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CARTRIDGE PROTOCOL # 3 - 01

ASYSTOLE

HISTORY
- Past medical history
- Medications
- Events leading to arrest
- End stage renal disease
- Estimated downtime
- Suspected hypothermia
- Suspected overdose
- DNR form

SIGNS AND SYMPTOMS
- Pulseless
- Apneic
- No electrical activity on EKG
- No auscultated heart tones

DIFFERENTIAL
- Medical or trauma
- Hypoxia
- Hypertension (hypo/hyper)
- Drug overdose
- Acidosis
- Hypothermia
- Device (lead) error
- Death

Universal Patient Care Protocol

Cardiac Arrest Protocol

Criteria for Death/No Resuscitation?

YES

STOP RESUSCITATION

F
F
B
I
I
P
M

Legend

FIRST RESPONDER
EMT-BASIC
EMT-INTERMEDIATE
PARAMEDIC
MEDICAL CONTROL

Contact Medical Control and Notify Destination

When IV/IO available
Epinephrine 1 mg IV/IO
Repeat every 3 – 5 minutes

Continue Epinephrine and CPR and address correctable causes

Criteria for Discontinuation/Withholding Resuscitation:
- Valid DNR order
- Rigor Mortis and/or Dependent Lividity
- Decapitation
- Incineration

PEARLS
- Recommended Exam: Mental Status
- Always confirm asystole in more than one lead
- Successful resuscitation of asystole requires the identification and correction of a cause. Causes of asystole include:
  - Acidosis
  - Tension Pneumothorax
  - Hypovolemia
  - Hypoglycemia
  - Hyperkalemia
  - Overdose (Narcotics, Tricyclic Anti-depressants, Calcium Channel Blockers, Beta Blockers)

TRINITY EMS SYSTEM PREHOSPITAL GUIDELINES 2012

2/2015
HISTORY
- Medications (Aminophylline, Diet pills, Thyroid supplements, Decongestants, Digoxin)
- Diet (caffeine, chocolate)
- Drugs (nicotine, cocaine)
- Past medical history
- History of palpitations/heart racing

SIGNS AND SYMPTOMS
- HR > 130/min
- QRS < .12 sec
- Dizziness, Chest pain, Shortness of breath
- Potential presenting rhythm
  - Sinus tachycardia
  - Atrial fibrillation/flutter
  - Multifocal atrial tachycardia
  - PSVT

DIFFERENTIAL
- Heart disease (WPW, Valvular)
- Sick sinus syndrome
- Myocardial Infarction
- Electrolyte imbalance
- Exertion, Pain, Emotional stress
- Fever
- Hypoxia
- Hypovolemia or Anemia
- Drug effect/Overdose
- Hyperthyroidism
- Pulmonary embolus

Unstable/Prearrest
Signs and Symptoms:
- Altered Mental Status
- Hypotension
- Chest Pain
- Syncope
- Pulmonary Edema

Universal Patient Care Protocol

IV Access Protocol

PEARLS
- Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro
- Adenosine may not be effective in identifying atrial fibrillation, but it is not harmful
- Monitor for respiratory depression and hypotension associated with Versed
- Continuous pulse oximetry is required for all atrial fibrillation patients
- Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention
CARDIAC PROTOCOL # 3 - 03

BRADYCARDIA

HISTORY
- Past medical history
- Medications
  - Beta blockers
  - Calcium channel blockers
  - Clonidine
  - Digoxin
- Pacemaker

SIGNS AND SYMPTOMS
- HR <60/min with hypotension, acute altered mental status, chest pain, acute CHF, seizures, syncope, or shock secondary to bradycardia
- Chest pain
- Respiratory distress
- Hypotension or shock
- Altered mental status
- Syncope

DIFFERENTIAL
- Acute myocardial infarction
- Hypoxia
- Pacemaker failure
- Hypothermia
- Sinus bradycardia
- Athletes
- Head injury (increased ICP) or stroke
- Spinal cord lesion
- Sick sinus syndrome
- AV blocks (1st, 2nd, 3rd)
- Overdose

PEARLS
- Recommended Exam: Mental Status, Neck, Heart, Lungs, Neuro
- The use of Lidocaine, Beta Blockers, and Calcium Channel Blockers in heart block can worsen bradycardia and lead to asystole and death
- Pharmacological treatment of bradycardia is based upon the presence or absence of symptoms. If symptomatic, treat. If asymptomatic, monitor the patient
- In wide complex, slow rhythm, consider hyperkalemia
- Remember: The use of Atropine for PVC’s in the presence of myocardial infarction may worsen heart damage
- Consider treatable causes for bradycardia: Beta Blocker overdose, Calcium Channel Blocker overdose, etc.
- Be sure to aggressively oxygenate the patient and support respiratory effort
**TRINITY EMS SYSTEM PREHOSPITAL GUIDELINES**

