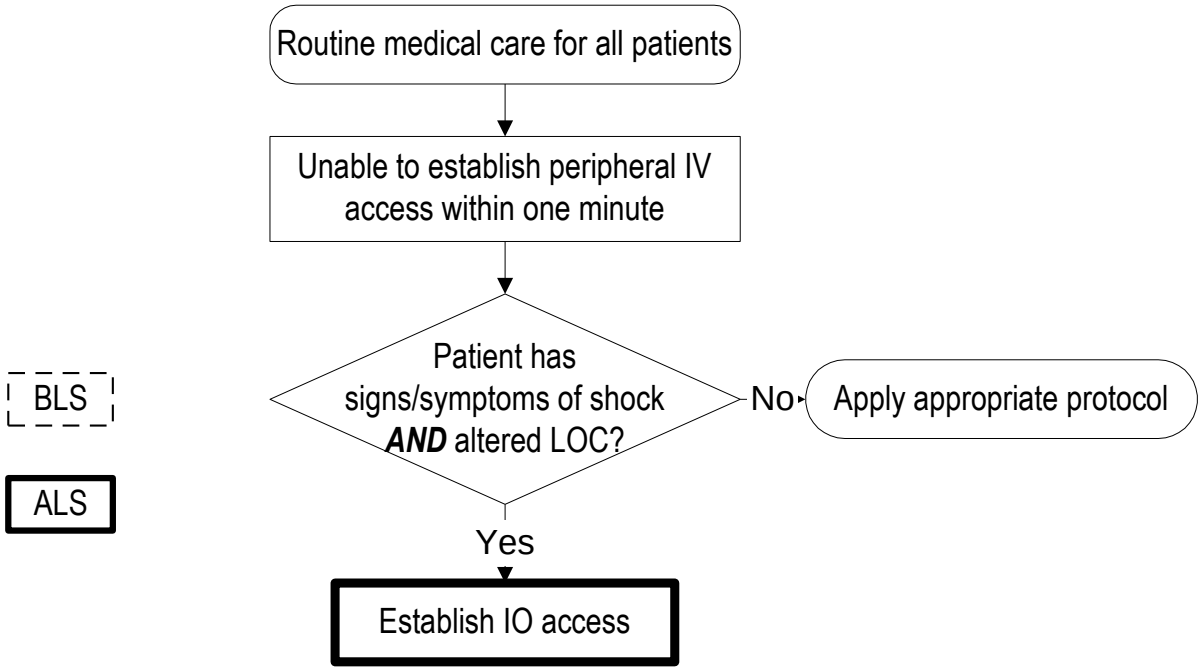
- Hypothermia is defined as a core temperature below 95°F or 35°C.
- Young and old patients are more susceptible to hypothermia.
- Shivering stops below 90°F or 32°C
- Temperatures below 88°F or 31°C often cause ventricular fibrillation, which rarely responds to defibrillation. Hypothermic patients should be handled gently in an attempt to avoid this.
- Hypothermia may cause severe bradycardia. Pulses should be palpated for one full minute.

History:	Signs/Symptoms:	Working Assessment:
History of exposure to smoke or chemicals	Burns to face, chest or mouth Carbonaceous sputum Singed nasal hair Dyspnea Altered level of consciousness	Inhalation injury



NOTES:

- Adult patients (≥ 8 years old) who suffered burns with an inhalation injury are to be transported to the Burn Center.
- All patients with suspected CO poisoning with altered mental status and *without* associated burns or trauma should be transported to the closest hyperbaric chamber.
- Pediatric patients (< 8 years old) who suffered burns with an inhalation injury are to be transported to Children's Hospital of Wisconsin.
- Pediatric patients (<8 years old) with suspected inhalation burn are to be transported to Children's Hospital of Wisconsin.

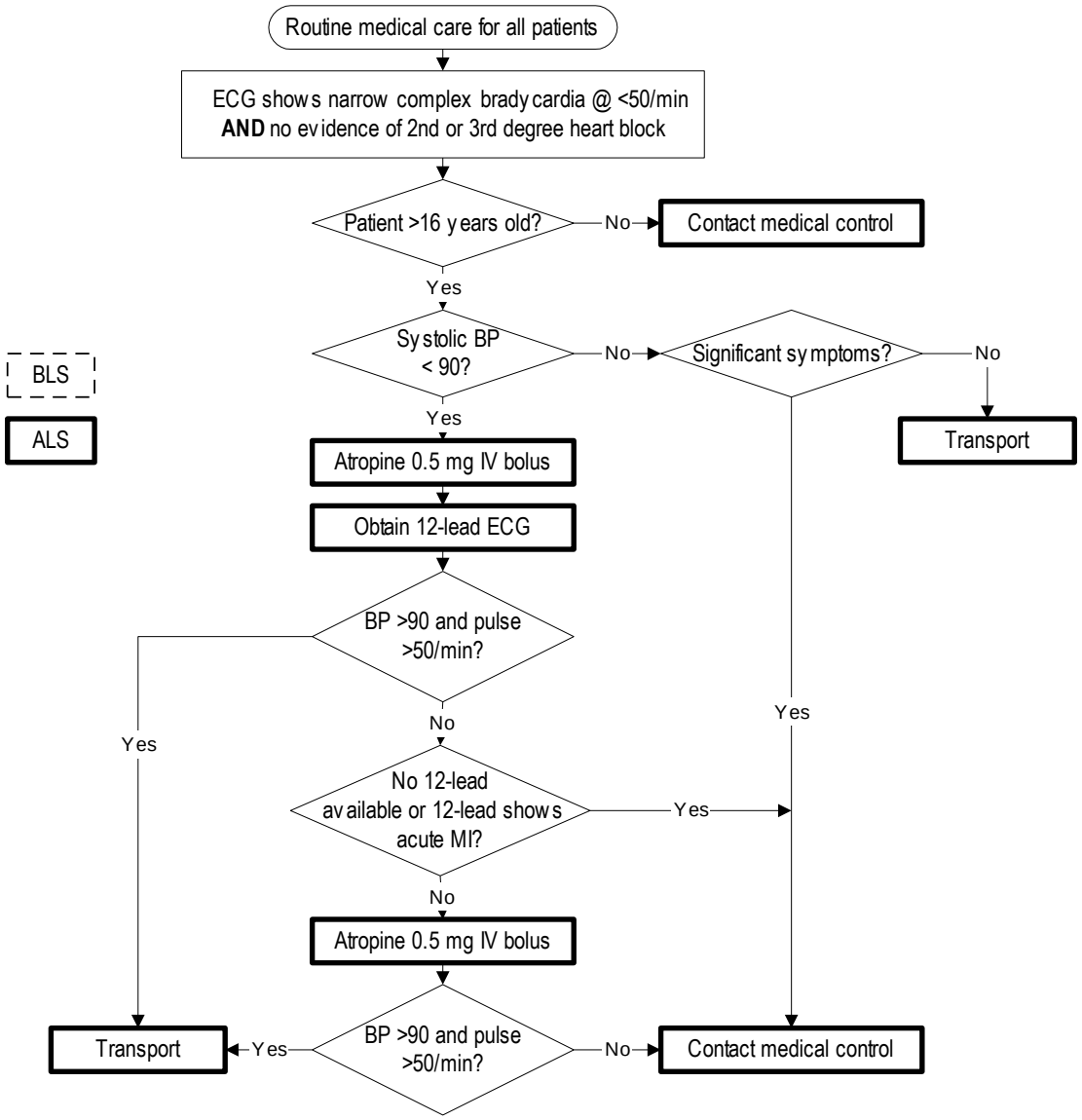


Notes:

- Inability to locate an appropriate vein site is equivalent to an attempt. It is not necessary to actually penetrate the skin with a needle *for this protocol only.*
- Contraindications to the use of the intraosseous route are major extremity trauma (fractured femur/tibia or evidence of internal/external thigh hemorrhage), and area of infection over the proposed insertion site (infected skin, abscess, etc.).
- The preferred order of route of administration for parenteral medications in immediate life-threatening situations is (due to effectiveness): peripheral IV, chronic indwelling catheter with external port, IO, ET.

Initiated: 5/22/98	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**NARROW COMPLEX**	Signature:
Revision 1	**BRADYCARDIA WITH PULSES**	Page 1 of 1

History	Signs/Symptoms	Working Assessment
Medications: Beta-blockers Calcium-channel blockers Digitalis Pacemaker	Systolic BP < 90 Altered LOC, dizziness Chest pain Shortness of breath Diaphoresis ECG shows narrow complex <50/min	Narrow complex bradycardia



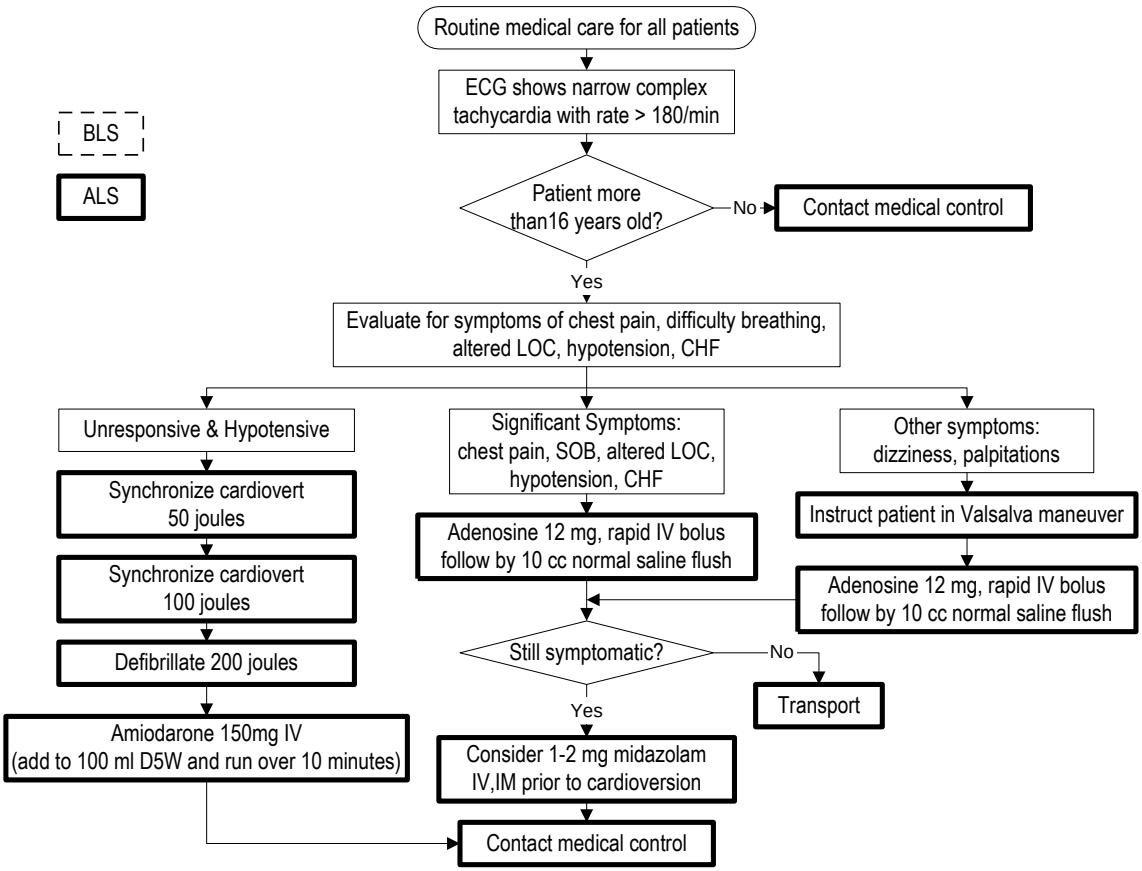
NOTES:

