



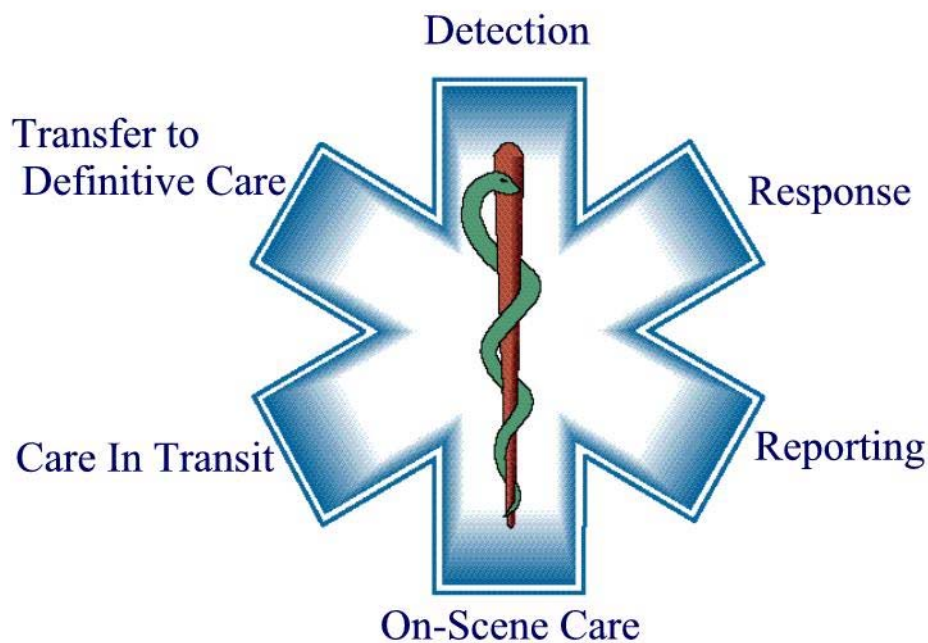
SOUTHWEST GENERAL HEALTH CENTER
Partnering with **University Hospitals Health System**

EMS Services

PRE-HOSPITAL CARE

MEDICAL CONTROL

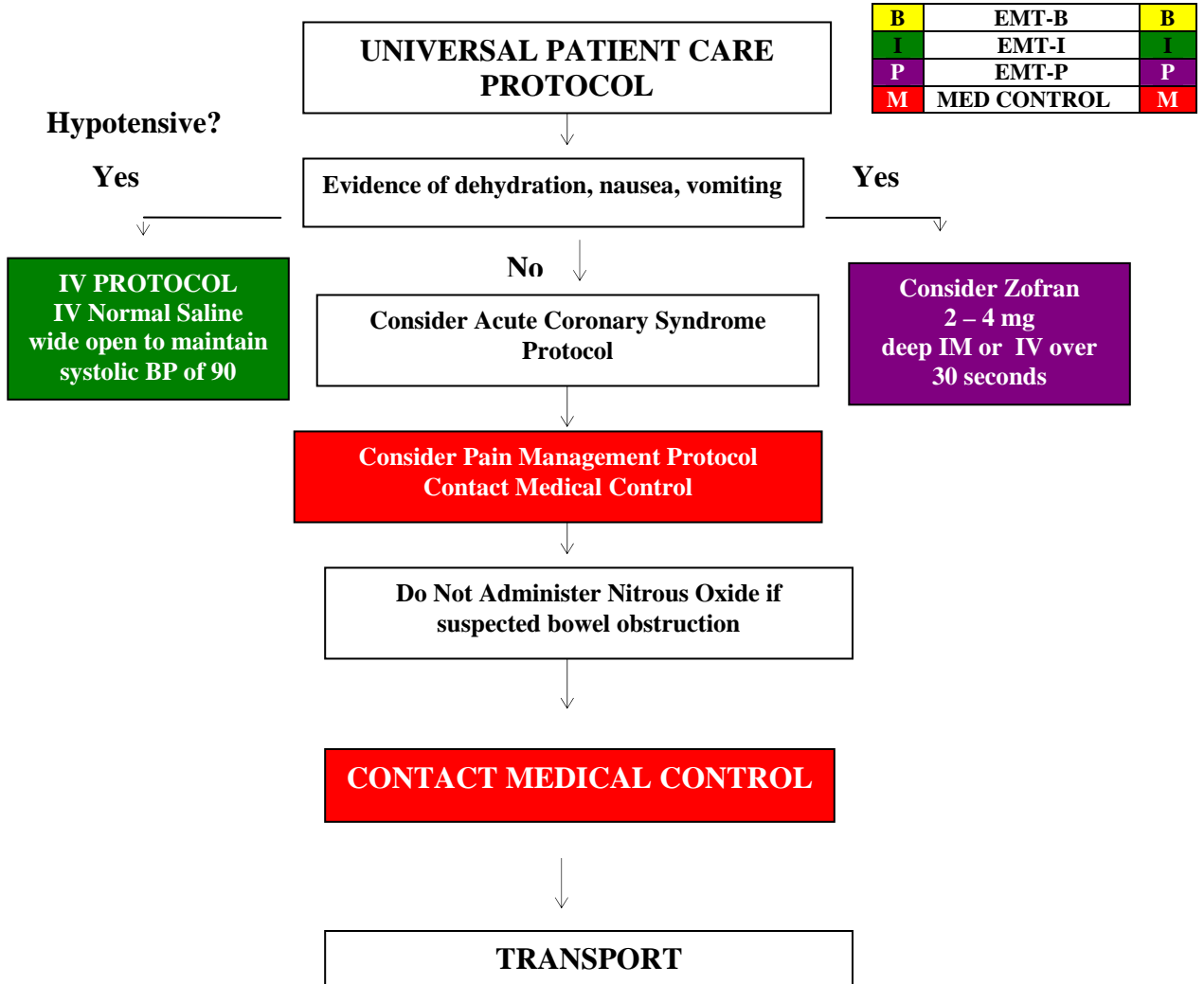
PROTOCOLS AND PROCEDURES



MEDICAL EMERGENCIES

1

ABDOMINAL PAIN



MEDICAL EMERGENCIES**1A****ABDOMINAL PAIN**

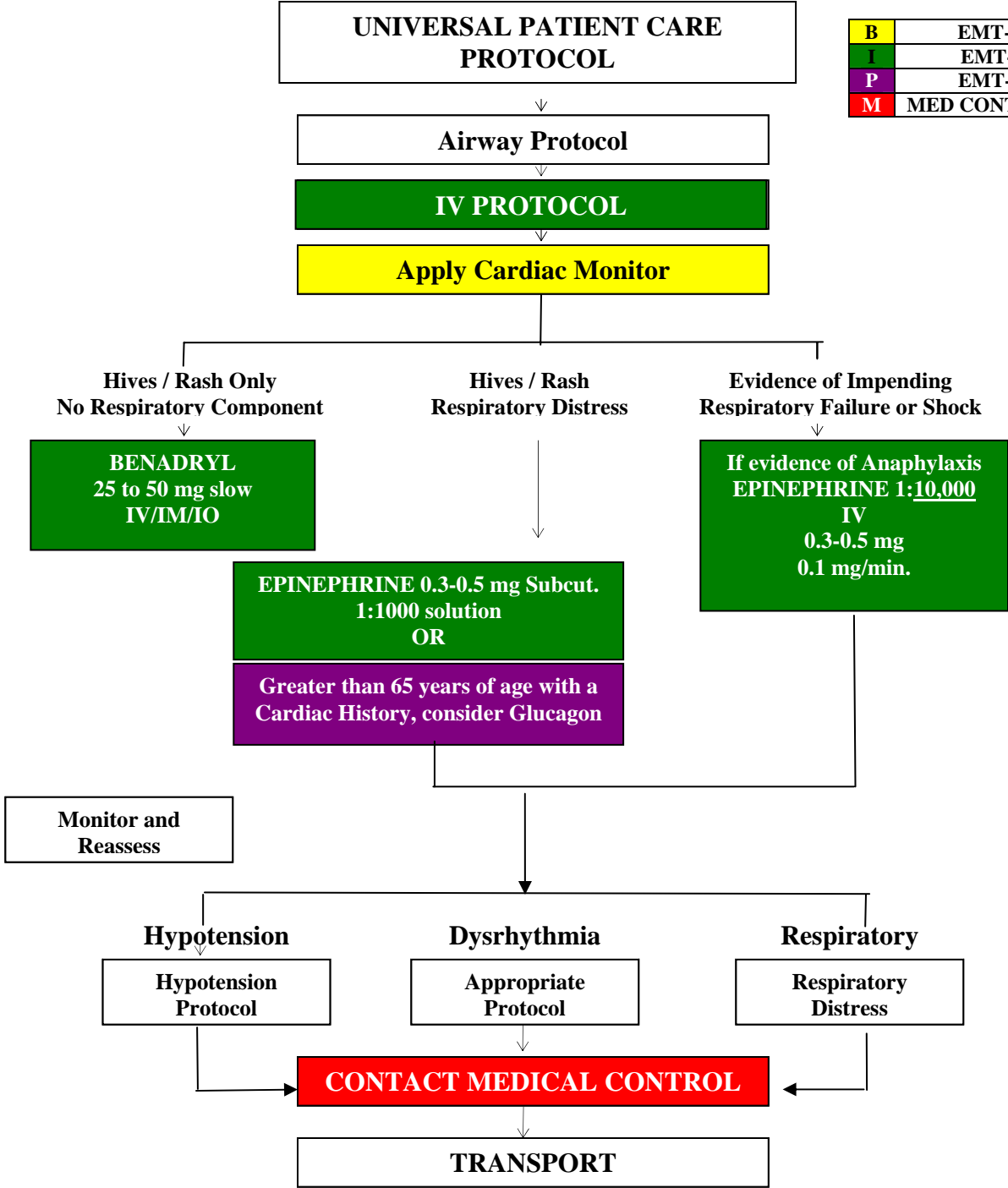
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Age • Past medical / surgical history • Medications • Onset • Quality (crampy, constant sharp, dull, etc.) • Region / Radiation Referred • Severity (1-10) • Time (duration/repetition) • Fever • Last meal eaten • Last bowel movement / emesis • Menstrual history (pregnancy) 	<ul style="list-style-type: none"> • Pain (location / migration) • Tenderness • Nausea • Vomiting • Diarrhea • Dysuria • Constipation • Vaginal bleeding / discharge • Pregnancy • Associated symptoms: (Helpful to localize source) Fever, headache weakness, malaise myalgias, cough, headache, mental status changes, rash 	<ul style="list-style-type: none"> • Pneumonia or Pulmonary embolus • Liver (hepatitis, CHF) • Peptic ulcer disease • Gastritis • Gallbladder • Myocardial infarction • Pancreatitis • Kidney stone • Abdominal aneurysm • Appendicitis • Bladder / Prostate disorder • Pelvic (PID, Ectopic, pregnancy, Ovarian cyst) • Spleen enlargement • Diverticulitis • Bowel obstruction • Gastroenteritis (infectious)