**CARDIAC ARREST**

**CARDIAC PROTOCOL # 3 - 04**

**HISTORY**
- Events leading to arrest
- Estimated downtime
- Past medical history
- Medications
- Existence of terminal illness
- Signs of lividity, rigor mortis
- DNR or Living Will

**SIGNS AND SYMPTOMS**
- Unresponsive
- Apneic
- Pulseless

**DIFFERENTIAL**
- Medical v. Trauma
- Vfib v. Pulseless Vtach
- Asystole
- Pulseless Electrical Activity (PEA)

**PEARLS**
- Recommended Exam: Mental Status
- Success is based on proper planning and execution. Procedures require space and patient access. Make room to work
- Reassess airway frequently and with every patient move
- Maternal arrest – Treat mother per appropriate protocol with immediate notification to Medical Control and rapid transport
- Adequate compressions with timely defibrillation are the keys to success

**SIGN AND SYMPTOMS**
- Unresponsive
- Apneic
- Pulseless

**DIFFERENTIAL**
- Medical v. Trauma
- Vfib v. Pulseless Vtach
- Asystole
- Pulseless Electrical Activity (PEA)

**SITUATION**
- Universal Patient Care Protocol

**CRITERIA FOR DEATH/NO RESUSCITATION?**
- NO
  - ILS/ALS Available?
    - NO
      - Criteria for Discontinuation/Withholding Resuscitation:
        - Valid DNR order
        - Rigor Mortis and/or Dependent Lividity
        - Decapitation
        - Incineration
    - YES
  - F
    - Begin CPR
    - Automated Defibrillation Procedure
    - Cardiac Monitor
    - Airway Protocol (Adult)
    - Go to appropriate protocol:
      - Ventricular Fibrillation/Pulseless Ventricular Tachycardia
      - Persistent Ventricular Fibrillation/Pulseless Ventricular Tachycardia
      - Asystole
      - Pediatric Pulseless Arrest

**LEGEND**
- F FIRST RESPONDER
- B EMT-BASIC
- I EMT-INTERMEDIATE
- P PARAMEDIC
- M MEDICAL CONTROL

**AT ANY TIME**
- Return of Spontaneous Circulation
  - Go to Post Resuscitation Protocol

**TRINITY EMS SYSTEM PREHOSPITAL GUIDELINES 2012**

2/2015
CHEST PAIN – CARDIAC AND STEMI
CARDIAC PROTOCOL # 3 - 05

HISTORY
- Age ≥ 35 years
- Medications: Viagra, Levitra, Cialis
- Past medical history (MI, Angina, Diabetes, post menopausal)
- Allergies (Aspirin, Morphine, Lidocaine)
- Recent physical exertion
- Palliation/Provocation
- Quality (crampy, sharp, dull, etc.)
- Region, Radiation, Referred
- Severity (1-10)
- Time (onset/duration/repetition)

SIGNES AND SYMPTOMS
- Chest pain (pain, pressure, aching, vice-like tightness)
- Location (substernal, epigastric, arm, jaw, neck, shoulder)
- Radiation of pain
- Pale, diaphoresis
- Shortness of breath
- Nausea, vomiting, dizziness
- Time of onset

DIFFERENTIAL
- Trauma v. Medical
- Angina v. Myocardial Infarction
- Pericarditis
- Pulmonary embolism
- Asthma/COPD
- Pneumothorax
- Aortic dissection/Aneurysm
- GE reflux or Hiatal hernia
- Esophageal spasm
- Chest wall injury or pain
- Pleural pain
- Overdose (cocaine) or methamphetamine

SIGNS AND SYMPTOMS
- Chest pain (pain, pressure, aching, vice-like tightness)
- Location (substernal, epigastric, arm, jaw, neck, shoulder)
- Radiation of pain
- Pale, diaphoresis
- Shortness of breath
- Nausea, vomiting, dizziness
- Time of onset

PEARS
- It is Trinity policy to withhold Nitroglycerin from patients <30 years old without a history of heart disease and SBP<180
- Recommended Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro
- Avoid Nitroglycerin in any patient who has used Viagra or Levitra in the past 24 hours or Cialis in the past 36 hours due to potential for severe hypotension
- Patients with STEMI (ST- elevation Myocardial Infarction) should be taken to the appropriate destination based on EMS System STEMI Plan
- If patient has taken nitroglycerin without relief, consider potency of medication
- Monitor for hypotension after administration of Nitroglycerin and narcotics (Morphine, Fentanyl) AND administer only for SBP > 100
- Nitroglycerin and narcotics may be repeated per dosing guidelines in Formulary
- Diabetics and geriatric patients often have atypical pain, or only generalized complaints
- Document the time of the 12-Lead EKG in the PCR as a Procedure along with the interpretation
Hypertension
Cardiac Protocol # 3 - 06