- Atropine is not to be administered without physician's order if patient shows signs of 2nd or 3rd degree heart block.
- If significant cardiovascular symptoms are NOT present, monitor and transport by ALS unit to the closest, appropriate hospital.

Initiated: 5/22/98	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/15/08		Signature:
Revision: 6		Page 1 of 1

NARROW COMPLEX TACHYCARDIA WITH PULSES

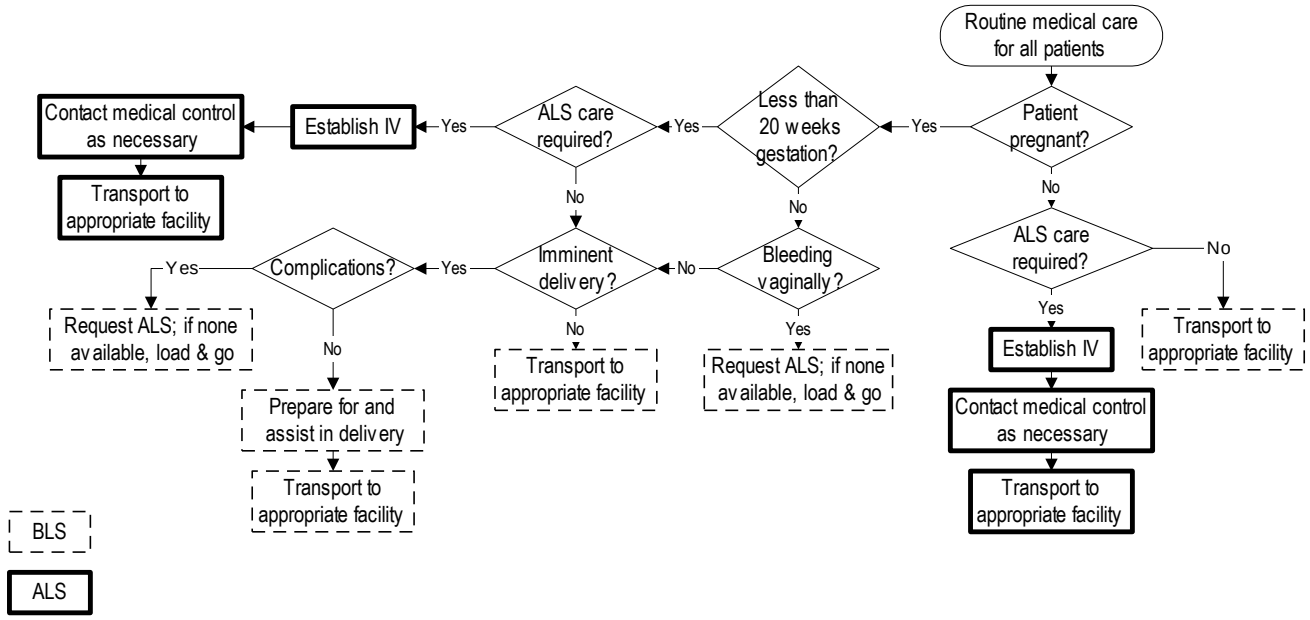
History	Signs/Symptoms	Working Assessment
History of arrhythmia History of palpitations or "racing heart" AICD History of stimulant ingestion	Systolic blood pressure <90 Altered LOC, dizziness Chest pain Shortness of breath Diaphoresis Palpitations ECG shows narrow complex > 180/min	Narrow complex tachycardia



NOTES:

- Contraindications to adenosine are: heart block, heart transplant, resuscitated cardiac arrest; patients taking theophylline products, Tegretol (carbamazapine, which increases the degree of heart blocks caused by adenosine) or Persantine (dipyridamole, which potentiates the affects of adenosine).
- Because of its short half-life, adenosine must be administered rapid IV bolus followed by a 10 cc normal saline flush
- After administration of adenosine, patient may have a disorganized ECG or brief period of asystole prior to conversion to sinus rhythm. Patients have reported feelings of "impending doom" during this period.
- Adenosine is not effective on atrial fibrillation.
- Carotid massage is not to be performed in the Milwaukee County EMS System.

History:	Signs/Symptoms:	Working Assessment:
Pregnancy Due date Problems during pregnancy Prenatal care Previous obstetrical history	Vaginal bleeding, discharge Abdominal pain or cramping Contractions Ruptured membranes Crowning Hypertension with or without seizures	Vaginal bleed Placenta previa Abruptio placenta Spontaneous abortion Ectopic pregnancy Labor Eclampsia

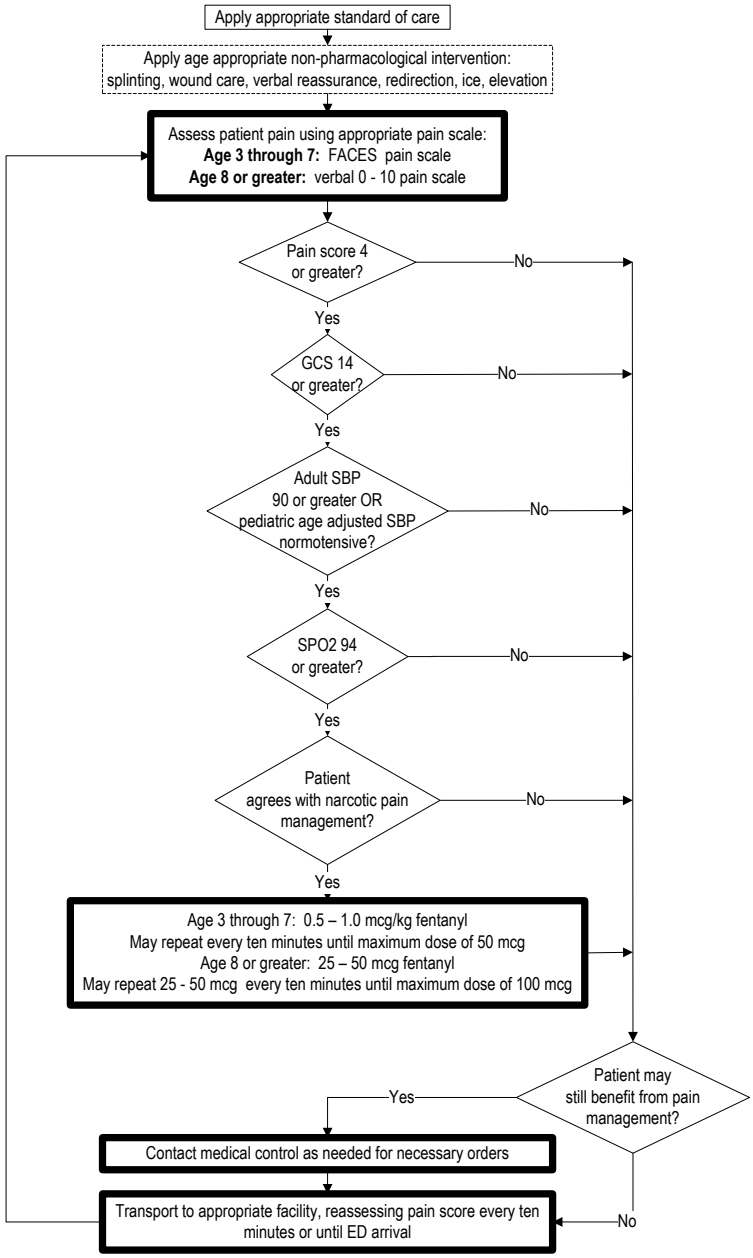


NOTES:

- Pregnant patients experiencing any of the following complications must be transported by ALS:
  - Excessive bleeding;
  - Amniotic fluid contaminated by fecal material;
  - Multiple births, premature imminent delivery;
  - Abnormal fetal presentation (breech);
  - Prolapsed umbilical cord.
- If the response time for an ALS unit *already requested* for a complication of pregnancy is longer than the transport time, the BLS unit may opt to load and go to the closest appropriate facility.
- Unstable newborns with a pulse less than 140 or flaccid newborns or with a poor cry are to be transported to the closest neonatal intensive care unit by an ALS unit.
- Patients at term should be transported on their left side, taking the pressure of the baby off the aorta and vena cava, improving circulation.
- Whenever possible, mother and newborn should be transported together to the same hospital, preferably where prenatal care was obtained.