GENERAL CONSIDERATIONS:

- Required Exam: Mental Status, Skin, HEENT, Neck, Heart, Lung, Abdomen, Back, Extremities, Neuro
- Abdominal pain in women of childbearing age should be treated as an ectopic pregnancy until proven otherwise.
- Antacids should be avoided in patients with renal disease.
- The diagnosis of abdominal aneurysm should be considered with abdominal pain in patients over 50.
- Appendicitis presents with vague, peri-umbilical pain, which migrates, to the RLQ over time. It is important to remember that abdominal pain can be caused by a large number of different disease processes. The organ systems that may be involved in abdominal pain include esophagus, stomach, intestinal tract, liver, pancreas, spleen, kidneys, male and female genital organs, bladder, as well as referred pain from the chest that can involve the heart, lungs or pleura. Abdominal pain may also be caused by muscular and skeletal problems.
- Abdominal pain emergencies are likely to lead to death due to blood or fluid loss with resultant shock. There may also be severe electrolyte abnormalities that can cause arrhythmias.
- Myocardial Infarction may present as abdominal pain especially in the diabetic and elderly.
- If the abdominal pain may be of cardiac origin, perform cardiac monitoring and a 12-Lead EKG.
- DKA may present with abdominal pain and vomiting.
- Zofran (Ondansetron) may be given for nausea and vomiting. Starting dose 2 – 4 mg IV/IM give deep IM or slow through a patient IV line over 30 seconds.

MEDICAL EMERGENCIES

ALLERGIC REACTION



MEDICAL EMERGENCIES		
ALLERGIC REACTION		
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Itching or hives • Coughing / wheezing or respiratory distress • Chest or throat constriction • Difficulty swallowing • Hypotension or shock • Edema 	<ul style="list-style-type: none"> • Urticaria (rash only) • Anaphylaxis (systemic effect) • Shock (vascular effect) • Angioedema (drug induced) • Aspiration / Airway obstruction • Vasovagal event • Asthma or COPD • CHF

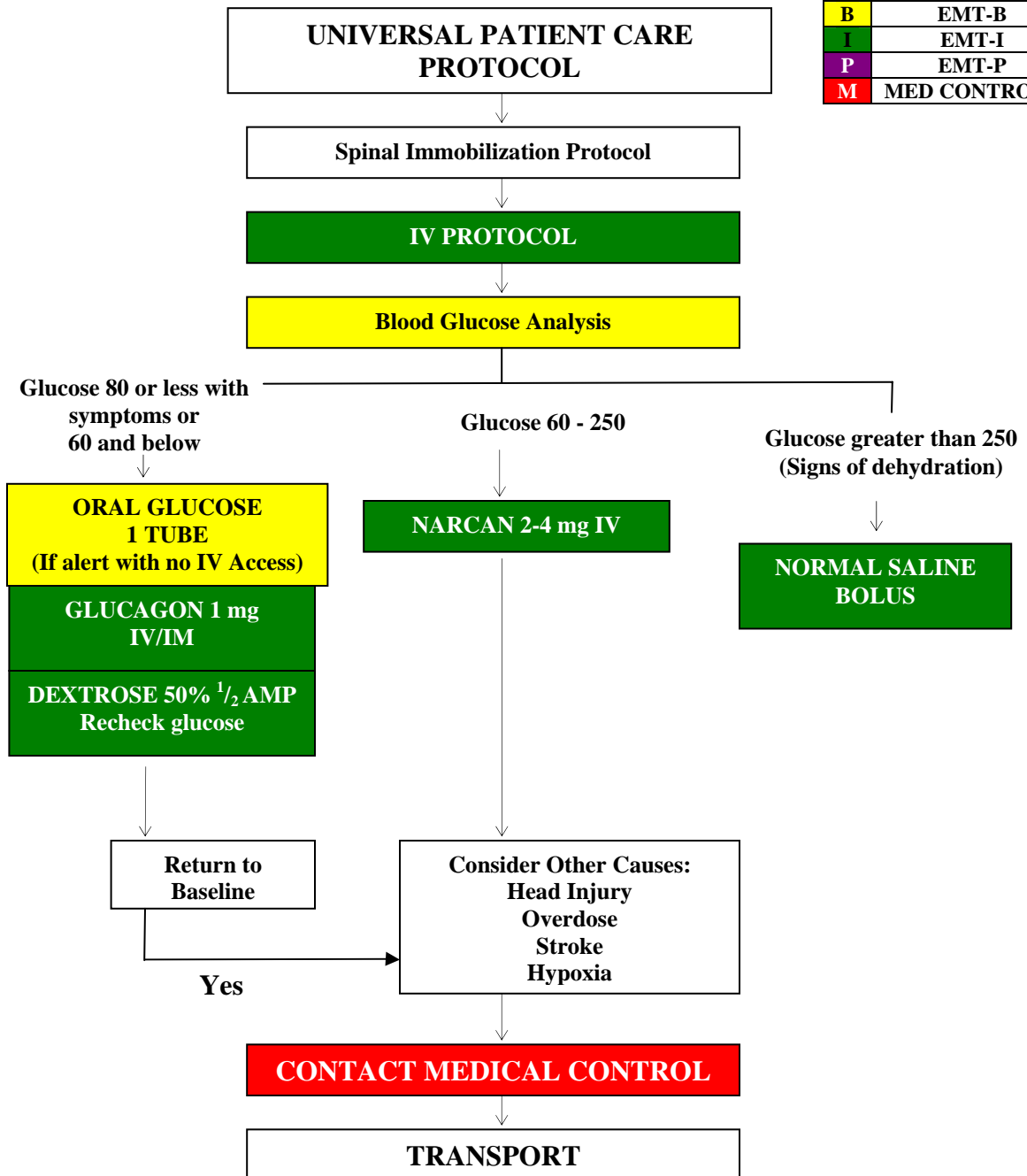
GENERAL CONSIDERATIONS:

- Exam: Mental Status, Skin, Heart, Lungs
- Contact Medical Control prior to administering epinephrine in patients who are greater than 65 years of age, have a history of cardiac disease, or if the patient's heart rate is greater than 150. Epinephrine may precipitate cardiac ischemia.
- Any patient with respiratory symptoms or extensive reaction should receive IV or IM Benadryl (diphenhydramine).
- The shorter the onset from symptoms to contact, the more severe the reaction.
- Routine assessment and supportive care of the patient's respiratory and cardiovascular systems is required.
- Treat patients with a history of anaphylaxis aggressively.
- Use caution when using epinephrine for patients over forty years of age.
- Use caution when using epinephrine for patients with a heart rate greater than 120 bpm.
- When possible, remove any stingers.

MEDICAL EMERGENCIES

3

ALTERED LEVEL OF CONSCIOUSNESS



B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M

RESTRAINT MAY BE NEEDED TO PROTECT THE PATIENT AND EMS PERSONNEL. SEE RESTRAINT POLICY.

MEDICAL EMERGENCIES		
ALTERED LEVEL OF CONSCIOUSNESS		
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Known diabetic, medic alert tag • Drugs, drug paraphernalia • Report of illicit drug use or toxic ingestion • Past medical history • Medications • History of trauma 	<ul style="list-style-type: none"> • Decreased mental status • Change in baseline mental status • Bizarre behavior • Hypoglycemia (cool, diaphoretic skin) • Hyperglycemia (warm, dry skin, fruity breath, Kussmal resps; signs of dehydration) 	<ul style="list-style-type: none"> • Head trauma • CNS (stroke, tumor, seizure, infection) • Cardiac (MI, CHF) • Infection • Thyroid (hyper / hypo) • Shock (septic, metabolic, traumatic) • Diabetes (hyper / hypoglycemia) • Toxicologic • Acidosis / Alkalosis • Environmental exposure • Pulmonary (Hypoxia) • Electrolyte abnormality • Psychiatric disorder