**HISTORY**
- Documented hypertension
- Related diseases: diabetes, CVA, renal failure, cardiac
- Medications (compliance?)
- Erectile dysfunction medication
- Pregnancy

**SIGNS AND SYMPTOMS**
- Systolic BP > 200
- Diastolic BP ≥ 110
- AND AT LEAST ONE OF THESE
  - Headache
  - Nosebleed
  - Blurred vision
  - Dizziness

**DIFFERENTIAL**
- Hypertensive encephalopathy
- Primary CNS injury (Cushing’s response = bradycardia with hypertension)
- Myocardial infarction
- Aortic dissection/Aneurysm
- Pre-eclampsia/Eclampsia

**PEARLS**
- Recommended Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro
- Avoid Nitroglycerin in any patient who has used Viagra or Levitra in the past 24 hours or Cialis in the past 36 hours due to potential severe hypotension
- Never treat elevated blood pressure based on one set of vital signs
- Nitroglycerin may be given to lower blood pressure in patients who have an elevated diastolic BP of ≥ 110 and are symptomatic with chest pain, respiratory distress, syncope, headache, or mental status changes
- Symptomatic hypertension is typically revealed through end organ damage to the cardiac, CNS, or renal systems
- All symptomatic patients with hypertension should be transported with head elevated

**LEGEND**
- F FIRST RESPONDER
- B EMT-BASIC
- I EMT-INTERMEDIATE
- P PARAMEDIC
- M MEDICAL CONTROL

**Universal Patient Care Protocol**
- Check BP in both arms

**If respiratory distress, consider Pulmonary Edema Protocol**

**Consider Chest Pain Protocol**
- Cardiac Monitor
- 12 Lead EKG

**Headache or mental status changes?**
- YES
  - IV Access Protocol
  - Nitroglycerin 0.4 mg SL* x 3 doses
  - Contact Medical Control and Notify Destination
- NO

**EMT-B may administer nitroglycerin SL if IV present**
- Consider ILS/ALS intercept early.
HYPOTENSION
CARDIAC PROTOCOL # 3 - 07

HISTORY
- Blood loss – vaginal or gastrointestinal bleeding, AAA, ectopic
- Fluid loss – vomiting, diarrhea, fever
- Infection
- Cardiac ischemia (MI, CHF)
- Medications
- Allergic reaction
- Pregnancy
- History of poor oral intake

SIGNS AND SYMPTOMS
- Restlessness, confusion
- Weak, rapid, pulse
- Pale, cool, clammy skin
- Delayed capillary refill
- Hypotension
- Coffee-ground emesis
- Tarry stools

DIFFERENTIAL
- Shock
  - Hypovolemic
  - Cardiogenic
  - Septic
  - Neurogenic
  - Anaphylactic
- Ectopic pregnancy
- Dysrhythmias
- Pulmonary embolus
- Tension pneumothorax
- Medication effect/overdose
- Vasovagal
- Physiologic (pregnancy)

SIGNS AND SYMPTOMS
- Restlessness, confusion
- Weak, rapid, pulse
- Pale, cool, clammy skin
- Delayed capillary refill
- Hypotension
- Coffee-ground emesis
- Tarry stools

Differential
- Shock
  - Hypovolemic
  - Cardiogenic
  - Septic
  - Neurogenic
  - Anaphylactic
- Ectopic pregnancy
- Dysrhythmias
- Pulmonary embolus
- Tension pneumothorax
- Medication effect/overdose
- Vasovagal
- Physiologic (pregnancy)

PEARLS
- Recommended Exam: Mental Status, Skin, Heart, Lungs, Abdomen, Back, Extremities, Neuro
- Hypotension can be defined as a systolic blood pressure of less than 90
- Consider performing orthostatic vital signs on patients in non-trauma situations if suspected blood or fluid loss
- Consider all possible causes of shock and treat per appropriate protocol
- For non-cardiac, non-trauma hypotension, Dopamine should only be started after 2 liters of NS have been given
HISTORY
- Non-traumatic cardiac arrests
- Drownings, hangings, and asphyxiation are permissible for this protocol

SIGNS AND SYMPTOMS
- Cardiac arrest
- Return of spontaneous circulation post cardiac-arrest

DIFFERENTIAL
- Continue to address specific differentials associated with the original dysrhythmia

RETURN OF SPONTANEOUS CIRCULATION

Criteria for Induced Hypothermia and initial temp >34°C

Advanced airway (ETT or BIAD) in place with ETCO2 >20mm Hg?