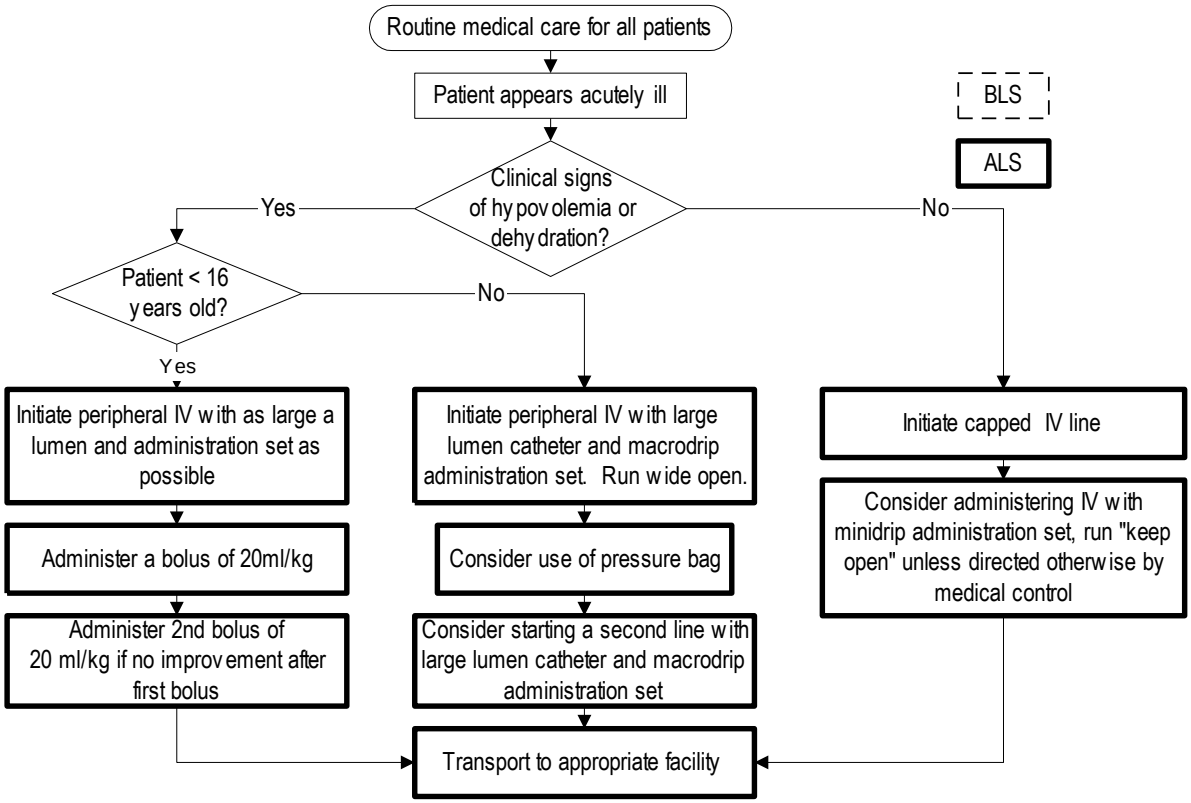
Initiated: 2/13/08	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 6/9/10	**PAIN MANAGEMENT**	Signature:
Revision: 2		Page 1 of 1

History	Signs/Symptoms	Working Assessment
Traumatic Injury Burns Abdominal Pain Sickle cell crisis Non-cardiac chest pain	FACES or Verbal Pain scale rating at 4 or greater	Candidate for narcotic pain management



Notes:

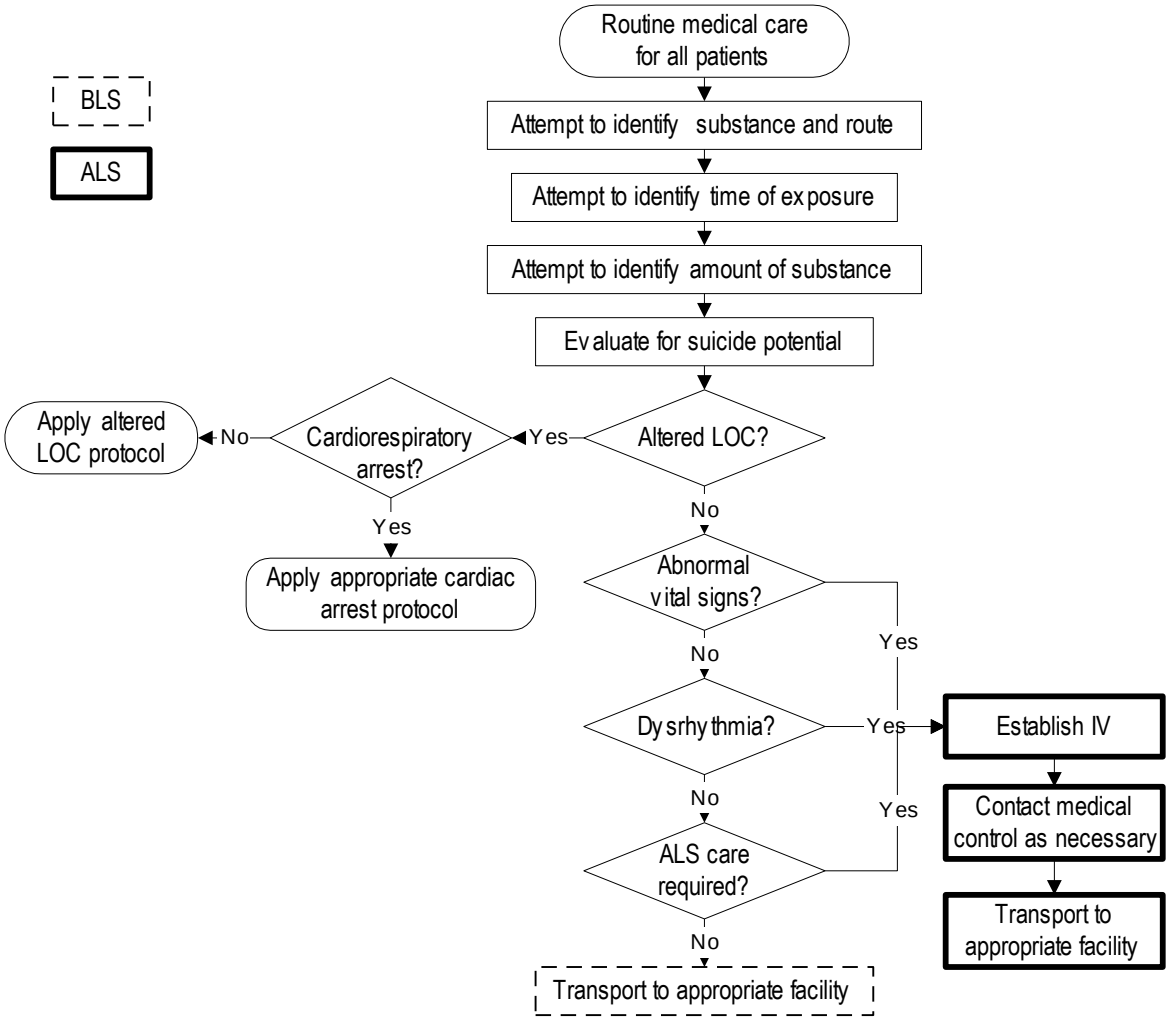
- Goal is to reduce pain scale score below 4
- IV, IM, IO routes acceptable for administration of fentanyl
- ALS transport is required for all patients receiving fentanyl
- If unable to acquire BP secondary to uncooperative patient due to painful condition, may administer fentanyl if no clinical evidence of shock ***AND*** if GCS is 14 or greater



Notes:

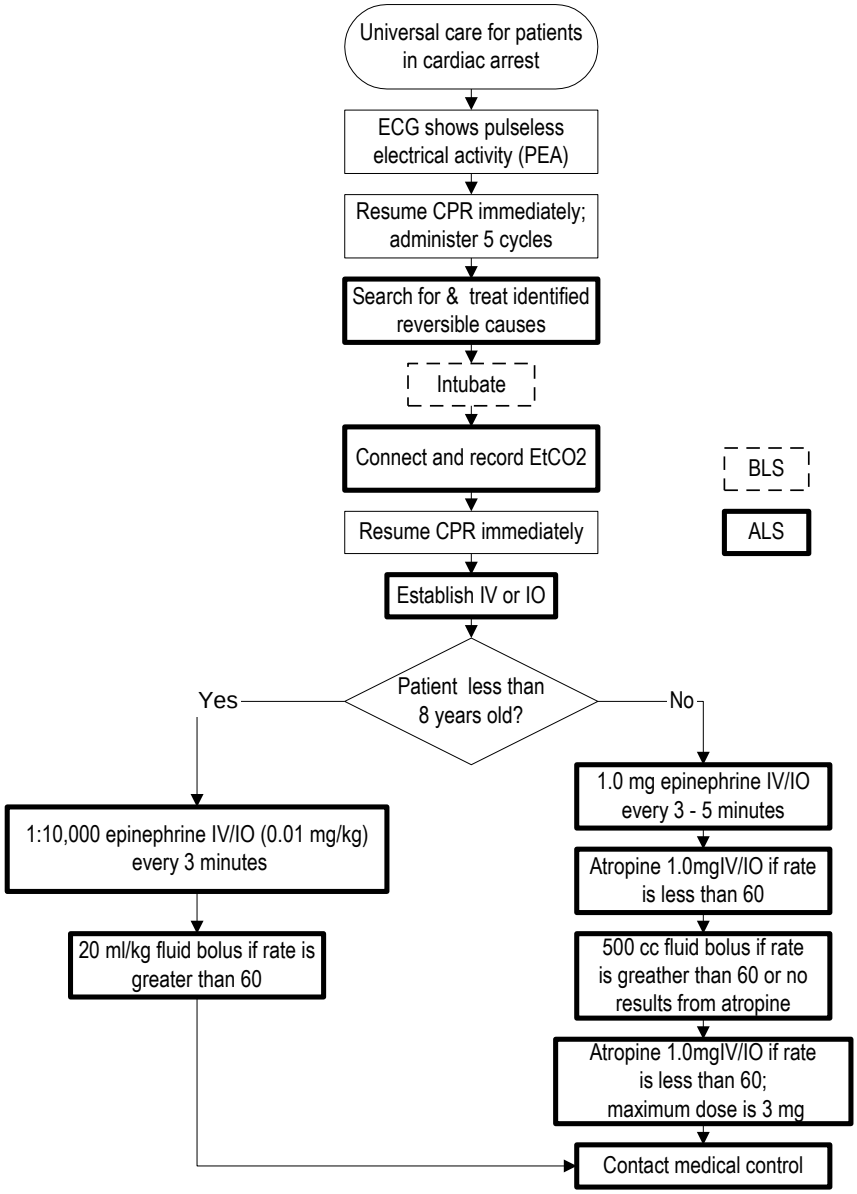
- Paramedics may establish an intravenous infusion in patients who appear acutely ill, either for safety purposes during transport or prior to contact with medical control.
- The only acceptable IV initiation sites are the upper extremity, lower leg and external jugular. NO femoral or central lines are to be initiated by EMS personnel.
- The use of chronic indwelling IV catheter lines with external ports (i.e. Hickman, Arrow) may be used prior to contacting medical control in immediate life threatening situations when another site cannot be obtained.
- Renal dialysis shunts may only be used if the patient is in cardiopulmonary arrest and no other IV site is available.
- For non-life threatening situations, use of an indwelling IV catheter requires permission from medical control.
- When accessing any indwelling IV line or shunt, consider enlisting the expertise of medical personnel, if present.
- If the patient has a fistula, shunt, etc., avoid using that arm altogether for IV access, except in life threatening situations
- An intraosseous line may be established in the cardiopulmonary arrest victim in whom an intravenous line cannot be initiated.
- The preferred order for administration of parenteral medications is: peripheral IV, chronic indwelling catheter with external port, IO, ET.