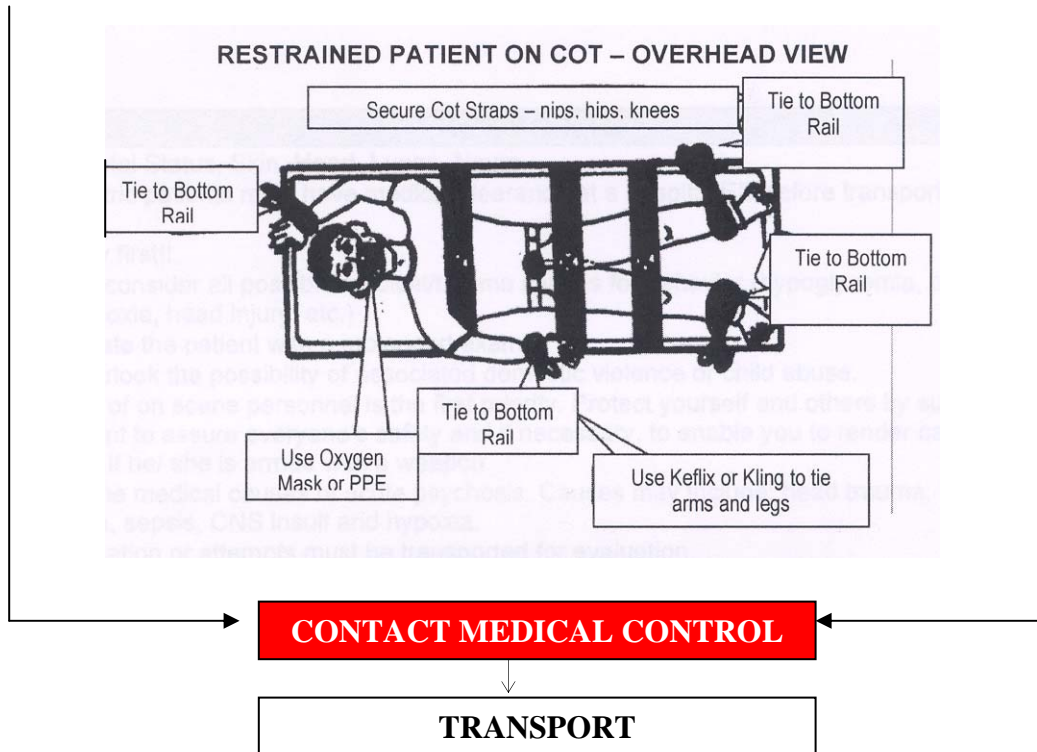
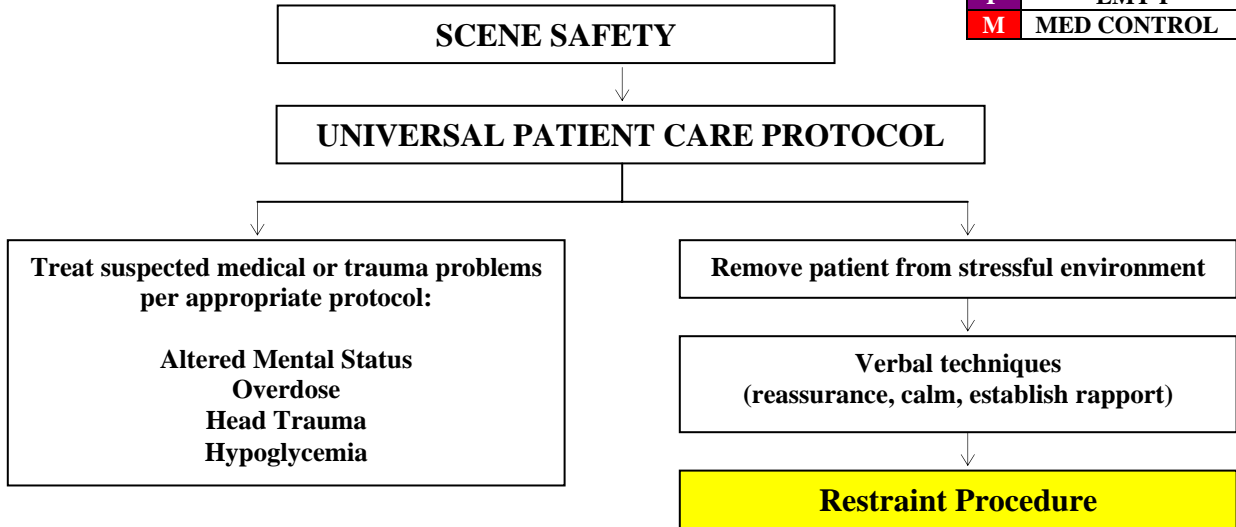
GENERAL CONSIDERATIONS:

- Exam: Mental Status, HEENT, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro
- Be aware of AMS as presenting sign of an environmental toxin or Haz-Mat exposure and protect personal safety.
- It is safer to assume hypoglycemia than hyperglycemia if doubt exists.
- Low glucose (less than 80), normal glucose (80 - 120), high glucose (greater than 250).
- Consider Restraints if necessary for patient's and / or personnel's protection per the restraint procedure.
- Protect the patient airway and support ABCs.
- Document the patient's initial Glasgow Coma Score.
- Naloxone (Narcan) administration may cause the patient to go into acute opiate withdraw, which includes vomiting agitation, and / or combative behavior. Always be prepared for combative behavior.
- Naloxone (Narcan) may wear off in as little as 20 minutes causing the patient to become more sedate and possibly hypoventilate. All patients receiving Naloxone (Narcan) MUST be transported.

MEDICAL EMERGENCIES

BEHAVIORAL / PSYCHIATRIC EMERGENCIES

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M



BEHAVIORAL/ PSYCHIATRIC EMERGENCIES

ALL RESPONDERS SHOULD HAVE A HEIGHTENED AWARENESS OF SCENE SAFETY

History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Situational crisis • Psychiatric illness / medications • Injury to self or threats to others • Medic alert tag • Substance abuse / overdose • Diabetes 	<ul style="list-style-type: none"> • Anxiety, agitation, confusion • Affect change, hallucinations • Delusional thoughts, bizarre behavior • Combative violent • Expression of suicidal / homicidal thoughts 	<ul style="list-style-type: none"> • See Altered Mental Status differential • Alcohol Intoxication • Toxin / Substance abuse • Medication effect / overdose • Withdrawal syndromes • Depression • Bipolar (manic-depressive) • Schizophrenia • Anxiety disorders

Criteria for Restraint Use:

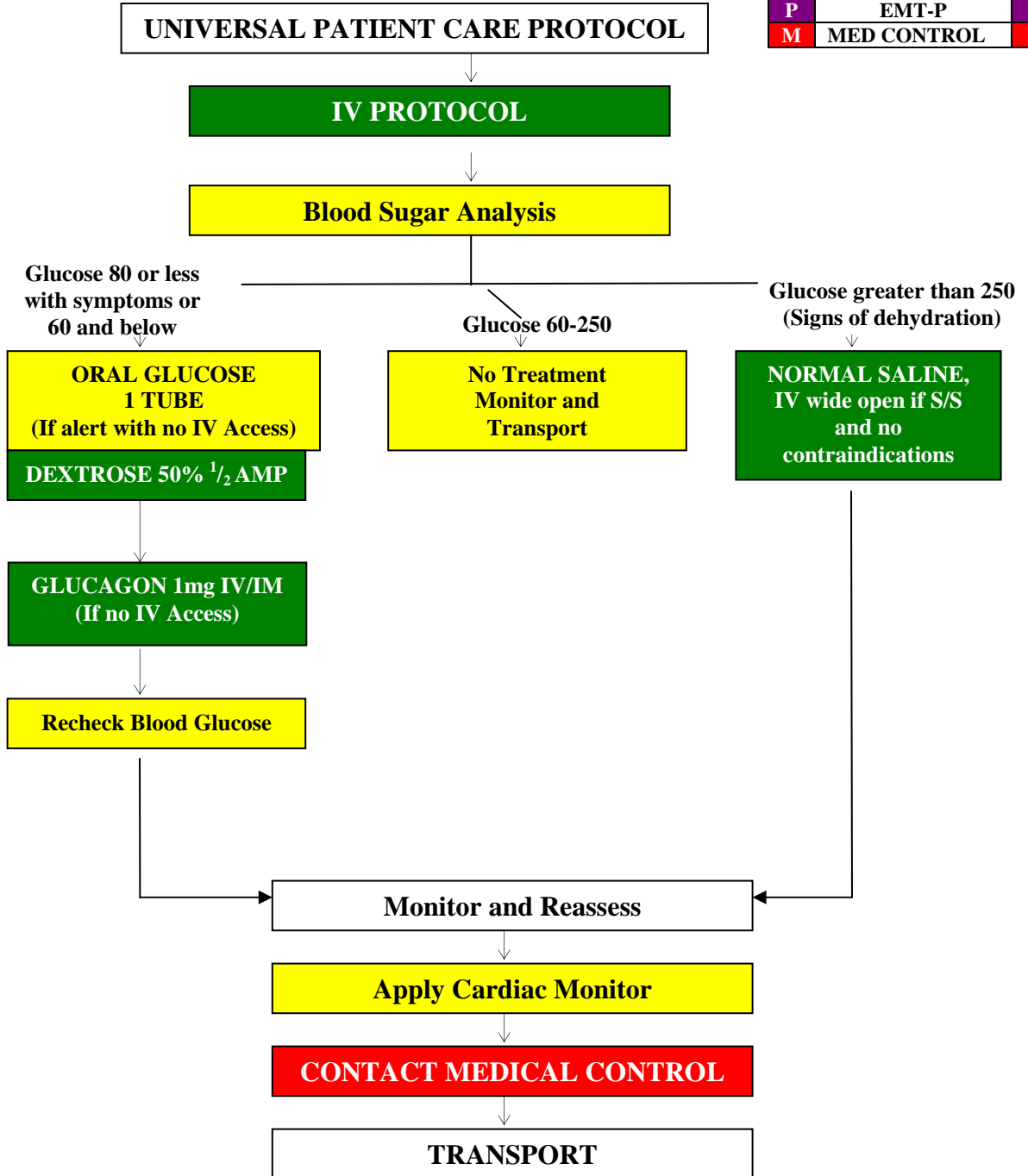
1. Patient out of control and may cause harm to self or others.
2. Necessary force required for patient control without causing harm.
3. Position of patient must not impede airway or breathing.
4. Restraints must not impede circulation.
5. Place mask on patient for body secretion protection. May use TB mask, or Non-rebreather if patient needs oxygen.
6. Use supine or lateral positioning ONLY.
7. Frequent distal neurovascular checks are required.
8. DOCUMENT methods used.