History:	Signs/Symptoms:	Working Assessment:
Ingestion or suspected ingestion of a potentially toxic substance History of drug/substance abuse Evidence of drug paraphernalia at scene Empty pill bottles at scene History of suicide attempts	Altered level of consciousness Hypotension/hypertension Behavioral changes Abnormal vital signs Dysrhythmia Seizure Chest pain	Overdose Toxic ingestion



NOTES:

- Patients with a history of cocaine use within the past 24 hours, complaining of chest pain are to be treated as cardiac patients.
- Patients who ingested tricyclic antidepressants, regardless of the number and present signs and symptoms, are to be transported by ALS unit. (These patients may have a rapid progression from alert mental status to death.)
- Pill bottles with the remaining contents should be brought to the ED with the patient whenever possible.

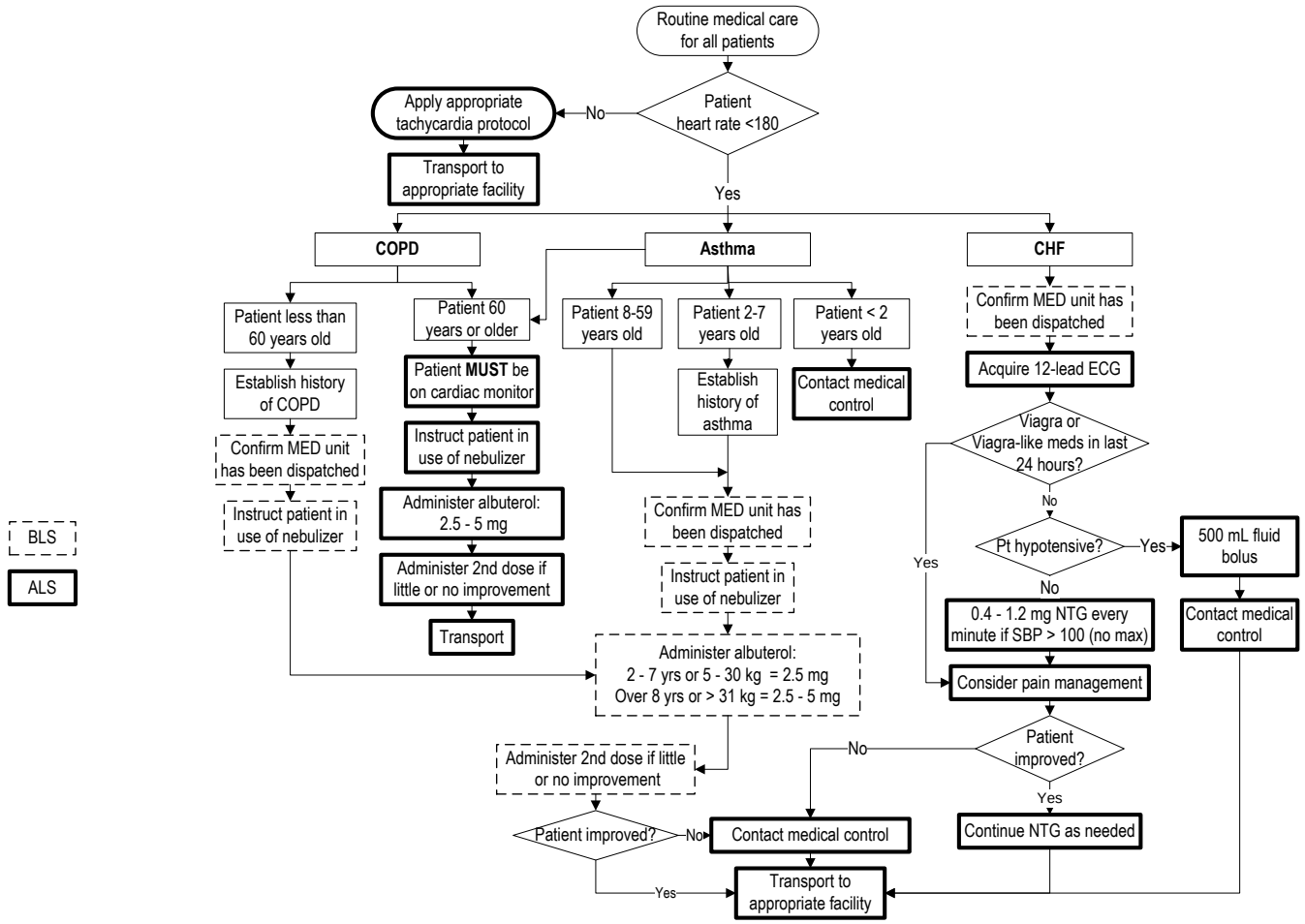


NOTES:

- Potentially reversible causes of PEA: OD, hypovolemia, pneumothorax, tamponade, hypothermia, hypoxia, acidosis, hyper/hypokalemia, PE, coronary thrombosis.
- For adult patients:
  When unable to establish IV/IO, administer epinephrine and atropine via ET at 2.0 mg doses. The maximum total adult dose of atropine is 3 mg.
- For pediatric patients:
  Atropine is not indicated in patients less than 8 years old
  High dose epinephrine is not indicated in pediatric patients with IV/IO access
  High dose epinephrine (0.1mg/kg of 1:1000 epi) is only indicated when administered via ET

Initiated: 5/22/98	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/17/10	**RESPIRATORY DISTRESS**	Signature:
Revision: 17		Page 1 of 1

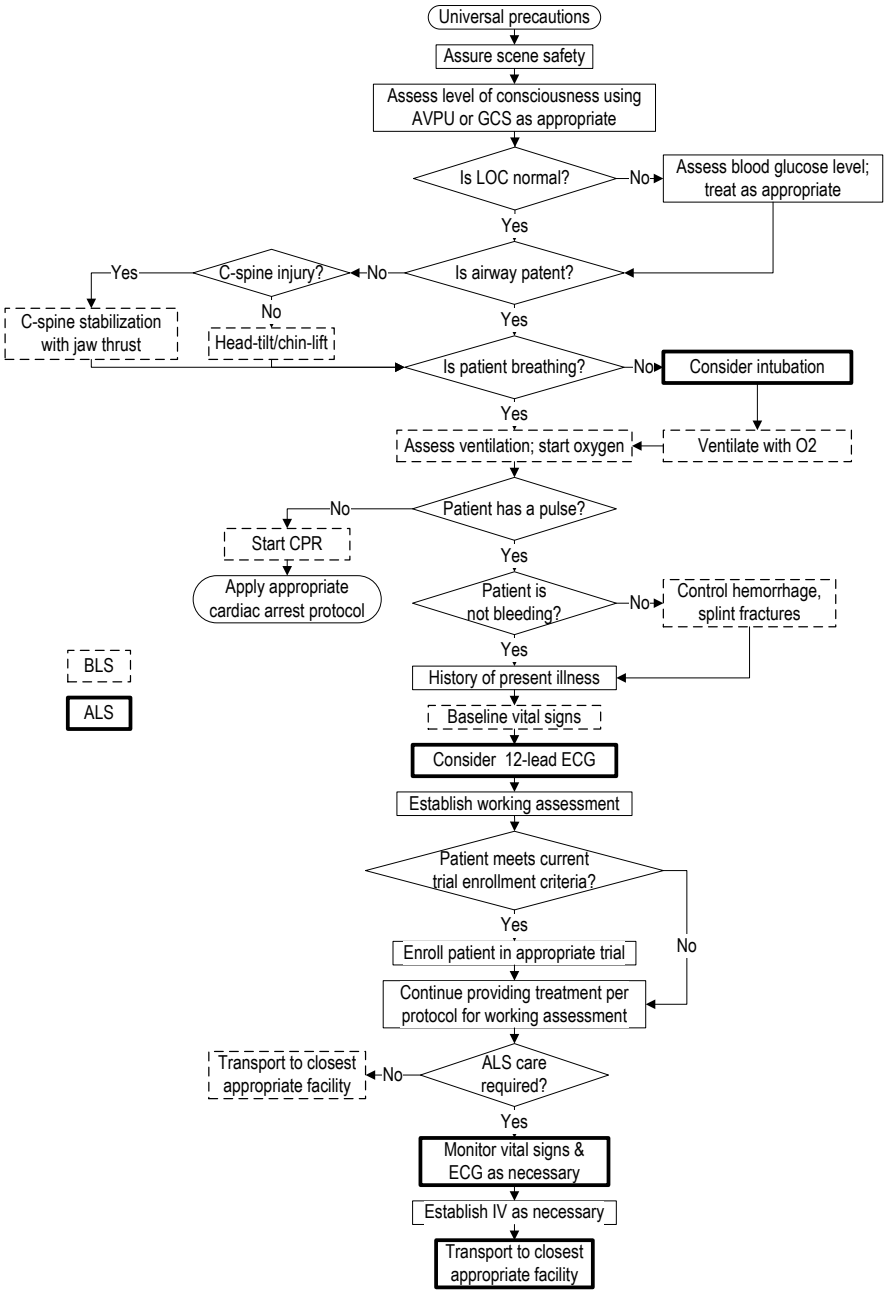
History	Signs/Symptoms	Working Assessment
May have a history of asthma (history required for patients 2 - 7 years old) Exposure to irritant Recent URI	Chest tightness Dyspnea Coughing or wheezing Accessory muscle use	Asthma
History of COPD	Chronic cough Dyspnea Pursed lip breathing Prolonged exhalation Barrel chest Clubbing of fingers	COPD
May have a history of CHF	Orthopnea Restlessness Wet or wheezing breath sounds Hypertension Tachycardia Jugular vein distention	CHF



Notes:

- A history of CHF is not required before treatment is initiated.
- Patients 60 years and older must be on a cardiac monitor.
- Establish a history of asthma before treating children between 2 and 7 years old. Wheezing may be caused by cardiomyopathy and antagonized by albuterol.
- If an asthmatic has no improvement after a second albuterol treatment, consider contacting medical control for an ***order*** for intramuscular epinephrine.
- A MED unit must transport any patient receiving albuterol in the field.
- Normal room air oxygen saturation (pulse ox) is 94 – 100%.

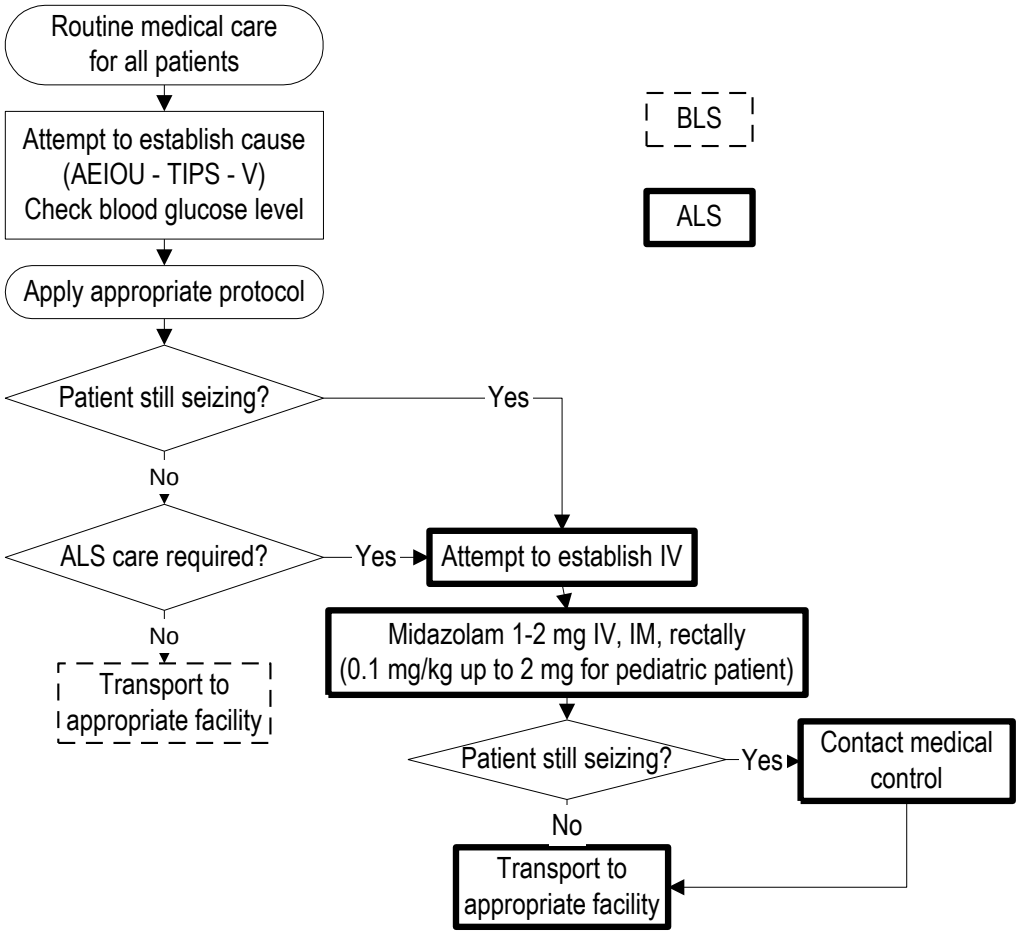
Initiated: 5/10/00	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/17/10	**ROUTINE MEDICAL CARE FOR ALL PATIENTS**	Signature:
Revision: 3		Page 1 of 1



Notes:

- A patient care report must be completed for each patient evaluated. A minimum of two complete sets of vital signs must be documented.
- The patient care report must be completed and left with/ faxed to the hospital prior to the MED unit going back into service.
- Refer to Transport/Triage and Transport Destination Policies for required level of transport and destination hospitals providing specialized care.
- The Primary Working Assessment, case number, and transport destination must be reported to EMS Communications for all patients receiving an ALS assessment; patient name must be provided for patients who required on-line medical control.

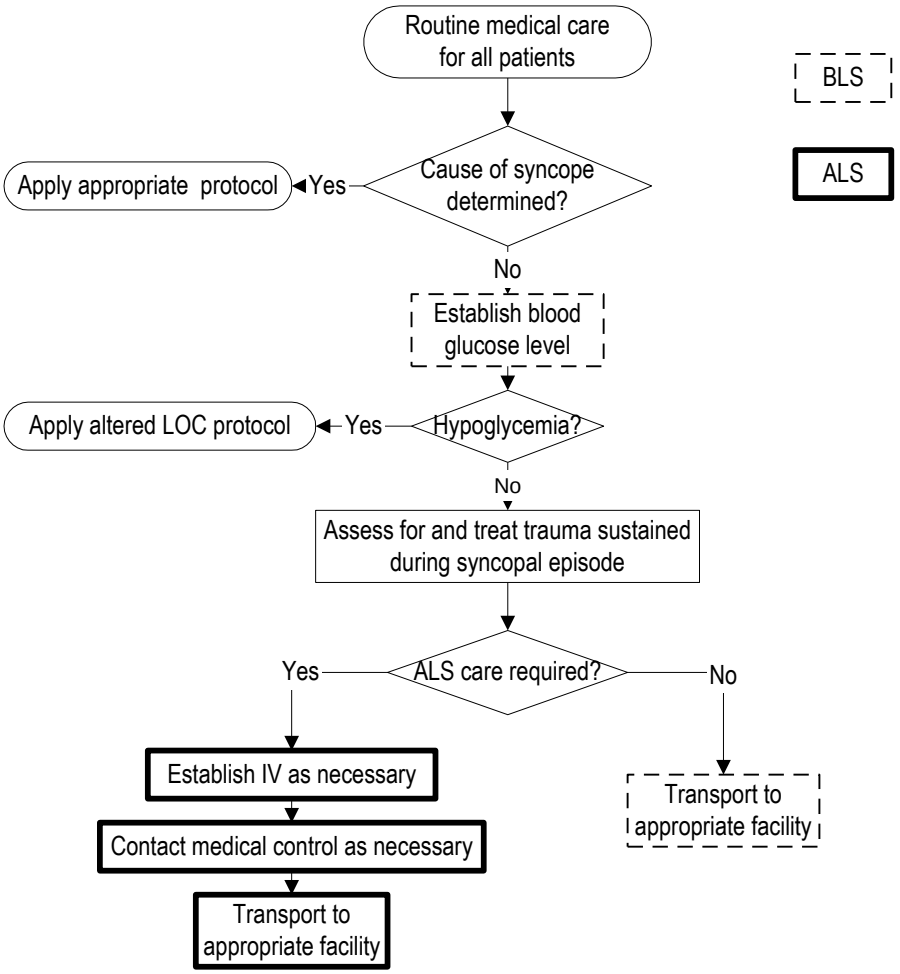
History:	Signs/Symptoms:	Working Assessment:
Reported/witnessed seizure activity History of seizures Medic alert tag Anti-seizure medications History of recent trauma History of diabetes Pregnancy Fever	Seizure activity Decreased mental status (post ictal) Sleepiness Incontinence Trauma	Seizure (look for underlying cause): • Head trauma • Noncompliance • Fever/infection • Hypoglycemia • Overdose/poisoning • Alcohol withdrawal • Hypoxia • Eclampsia



NOTE:

- Pediatric patients with febrile seizures rarely seize more than once. If patient seizes again, evaluate for another cause.
- Status Epilepticus is defined as two or more successive seizures without a period of consciousness or recovery.
- AEIOU-TIPS-V = A - alcohol, airway, arrest; E- epilepsy, electrolytes, endocrine; I - insulin; O - overdose, oxygen depletion, opiates; U - Uremia/chronic organ failure; T - trauma, tumors, temperature; I - infection; P - psychiatric, pseudoseizures; S - Syncope, shock, stroke, sickle cell crisis; V - vascular/lack of blood flow.