GENERAL CONSIDERATIONS:

- Exam: Mental Status, Skin, Heart, Lungs, Neuro
- All psychiatric patients must have medical clearance at a hospital ED before transport to a mental health facility.
- Your safety first!!
- Be sure to consider all possible medical / trauma causes for behavior (hypoglycemia, overdose, substance abuse, hypoxia, head injury, etc.).
- Do not irritate the patient with a prolonged exam.
- Do not overlook the possibility of associated domestic violence or child abuse.
- The safety of on scene personnel is the first priority. Protect yourself and others by summoning Law Enforcement to assure everyone's safety and if necessary, to enable you to render care. Do not approach the patient if he/she is armed with a weapon.
- Consider the medical causes of acute psychosis. Causes may include; head trauma, hypoglycemia, acute intoxication, sepsis, CNS insult and hypoxia.
- Suicide ideation or attempts must be transported for evaluation.
- Be alert for rapidly changing behaviors.
- Limit patient stimulation and use de-escalation techniques.
- If the patient has been placed in handcuffs by a law enforcement agency, then a member from that agency MUST ride with the patient in the ambulance to the hospital.

DIABETIC EMERGENCIES

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M



MEDICAL EMERGENCIES		
DIABETIC EMERGENCIES		
HYPOGLYCEMIA		
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Known diabetic, medic alert tag • Past medical history • Medications • Last Meal • Recent Blood Sugar 	<ul style="list-style-type: none"> • Altered Level of Consciousness • Dizziness • Irritability • Diaphoresis • Convulsions • Hunger • Confusion 	<ul style="list-style-type: none"> • ETOH • Toxic Overdose • Trauma • Seizure • Syncope • CNS Disorder • Stroke • Pre-existing condition

HYPERGLCEMIA		
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Known diabetic, medic alert tag • Past medical history • Medications • Last Meal • Recent Blood Sugar 	<ul style="list-style-type: none"> • Altered Level of Consciousness / Coma • Abdominal Pain • Nausea / Vomiting • Dehydration • Frequent Thirst and Urination • General Weakness Malaise • Hypovolemic Shock • Hyperventilation • Deep / Rapid Respirations 	<ul style="list-style-type: none"> • ETOH • Toxic Overdose • Trauma • Seizure • Syncope • CNS Disorder • Stroke • Diabetic Ketoacidosis

GENERAL CONSIDERATIONS:

Hyperglycemia:

- Diabetic Ketoacidosis (DKA) is a complication of diabetes mellitus. It can occur when insulin levels become inadequate to meet the metabolic demands of the body for a prolonged amount of time (onset can be within 12-24 hours). Without enough insulin the blood glucose increases and cellular glucose depletes. The body removes excess blood glucose by dumping it into the urine. Pediatric patients in DKA should be treated as hyperglycemic under the Pediatric Diabetic Emergency Protocol.
- Patients can have Hyperglycemia without having DKA.

Hypoglycemia:

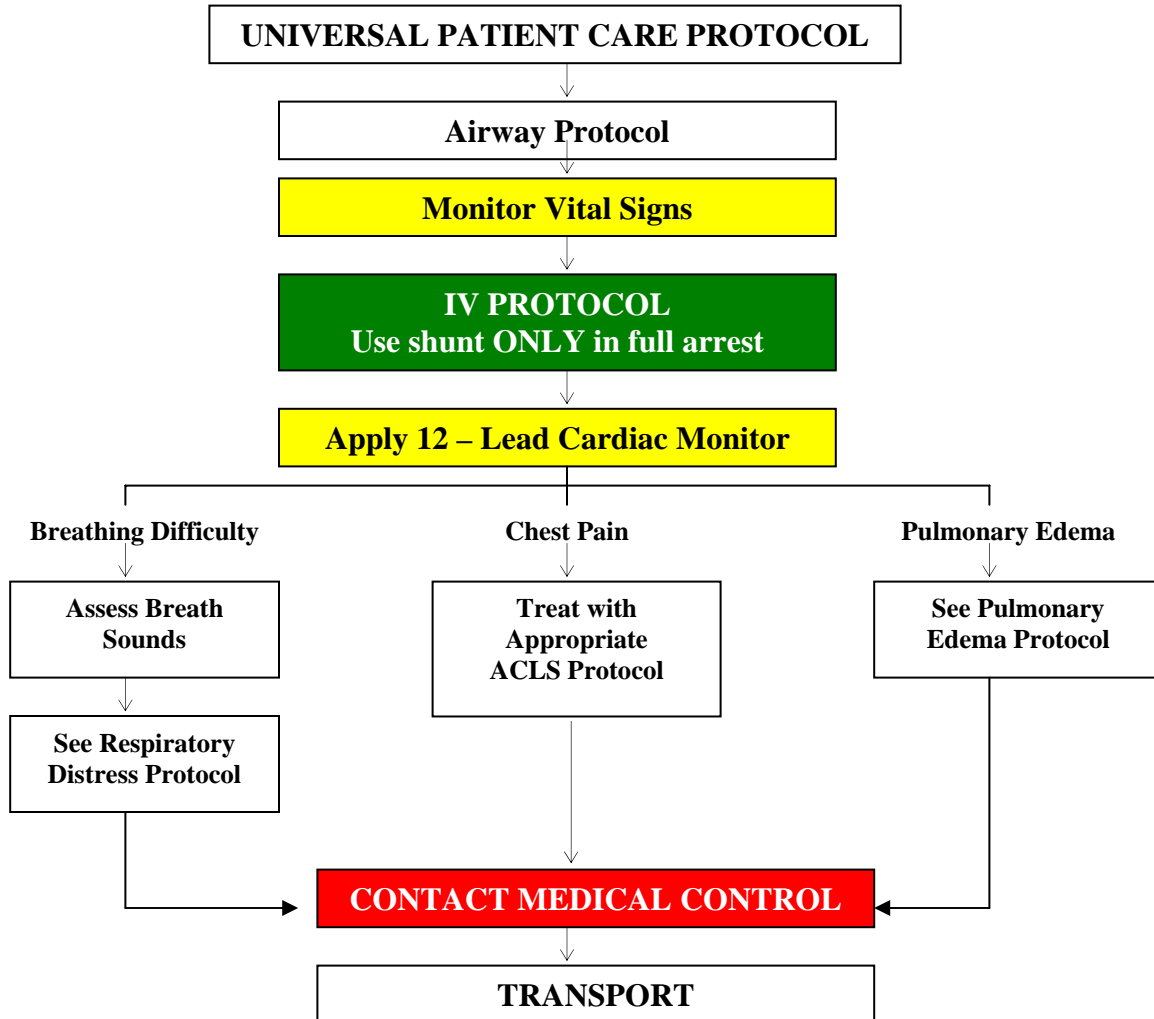
- Always suspect Hypoglycemia in patients with an altered mental status.
- If a blood glucose analysis is not available, a patient with altered mental status and signs and symptoms consistent with hypoglycemia should receive Dextrose or Glucagon.
- Dextrose is used to elevate blood glucose but it will not maintain it. The patient will need to follow up with a meal, if not transported to a hospital.

Miscellaneous:

- If IV access is successful after Glucagon IM and the patient is still symptomatic, Dextrose IV can be administered.

DIALYSIS / RENAL PATIENT

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M



MEDICAL EMERGENCIES

DIALYSIS / RENAL PATIENTS		
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Renal Failure • Dialysis Treatment • Anemia • Dialysis treatment schedule • Previous implications • Long term catheter access • Shunt access • Hyperkalemia 	<ul style="list-style-type: none"> • Hypotension • Bleeding • Fever • Electrolyte Imbalances • Nausea • Vomiting • Altered Mental Status • Seizure • Dysrhythmias 	<ul style="list-style-type: none"> • Congestive Heart Failure • Pericarditis • Diabetic Problem

GENERAL CONSIDERATIONS:

The Chronic Renal Dialysis patient has numerous medical problems. The kidneys help maintain electrolyte balance, acid-base balance and rid the body of metabolic waste. Kidney Failure results in a build-up of toxins within the body, which can cause many problems. Dialysis is a process, which filters out the toxins, excess fluids and restores electrolyte balance. The process may be done in two ways:

1. Peritoneal Dialysis

Toxins are absorbed by osmosis through a solution infused into the peritoneal cavity, and then drained out. The solution is placed into the abdomen by means of a catheter, which is placed below the navel. This process must be done frequently, as much as every 12 hours for a period of 1 – 2 hours.

2. Hemodialysis

Removes toxins by directly filtering the blood using equipment that functions like an electric kidney, circulating the blood through a Shunt that is connected to a vein and an artery. A permanent Shunt can be surgically formed as a Fistula. This process usually needs to be done every 2 - 3 days for a period of 3 - 5 hours.

POSSIBLE COMPLICATIONS OF DIALYSIS TREATMENT

1. Hypotension (15-30%)

- May result in angina, MI, dysrhythmia, altered mental status, and seizure

2. Removal of therapeutic medications

- Example: Tegretol

3. Disequilibrium syndrome

- Cause: shift of urea and / or electrolytes
- Signs and symptoms: Nausea and / or vomiting, altered mentation, or seizure

4. Bleeding

- These patients are often treated with heparin and they may have a low platelet count
- Bleeding may be at the catheter site, retro peritoneal, gastrointestinal, or subdural