History:	Signs/Symptoms:	Working Assessment:
Brief loss of consciousness History of cardiac disease, stroke, seizures, diabetes Possible occult blood loss (ulcers, ectopic pregnancy) Fluid loss - diarrhea, vomiting Fever Vagal stimulation Trauma	Loss of consciousness with recovery Dizziness, lightheadedness Palpitations Abnormal pulse rate Irregular pulse Hypotension Signs of trauma	Consider underlying cause: Cardiac Hypovolemia Stroke Hypoglycemia Orthostatic hypotension Seizure Vasovagal Ingestion Trauma Aortic aneurysm/dissection

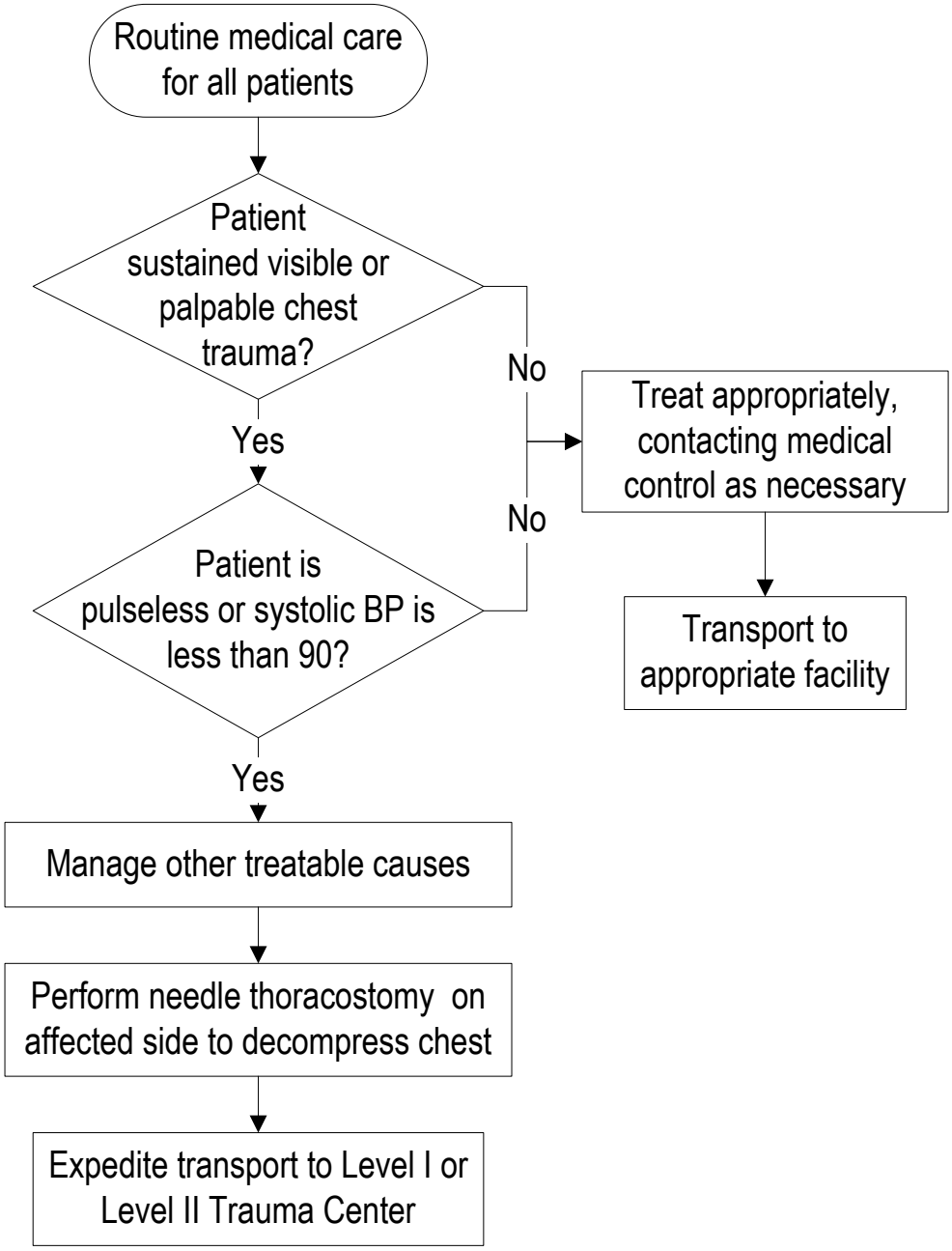


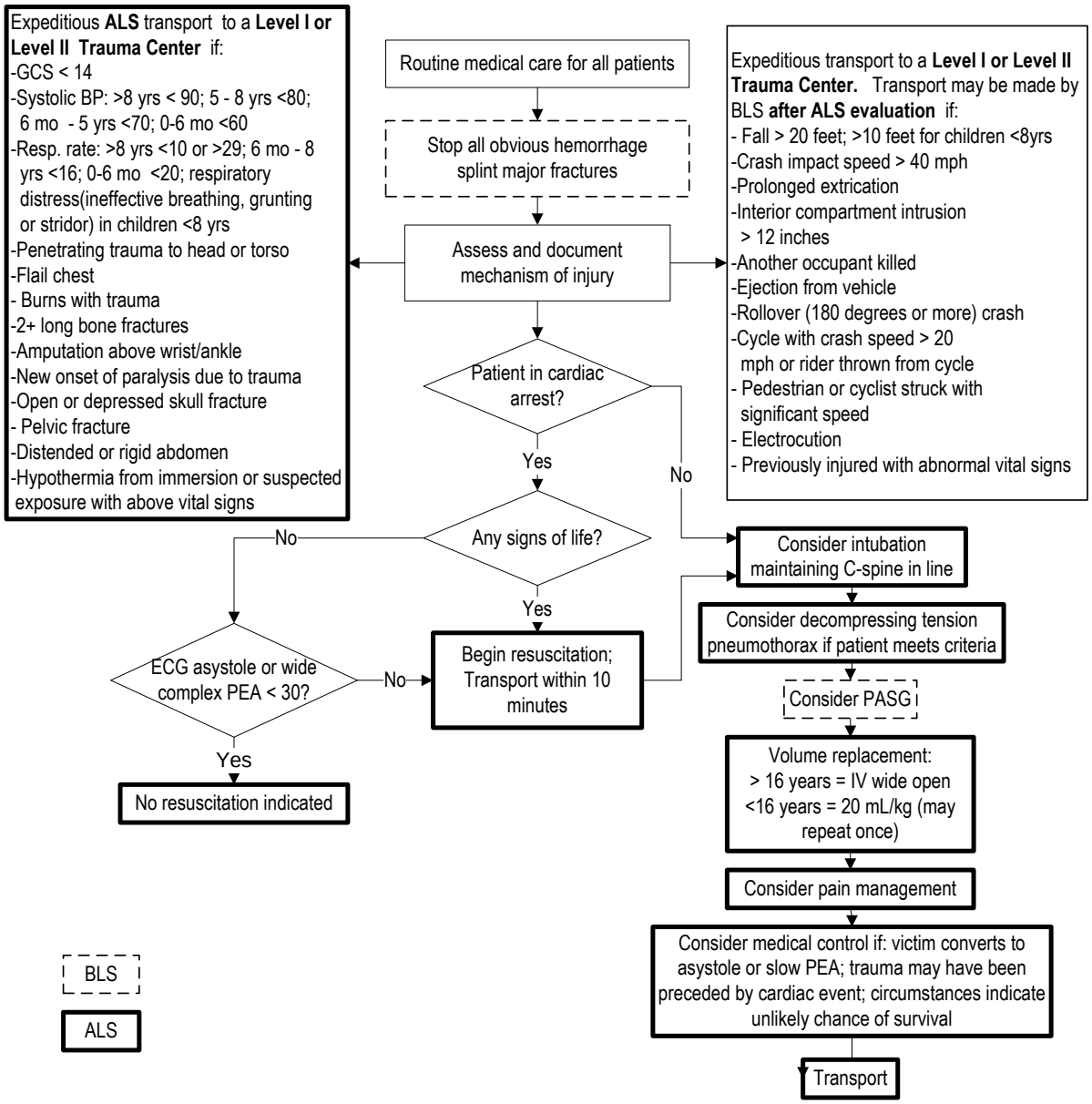
NOTES:

- Assess for signs and symptoms of trauma if associated or questionable fall with syncope.
- Consider underlying cause for syncope and treat accordingly.
- Over 25% of geriatric syncope is due to cardiac dysrhythmia.

Initiated: 10/14/09	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**TENSION PNEUMOTHORAX**	Signature:
Revision:		Page 1 of 1

History	Signs/Symptoms	Working Assessment
Patient sustained chest trauma	Visible or palpable chest trauma Severe respiratory distress Decreased or absent breath sounds on one side Hypotension Patient is pulseless Restlessness/agitation Increased resistance to ventilation Jugular vein distention Tracheal deviation away from affected side	Tension pneumothorax