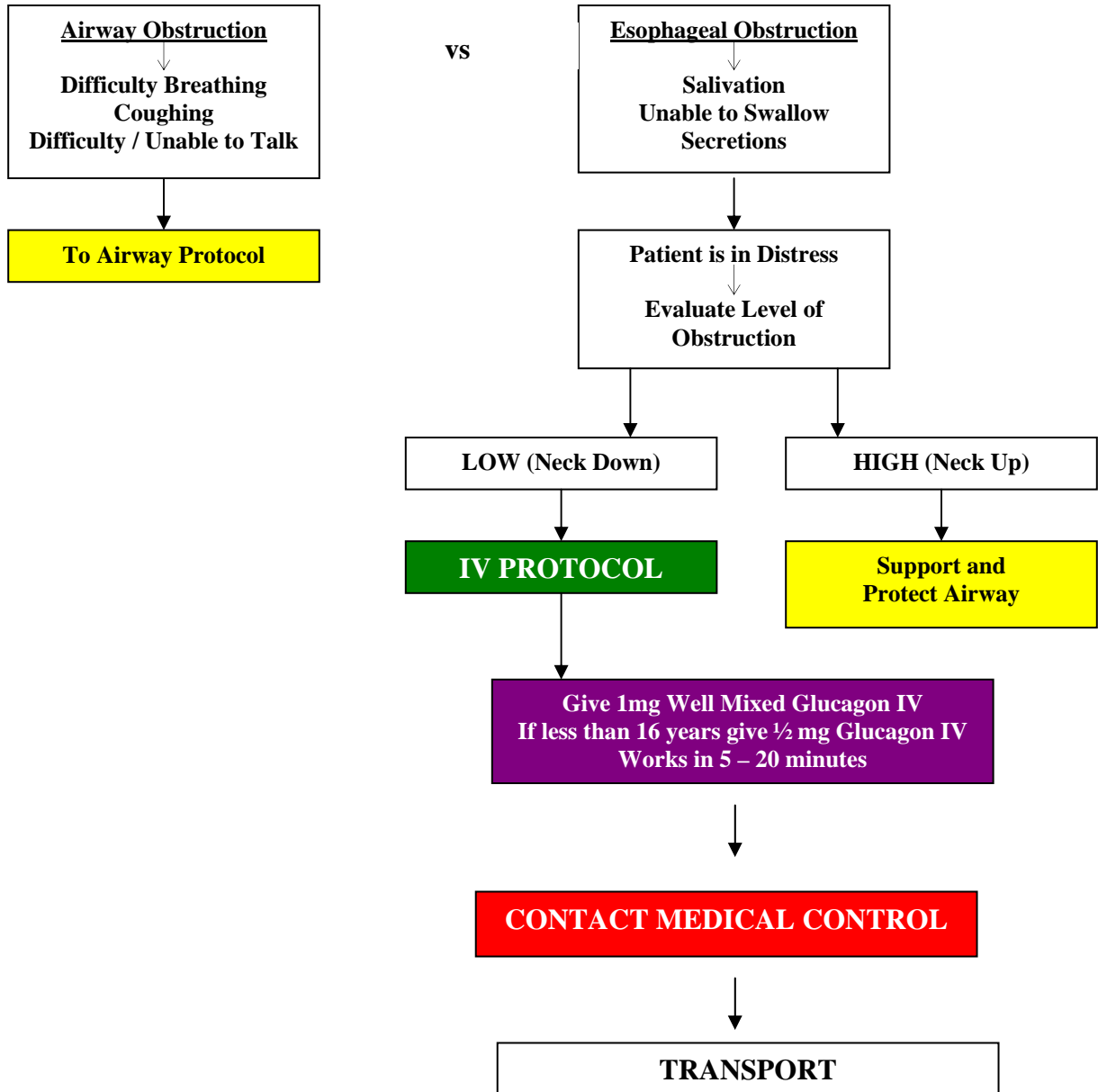
5. Equipment malfunctions

- Possible air embolus
- Possible fever or endotoxin
- Do not take blood pressure in arm that has the shunt. Use Shunt for IV access ONLY if Full Arrest.
- A dialysis patient may not respond to drug therapy. A renal patient in full cardiac arrest should be treated according to current ACLS guidelines. Also consider concurrent treatment as above for hyperkalemia.
- May only access patient's shunt if the patient is in full arrest or near full arrest. Notify Medical Control immediately.

ESOPHAGEAL FOREIGN BODY OBSTRUCTION

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M

UNIVERSAL PATIENT CARE PROTOCOL



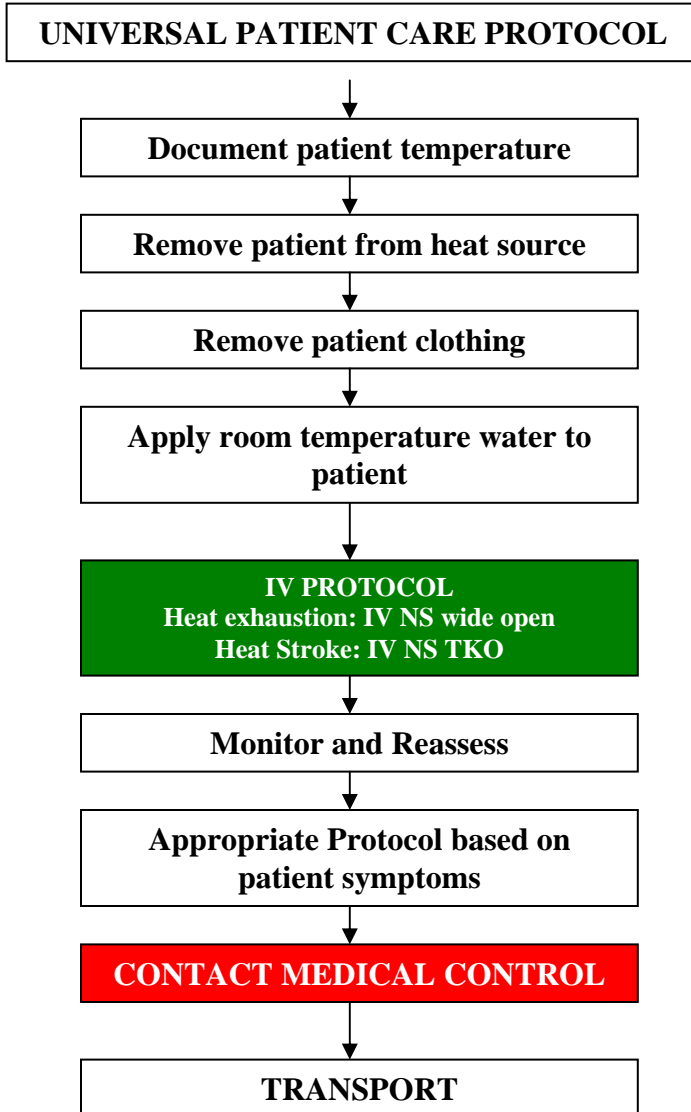
MEDICAL EMERGENCIES		
ESOPHAGEAL FOREIGN BODY OBSTRUCTION		
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> Onset during eating or swallowing pills, etc. 	<ul style="list-style-type: none"> Salivation Unable to swallow secretions Distressed patient Able to breathe but may feel impaired 	<ul style="list-style-type: none"> Airway obstruction – coughing, unable to speak, difficulty breathing

GENERAL CONSIDERATIONS:

- Rule out airway obstruction first.
- Patient may be helpful in identifying location of bolus obstruction as they can feel it, point to it.
- If bolus is located in neck area, glucagon will not work, just monitor and transport.
- If bolus located from neck down, proceed with glucagon treatment.
- Treat patients less than 16 years with ½ mg dose of glucagon.
- Glucagon affect will take from 5-20 minutes.

HEAT EXPOSURE

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M



MEDICAL EMERGENCIES		
HEAT EXPOSURE		
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Age • Exposure to increased temperatures and humidity • Past medical history / medications • Extreme exertion • Time and length of exposure • Poor PO intake • Fatigue and / or muscle cramping 	<ul style="list-style-type: none"> • Altered mental status or unconsciousness • Hot, dry or sweaty skin • Hypotension or shock • Seizures • Nausea 	<ul style="list-style-type: none"> • Fever (Infection) • Dehydration • Medications • Hyperthyroidism (Storm) • Delirium tremens (DT's) • Heat cramps • Heat exhaustion • Heat stroke • CNS lesions or tumors
Heat Exhaustion: Dehydration		Heat Stroke: Cerebral Edema
<ul style="list-style-type: none"> • Muscular / abdominal cramping • General weakness • Diaphoresis • Febrile • Confusion • Dry mouth / thirsty • Tachycardia • BP normal or orthostatic 		<ul style="list-style-type: none"> • Confusion • Bizarre behavior • Skin hot dry, febrile • Tachycardia • Hypotensive • Seizure • Coma

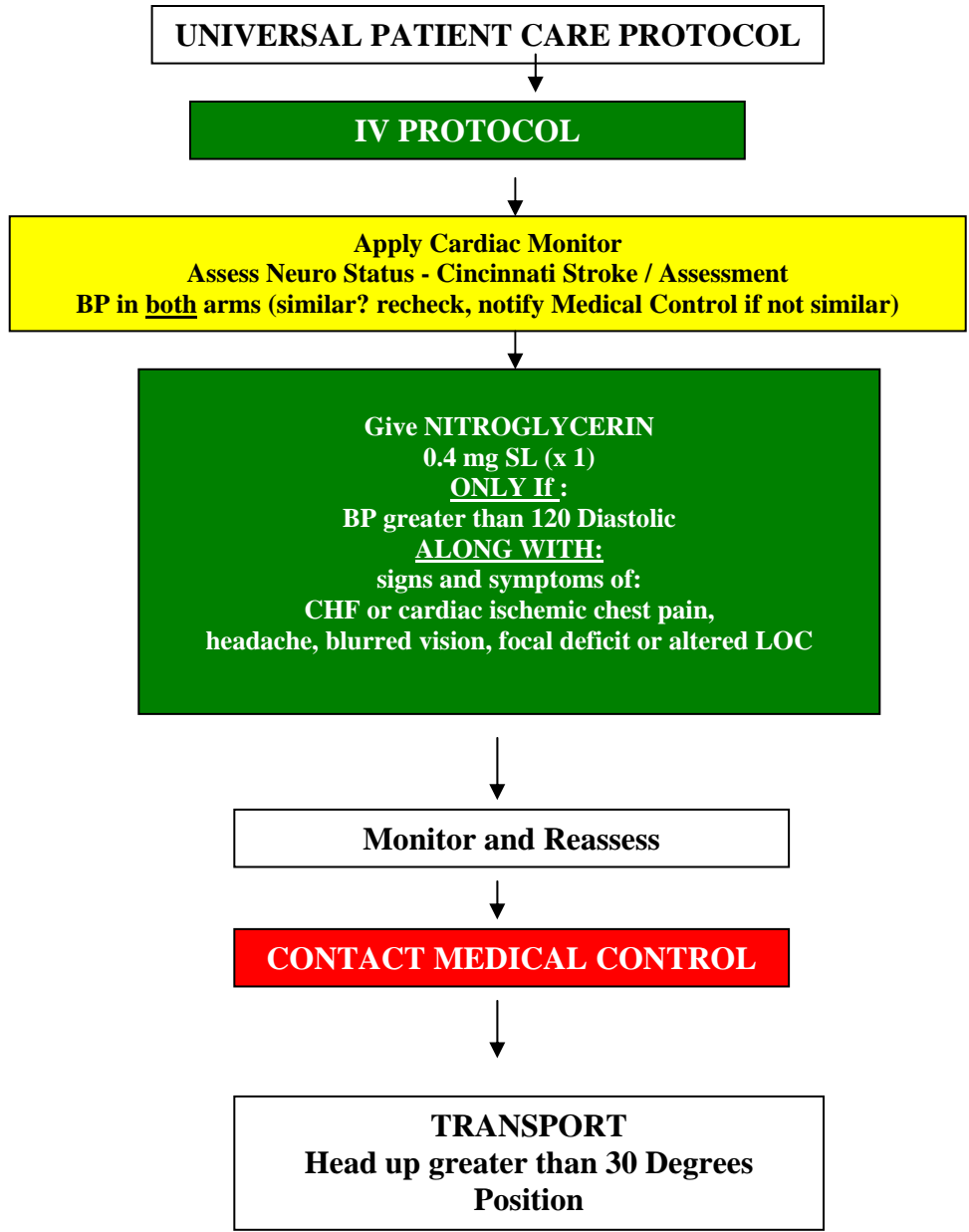
GENERAL CONSIDERATIONS:

- Exam: Mental Status, Skin, HEENT, Heart, Lungs, Neuro
- Extremes of age are more prone to heat emergencies (i.e. young and old).
- Predisposed by use of: tricyclic antidepressants, phenothiazines, anticholinergic medications, and alcohol.
- Cocaine, Amphetamines, and Salicylates may elevate body temperatures.
- Sweating generally disappears as body temperature rises above 104° F (40° C).
- Intense shivering may occur as patient is cooled.
- Heat Cramps consists of benign muscle cramping 2° to dehydration and is not associated with an elevated temperature.
- Heat Exhaustion consists of dehydration, salt depletion, dizziness, fever, mental status changes, headache, cramping, nausea and vomiting. Vital signs usually consist of tachycardia, hypotension, and an elevated temperature.
- Heat Stroke consists of dehydration, tachycardia, hypotension, temperature greater than 104° F (40° C), and an altered mental status.
- Patients at risk for heat emergencies include neonates, infants, geriatric patients, and patients with mental illness. Other contributory factors may include heart medications, diuretics, cold medications and/or psychiatric medications.
- Heat exposure can occur either due to increased environmental temperatures or prolonged exercise or a combination of both. Environments with temperature greater than 90°F and humidity greater than 60% present the most risk.
- Heat stroke occurs when the cooling mechanism of the body (sweating) ceases due to temperature overload and/or electrolyte imbalances. Be alert for cardiac dysrhythmias for the patient with heat stroke.
- Heat stroke may involve cerebral edema and increase intracranial pressure, therefore requiring less IV fluid.

MEDICAL EMERGENCIES

HYPERTENSIVE EMERGENCIES

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M



HYPERTENSIVE EMERGENCIES

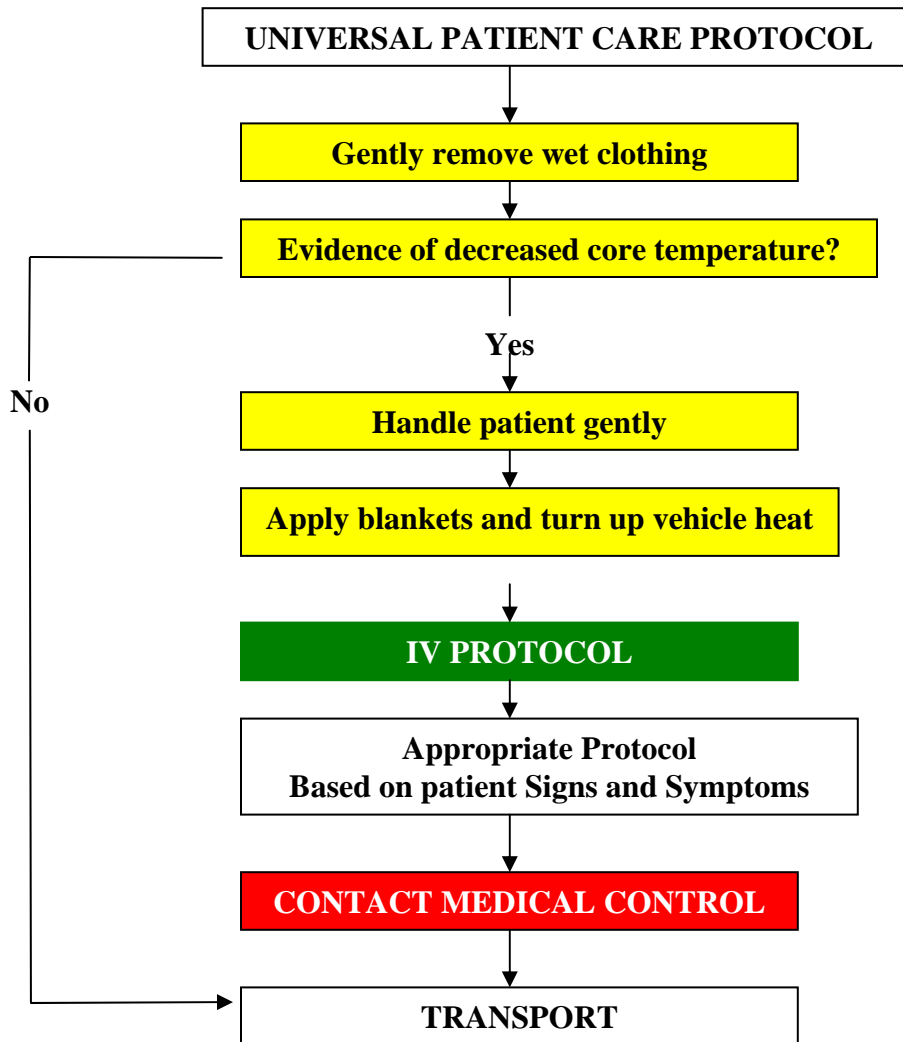
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Documented hypertension related diseases • Diabetes, CVA, Renal Failure, Cardiac • Medications (compliance) • Viagra • Pregnancy 	<ul style="list-style-type: none"> • Systolic BP 200 or greater • Diastolic BP 120 or greater • Along with at least one of these: headache, nosebleed, blurred vision, dizziness 	<ul style="list-style-type: none"> • Hypertensive Encephalopathy • Primary CNS Injury (Cushing's response = bradycardia with hypertension) • Myocardial infarction • Aortic dissection (aneurysm) • Pre-eclampsia / Eclampsia

GENERAL CONSIDERATIONS:

- Hypertensive emergencies are life-threatening emergencies characterized by an acute elevation in blood pressure AND end-organ damage to the cardiac, CNS or renal systems. These crisis situations may occur when patients have poorly controlled chronic hypertension.
- Pre-hospital treatment of hypertension is very conservative because a CVA in progress may be made worse by a drop in BP following aggressive hypertension treatment.
- Consider treatment ONLY if Diastolic is greater than 120 mm/Hg (repeat BP x 2), and patient has signs and symptoms of CHF or Cardiac Ischemic Chest Pain!
- Avoid Nitroglycerin in any patient who has used Viagra or similar drug in the past 48 hours due to potential severe hypotension.
- Nitroglycerin may be given to lower blood pressure in patients who have an elevated diastolic BP of greater than 120 and are symptomatic with chest pain, respiratory distress, syncope, headache or mental status changes.
- All symptomatic patients with hypertension should be transported with their head elevated.
- Evidence of neurological deficit includes: confusion, slurred speech, facial asymmetry and focal weakness, coma, lethargy, and seizure activity.
- Evidence of cardiac impairment includes: angina, jugular vein distention, chest discomfort and pulmonary edema.
- If the patient becomes hypotensive from Nitroglycerin administration, place the patient in the Trendelenburg position and administer a 200 - 400 mL Normal Saline bolus.
- Toxic ingestion such as cocaine, may present with a hypertension emergency.
- Hypertension can be a neuroprotective reflex in patients with increased intracranial pressure.