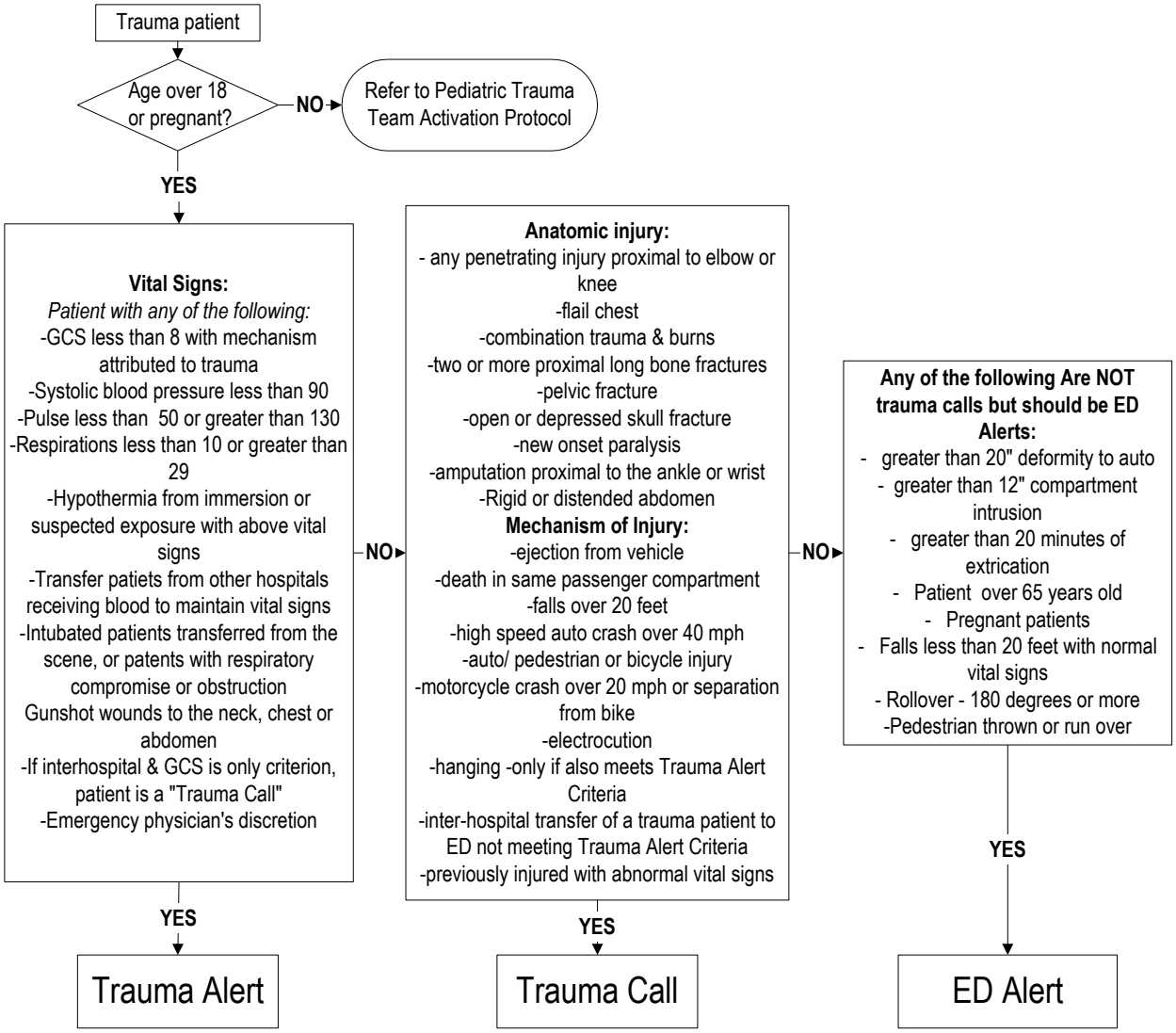




NOTES:

- In all patients with trauma-related cardiac arrest, establish the probable cause of the arrest.
- Resuscitation must be initiated on all patients with narrow (<0.12 sec) QRS complexes regardless of the rate. Patients in ventricular fibrillation or ventricular tachycardia should be defibrillated once.
- If resuscitation is not attempted based on the PFR or MED unit's interpretation of the ECG rhythm, the PFR or ALS team must complete the appropriate portion of the record.
- Apply and inflate pneumatic antishock garment (PASG) for patients with suspected pelvic fracture; suspected ruptured AAA.
- Notify EMS Communications of the circumstances of the transport, ETA, and include adequate information to facilitate Trauma Team activation.
- Only reason to consider transport to the closest receiving hospital other than a trauma center is for the inability to ventilate the patient.

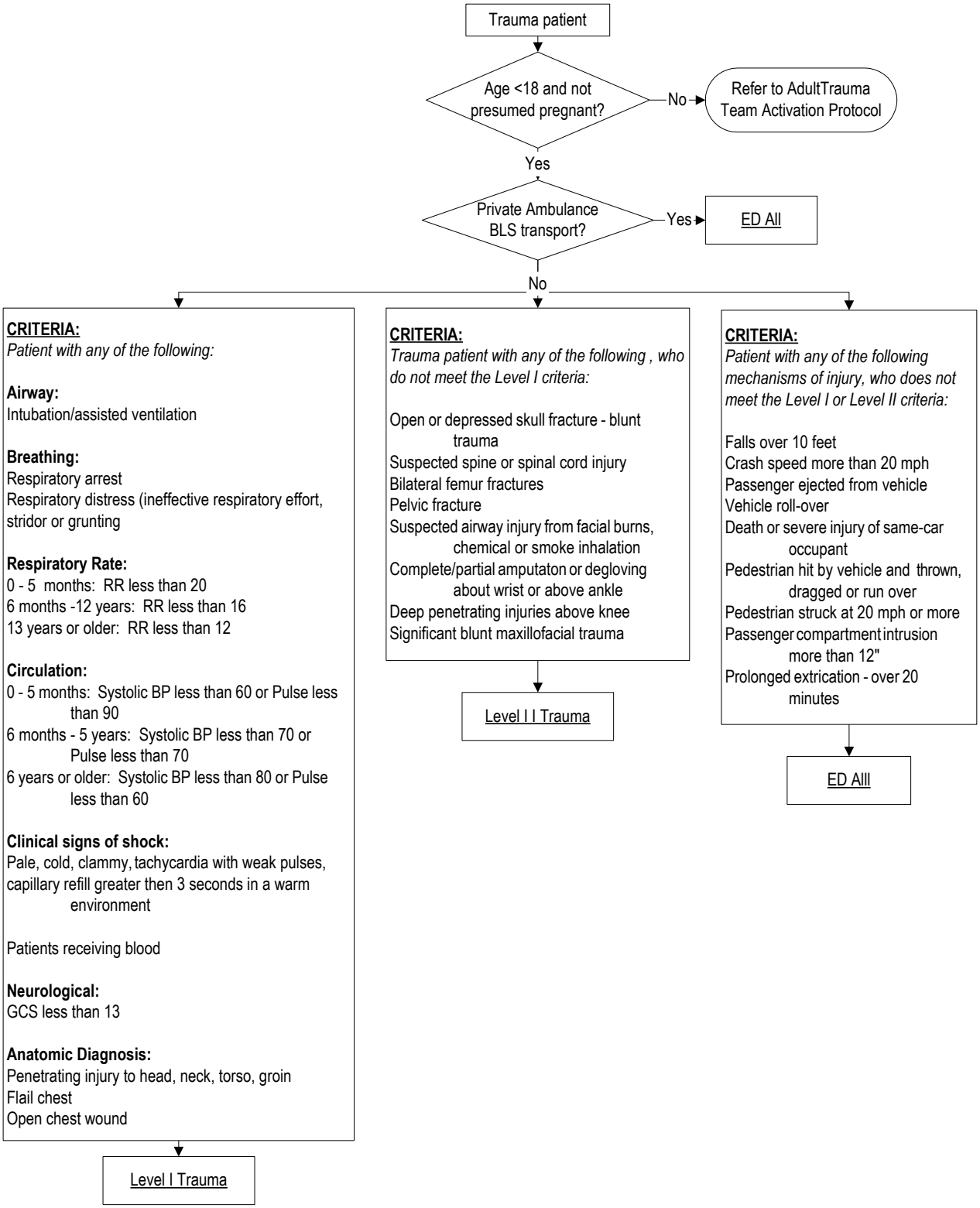
Initiated: 5/10/00	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/14/09	**TRAUMA TEAM ACTIVATION - ADULT PATIENTS**	Signature:
Revision: 7		Page 1 of 1



NOTES:

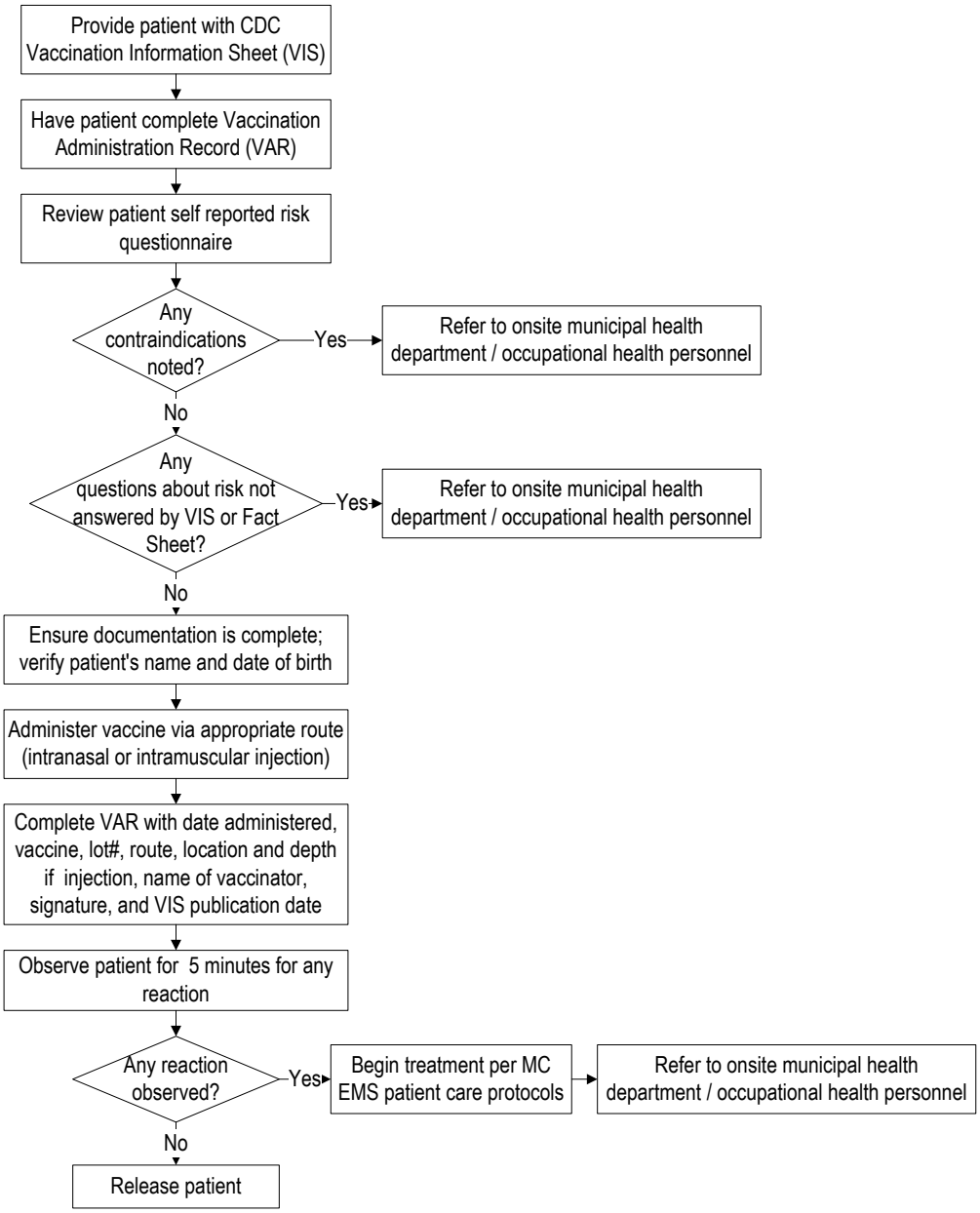
- Paramedics should report to EMS Communications with the circumstances of the injury, estimated time of arrival and adequate information to facilitate Trauma Team activation
- If the patient's chief complaint appears to be related to a traumatic injury that occurred up to several days prior to the call, a Trauma Alert or Call is to be paged if the patient has abnormal vital signs. If the vital signs are normal, a routine page is appropriate.
- Information to be included in the Trauma Page: type of page (TA or TC), unit, age, sex, vital signs, mechanism of injury, interventions, and estimated time of arrival.
- **Trauma Alert** requires the presence of the Trauma Alert Team, consisting of: Trauma Surgery Faculty, Surgical Residents, Emergency Medicine Faculty, Emergency Medicine Residents, and Emergency Department Nurses
- **Trauma Call** requires the presence of the Trauma Call Team consisting of: Surgical Residents, Emergency Medicine Faculty, Emergency Medicine Residents, and Emergency Department Nurses
- **ED Alert** requires the presence of: Emergency Medicine Faculty, Emergency Medicine Resident and Emergency Department Nurse.

Initiated: 5/12/04	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/10/07	**TRAUMA TEAM ACTIVATION - PEDIATRIC PATIENTS**	Signature:
Revision: 1		Page 1 of 1



Initiated: 2/17/10	**MILWAUKEE FIRE DEPARTMENT MEDICAL PROTOCOL VACCINE ADMINISTRATION**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:		Signature:
Revision:		Page 1 of 1

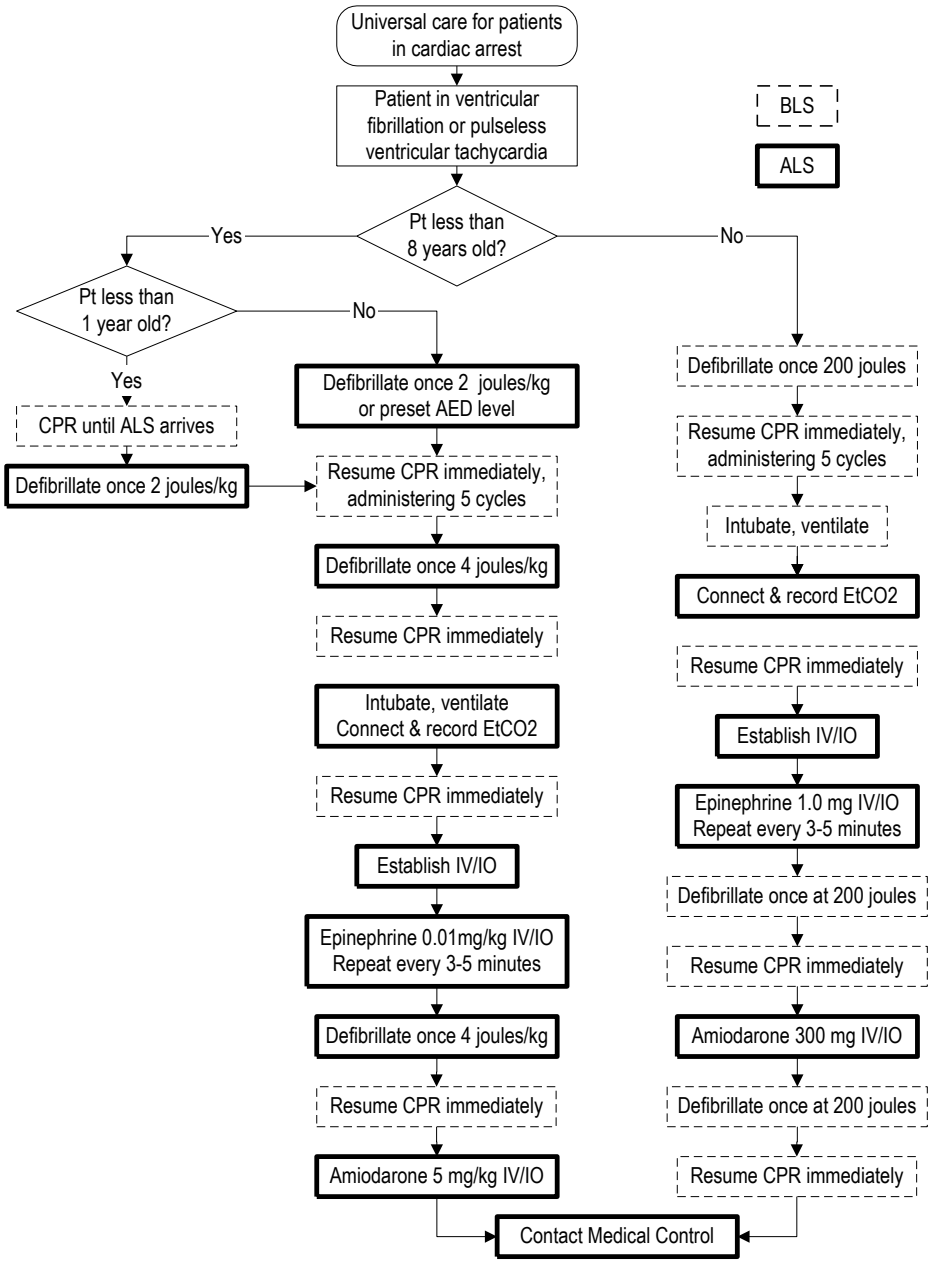
Policy: Vaccines may be administered at sites outside of municipal health department (MHD) clinics under special circumstances, as approved by the Immunization Program Manager. A municipal fire department is an approved off site location for immunization administration.



NOTES:

- Vaccinations will be administered only as part of an approved program in cooperation with public or occupational health services.

OR PULSELESS VENTRICULAR TACHYCARDIA

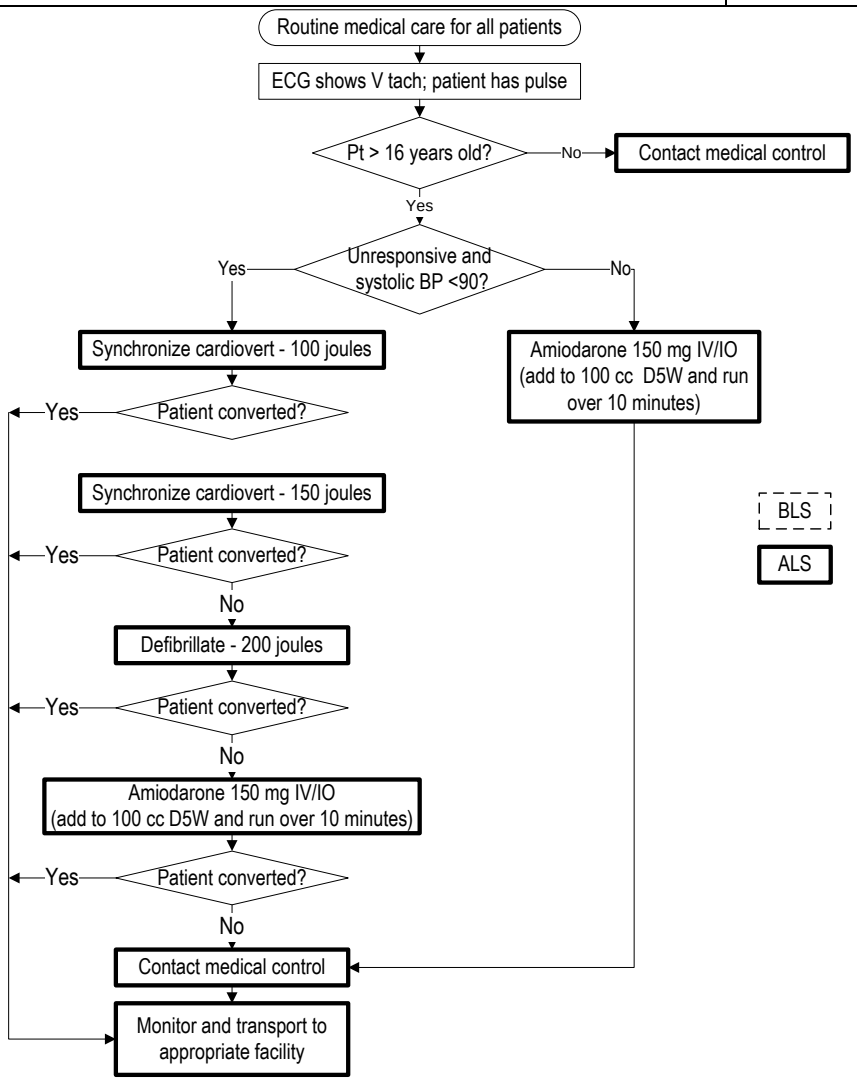


NOTES:

- Give single shocks only
- Resume CPR immediately after shock for 2 minutes prior to re-checking rhythm
- Advanced airway management and/or medication administration should not interrupt CPR for >10 seconds
- For adult patients:
  When unable to establish IV/IO, administer epinephrine via ET at 2.0 mg doses.
- For pediatric patients:
  High dose epinephrine is not indicated in pediatric patients with IV/IO access
  High dose epinephrine (0.1mg/kg of 1:1000 epi) is only indicated when administered via ET
- Amiodarone ***may not*** be administered via ET
- Routine use of Amiodarone or lidocaine after successful defibrillation is no longer indicated unless the patient shows signs of ectopy

Initiated: 11/73	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/14/09	**VENTRICULAR TACHYCARDIA WITH PULSES**	Signature:
Revision: 19		Page 1 of 1

History	Signs/Symptoms	Working Assessment
Arrhythmia AICD MI	Systolic blood pressure <90 Altered LOC ECG shows Vtach Chest pain, nausea, dizziness, diaphoresis, palpitations	Unstable Vtach with pulses
Arrhythmia AICD MI	Systolic blood pressure >90 LOC normal ECG shows Vtach May or may not have chest pain, nausea, dizziness, diaphoresis, palpitations	"Stable" Vtach with pulses



NOTES:

- Adenosine 12 mg may be ordered for the patient with a wide complex tachycardia that does not respond to amiodarone.
- Defibrillation/synchronization may need prior sedation and may be ordered as the first intervention in the unstable patient.