HYPOTHERMIA / FROSTBITE

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M



HYPOTHERMIA / FROSTBITE

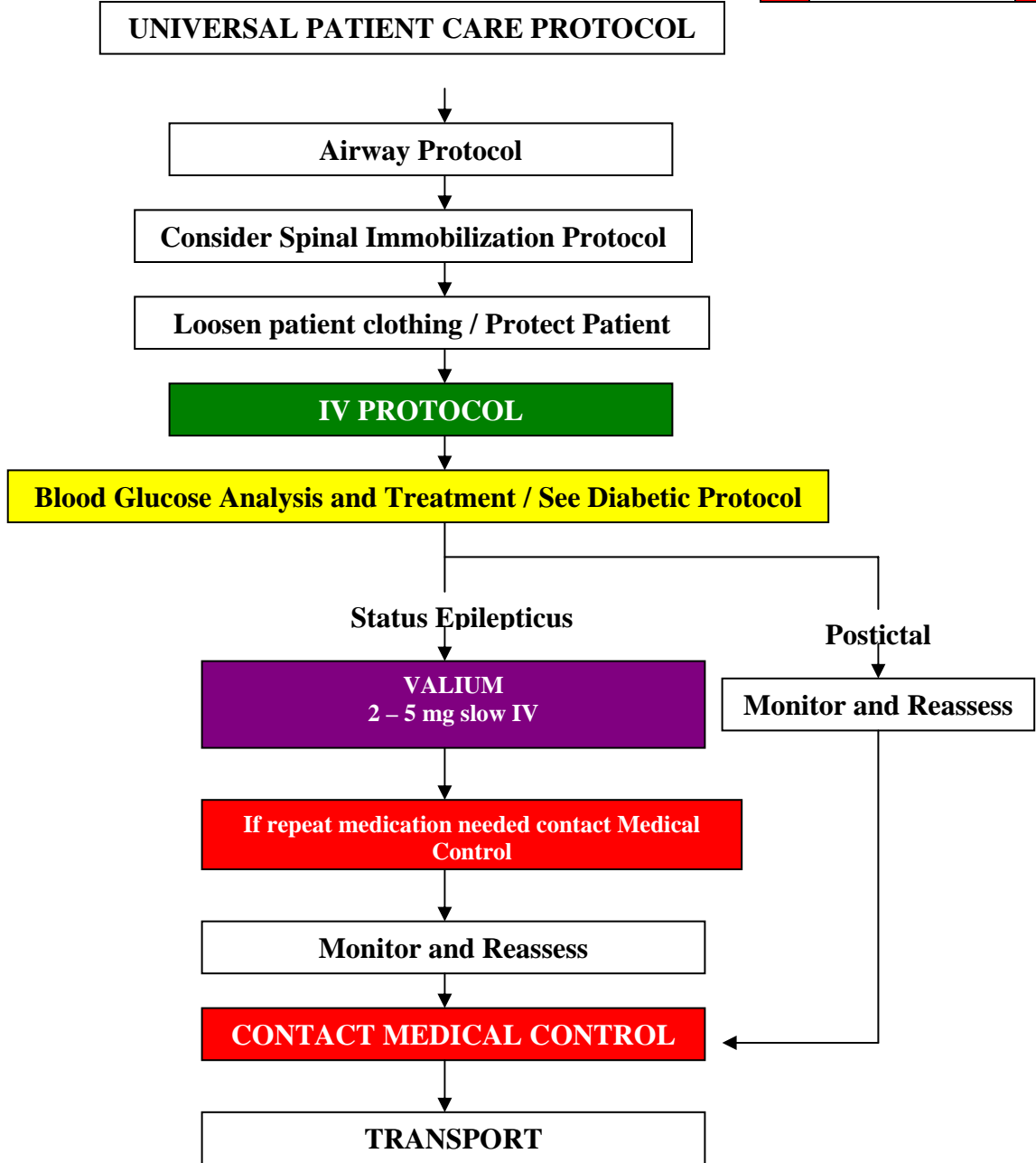
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Past medical history • Medications • Exposure to environment even in normal temperatures • Exposure to extreme cold • Extremes of age • Drug use: Alcohol, barbituates • Infections / Sepsis • Length of exposure / wetness 	<ul style="list-style-type: none"> • Cold, clammy • Shivering • Mental status changes • Extremity pain or sensory abnormality • Bradycardia • Hypotension or shock 	<ul style="list-style-type: none"> • Sepsis • Environmental exposure • Hypoglycemia • CNS dysfunction • Stroke • Head injury • Spinal cord injury

GENERAL CONSIDERATIONS:

- Exam: Mental Status, Heart, Lungs, Abdomen, Extremities, Neuro
- Hypothermic/drowning/near drowning patients that appear cold and dead are NOT dead until they are warm and dead, or have other signs of obvious death (putrification, traumatic injury unsustainable to life).
- Defined as core temperature less than 35° C (95° F).
- Extremes of age are more susceptible (i.e. young and old).
- Do not allow patients with frozen extremities to ambulate.
- Superficial frostbite can be treated by using the patient's own body heat.
- Do not attempt to rewarm deep frostbite unless there is an extreme delay in transport, and there is a no risk that the affected body part will be refrozen. Contact Medical Control prior to rewarming a deep frostbite injury.
- With temperature less than 31° C (88° F) ventricular fibrillation is common cause of death. Handling patients gently may prevent this (rarely responds to defibrillation).
- If the temperature is unable to be measured, treat the patient based on the suspected temperature.
- Hypothermia may produce severe bradycardia.
- Shivering stops below 32° C (90° F).
- Hot packs can be activated and placed in the armpit and groin area if available.
- Care should be taken not to place the packs directly against the patient's skin.
- Consider withholding CPR if patient has organized rhythm. Discuss with Medical Control.
- All hypothermic patients should have resuscitation performed until care is transferred, or if there are other signs of obvious death (putrification, traumatic injury unsustainable to life).
- Patients with low core temperatures will not respond to ALS drug interventions. Maintain warming procedure and supportive care. Warming procedures includes removing wet clothing, limiting exposure, and covering the patient with warm blankets if available.
- The most common mechanism of death in hypothermia is ventricular fibrillation. If the hypothermia victim is in ventricular fibrillation, CPR should be initiated. If V fib is not present, then all treatment and transport decisions should be tempered by the fact that V fib can be caused by rough handling, noxious stimuli or even minor mechanical disturbances. This means that respiratory support with 100% oxygen should be done gently, including intubation, avoiding hyperventilation.
- The heart is most likely to fibrillate between 85-88 degrees F (29-31 degrees C). Defibrillate VF / VT with one biphasic shock 120 or monophasic equivalent.

SEIZURES

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M



SEIZURES

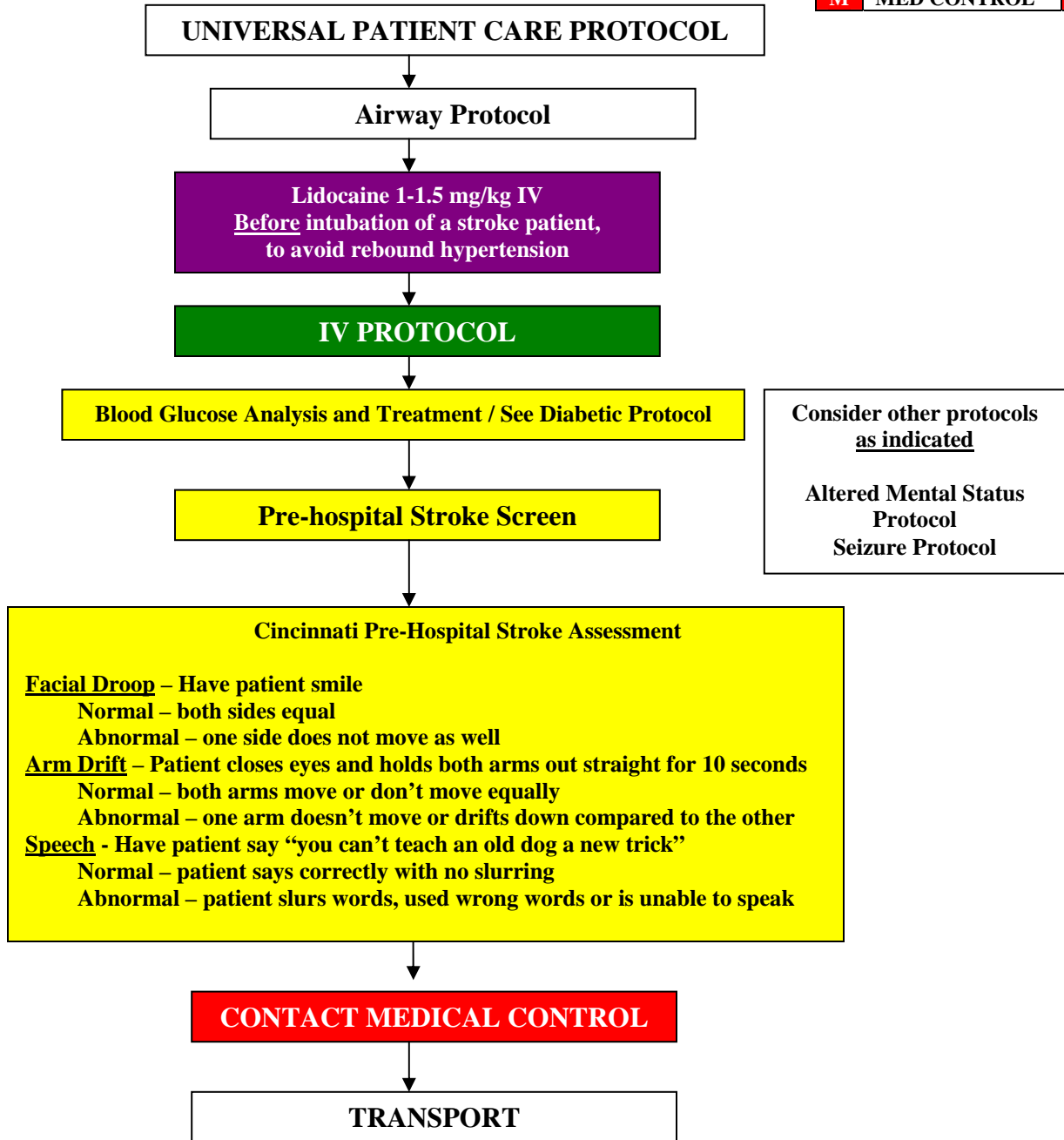
History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Reported / witnessed seizure activity • Previous seizure history • Medical alert tag information • Seizure medications • History of trauma • History of diabetes • History of pregnancy 	<ul style="list-style-type: none"> • Decreased mental status • Sleepiness • Incontinence • Observed seizure activity • Evidence of trauma 	<ul style="list-style-type: none"> • CNS (head) trauma • Tumor • Metabolic, Hepatic, or Renal failure • Hypoxia • Electrolyte abnormality (Na, Ca, Mg) • Drugs, Medications, Noncompliance • Infection / Fever • Alcohol withdrawal • Eclampsia • Stroke • Hyperthermia

GENERAL CONSIDERATIONS:

- Exam: Mental Status, HEENT, Heart, Lungs, Extremities, Neuro
- Status epilepticus is defined as two or more successive seizures without a period of consciousness or recovery. This is a true emergency requiring rapid airway control, treatment, and transport.
- Grand mal seizures (generalized) are associated with loss of consciousness, incontinence, and tongue trauma.
- Focal seizures (petit mal) effect only a part of the body and are not usually associated with a loss of consciousness.
- Jacksonian seizures are seizures which start as a focal seizure and become generalized.
- Be prepared for airway problems and continued seizures.
- Assess possibility of occult trauma and substance abuse.
- Be prepared to assist ventilations especially if Diazepam (Valium) is used.
- For any seizure in a pregnant patient, follow the OB Emergencies Protocol.
- Diazepam (Valium) is not effective when administered IM. It should be given IV or Rectally.
- The seizure has usually stopped by the time the EMS personnel arrive and the patient will be found in the postictal state.
- There are many causes for seizures including: epilepsy, head trauma, tumor, overdose, infection, hypoglycemia, and withdrawal. Be sure to consider these when doing your assessment.
- Routinely assess the patient's airway.
- If the patient is combative and postictal, DO NOT refer to the Restraint Procedure before assessing for / treating hypoglycemia and hypoxia.
- If the patient is actively seizing, move any objects that may injure the patient. Protect, but do not try to restrain them.

STROKE / CVA

B	EMT-B	B
I	EMT-I	I
P	EMT-P	P
M	MED CONTROL	M



STROKE/CVA

History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Previous CVA, TIA's • Previous cardiac / vascular surgery • Associated diseases: diabetes, hypertension • CAD • Atrial fibrillation • Medications (blood thinners) • History of trauma 	<ul style="list-style-type: none"> • Altered mental status • Weakness / Paralysis • Blindness or other sensory loss • Aphasia / Dysarthria • Syncope • Vertigo / Dizziness • Vomiting • Headache • Seizures • Respiratory pattern change • Hypertension / hypotension 	<ul style="list-style-type: none"> • See Altered Mental Status • TIA (Transient Ischemic Attack) • Seizure • Hypoglycemia • Stroke • Thrombotic • Embolic • Hemorrhagic • Tumor • Trauma

GENERAL CONSIDERATIONS:

- Exam: Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro
- Onset of symptoms is defined as the last witnessed time the patient was symptom free (i.e. awakening with stroke symptoms would be defined as an onset time of the previous night when patient was symptom free).
- The differential listed on the Altered Mental Status Protocol should also be considered.
- Elevated blood pressure is commonly present with stroke. Consider treatment if diastolic is greater than 120 mmHg and signs and symptoms of cardiac ischemic chest pain, or CHF are present.
- Be alert for airway problems (swallowing difficulty, vomiting). Suction and position head if necessary.
- Hypoglycemia can present as a localized neurological deficit, especially in the elderly.

CINCINNATI STROKE SCALE:

Facial Droop

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

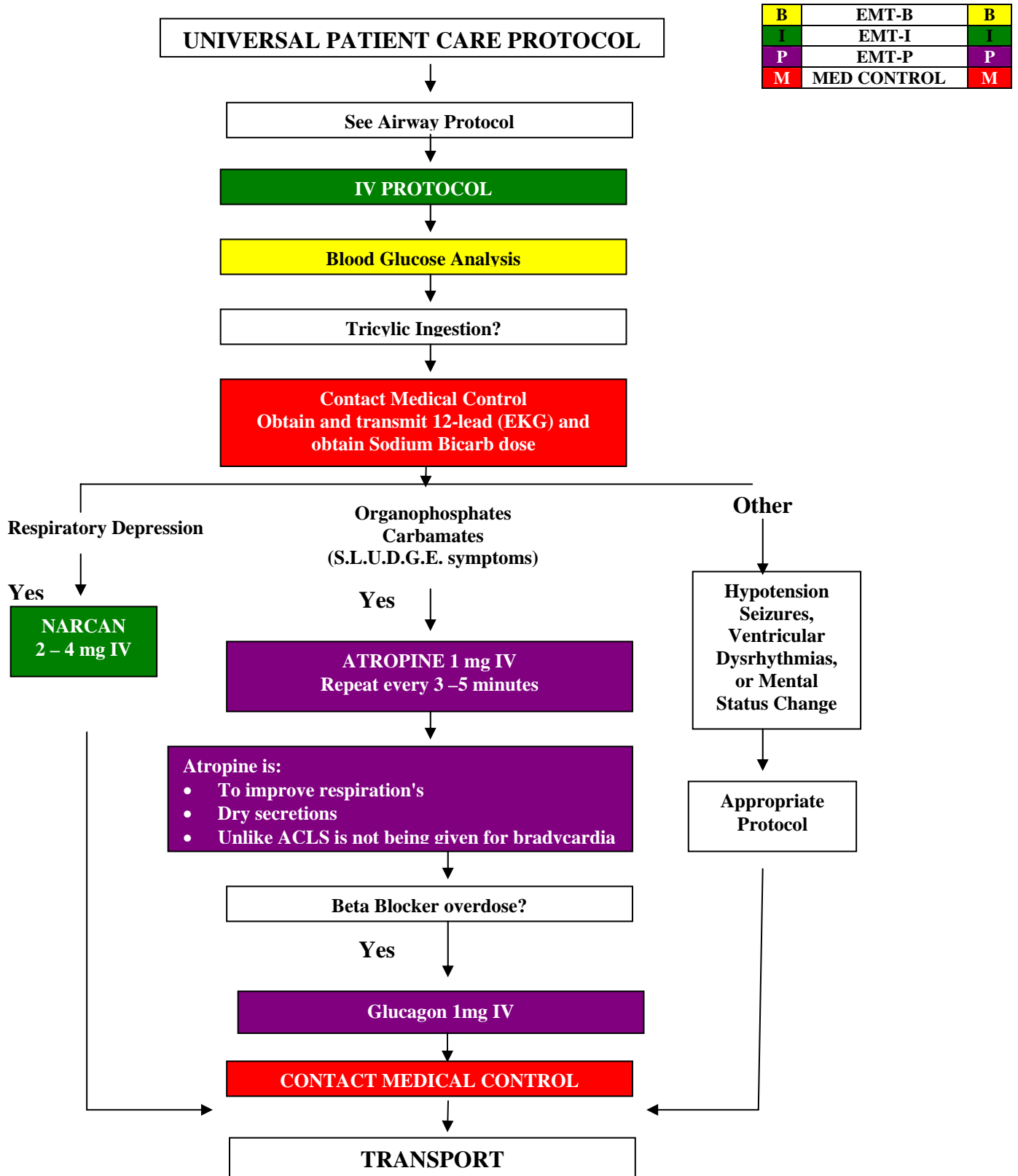
Arm Drift

- *Normal:* Both arms move equally or not at all
- *Abnormal:* One arm drifts more than the other

Speech

- *Normal:* Patient uses correct words with no slurring
- *Abnormal:* Slurred or inappropriate words, or mute
- Patients who experience Transient Ischemic Attack (TIA) develop most of the same signs and symptoms as those who are experiencing a stroke. The signs and symptoms of TIA's can last from minutes up to one day. Thus the patient may initially present with typical signs and symptoms of a stroke, but those findings may progressively resolve. The patient needs to be transported, without delay, to the most appropriate hospital for further evaluation.
- Hypertension in stroke patients routinely should not be treated in the pre-hospital setting. It is not uncommon for blood pressures to be as high as 220/140 and not require intervention. Nitroglycerin should not be used unless signs and symptoms consistent with AMI or APE are present.
- Document the time of onset for the symptoms, or the last time the patient was seen "normal" for them.
- Reassess neurological deficit every 10 minutes and document the findings.

TOXIC INGESTION / EXPOSURE / OVERDOSE



TOXIC INGESTION / EXPOSURE / OVERDOSE

History	Signs and Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> • Scene assessment / multiple victims with similar symptoms / do not enter without PPE • Ingestion or suspected ingestion of a potentially toxic substance • Substance ingested, route, quantity • Time of ingestion • Reason (suicidal, accidental, criminal) • Available medications in home • Past medical history, medications 	<ul style="list-style-type: none"> • Mental status changes • Hypo / Hypertension • Decreased respiratory rate • Tachycardia, dysrhythmias • Seizures 	<ul style="list-style-type: none"> • Tricyclic antidepressants (TCAs) • Acetaminophen (Tylenol) • Depressants • Stimulants • Anticholinergic • Cardiac medications • Solvents, Alcohols, cleaning agents • Insecticides (organophosphates) • Respiratory depression • Other Organophosphates • Carbamates

GENERAL CONSIDERATIONS:

- Exam: Mental Status, Skin, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro
- Do not rely on patient history of ingestion, especially in suicide attempts.
- Bring bottles, contents, and emesis to ED.
- **Tricyclic:** 4 major areas of toxicity: seizures, dysrhythmias, hypotension, decreased mental status or coma rapid progression from alert mental status to death.
- **Acetaminophen:** initially normal or nausea / vomiting. If not detected and treated, causes irreversible liver failure.
- **Depressants:** decreased HR, decreased BP, decreased temperature, decreased respirations, non-specific pupils.
- **Stimulants:** increased HR, increased BP, increased temperature, dilated pupils, seizures.
- **Anticholinergic:** increased HR, increased temperature, dilated pupils, mental status changes.
- **Cardiac Meds:** dysrhythmias and mental status changes.
- **Solvents:** nausea, vomiting, and mental status changes.
- **Insecticides:** increased or decreased HR, increased secretions, nausea, vomiting, diarrhea, pinpoint pupils.
- Consider restraints if necessary for patient's and/or personnel's protection per the Restraint Procedure.
- If it can be done safely, take whatever container the substance came from to the hospital along with readily obtainable samples of medication unless this results in an unreasonable delay of transport.
- If applicable, DO NOT transport a patient to the hospital until properly decontaminated.
- MARK 1 kits contain 2 mg of Atropine and 600 mg of pralidoxime in an autoinjector for self-administration or patient care. These kits may be available as part of the domestic preparedness for Weapons of Mass Destruction. They are for the use of first responders only.
- Activation of State Chem Pac protocol if indicated **CARBON MONOXIDE POISONING.**
- Patients that show signs and symptoms at lower CO levels include: pregnant females, infants, children and the elderly.
- Patients that demonstrate altered mental status may NOT sign refusals for treatment or transport.