Perform Neuro Exam

Expose patient
Apply ice packs to Axilla, Groin, and Neck

Discontinue cooling measures

Go to Post Resuscitation Protocol

PEARLS
- Criteria for Induced Hypothermia:
  - Age ≥18 years
  - Arrest related to trauma, hemorrhage, drug overdose, stroke, or seizures are excluded
  - Temperature after ROSC greater than 34°C
  - Advanced airway in place with no purposeful response to pain, no eye opening or GCS <9
  - If no advanced airway can be obtained, cooling may only be initiated on order from Medical Control
  - Take care to protect patient modesty. Undergarments may remain in place during cooling
  - Do not delay transport to cool
  - Frequently monitor airway, especially after each patient move
  - Patients may develop metabolic alkalosis with cooling. Do not hyperventilate

CONTACT MEDICAL CONTROL AND NOTIFY DESTINATION
HISTORY
- Respiratory Arrest
- Cardiac Arrest

SIGN/SYMPTOMS
- Return of Spontaneous Circulation (ROSC)

DIFFERENTIAL
- Continue to address specific differentials associated with the original dysrhythmia

POST-RESUSCITATION CARDIAC PROTOCOL # 3 - 09

History
- Respiratory Arrest
- Cardiac Arrest

Signs/Symptoms
- Return of Spontaneous Circulation (ROSC)

Differential
- Continue to address specific differentials associated with the original dysrhythmia

Repeat Primary Assessment

Induced Hypothermia Protocol for Return of Spontaneous Circulation

Continue ventilatory support
- 100% oxygen
- Respiratory rate < 12
- DO NOT HYPERVENTILATE

Vital Signs
- Pulse Oximetry
- 12 Lead EKG
- IV Access Protocol
- Cardiac Monitor

If arrest reoccurs, revert to appropriate protocol and/or initial successful treatment

Hypotension
- Consider Normal Saline Bolus*
- Consider Dopamine 2 - 20 mcg/kg/min if hypotensive after fluid bolus

Tachyarrhythmia
- Wide-Complex Tachycardia Protocol

Bradycardia
- Bradycardia Protocol

Pearls
- Recommended Exam: Mental Status, Neck, Skin, Lungs, Heart, Abdomen, Extremities, Neuro
- If available, consider 1 L bolus infusion of chilled Normal Saline*
- Hyperventilation is a significant cause of hypotension and recurrence of cardiac arrest in the post resuscitation phase and must be avoided at all costs
- Most patients immediately post resuscitation will require ventilatory assistance
- The condition of post-resuscitation patients fluctuates rapidly and continuously; they require close monitoring
- Appropriate post-resuscitation management may best be planned in consultation with medical control
- Common causes of post-resuscitation hypotension include hyperventilation, hypovolemia, pneumothorax, and medication reaction to ACLS drugs
- Titrate Dopamine to maintain SBP>90. Ensure adequate fluid resuscitation is ongoing

Legend
- F: FIRST RESPONDER
- EMT-BASIC
- EMT-INTERMEDIATE
- PARAMEDIC
- MEDICAL CONTROL
CARDIAC PROTOCOL # 3 - 10

PULSELESS ELECTRICAL ACTIVITY

HISTORY
- Past medical history
- Medications
- Events leading to arrest
- End stage renal disease
- Estimated downtime
- Suspected hypothermia
- Suspected overdose
- DNR Form

SIGNS AND SYMPTOMS
- Pulseless
- Apneic
- Electrical activity on the EKG
- No heart tones on auscultation

DIFFERENTIAL
- Hypovolemia (Trauma, AAA, other)
- Cardiac tamponade
- Hypothermia
- Drug overdose
- Massive myocardial infarction
- Hypoxia
- Tension pneumothorax
- Pulmonary embolus
- Acidosis
- Hyperkalemia

PEARLS
- Recommended Exam: Mental Status
- Consider each possible cause listed in the differential. Survival is based on identifying and correcting the cause!
- Discussion with Medical Control can be a valuable tool in developing a differential diagnosis and identifying possible treatment options: consider 5 H’s and 5 T’s

TRINITY EMS SYSTEM PREHOSPITAL GUIDELINES 2012
TRINITY EMS SYSTEM PREHOSPITAL GUIDELINES

SUSPECTED STROKE
CARDIAC PROTOCOL # 3 - 11

HISTORY
✓ Known cardiovascular history
✓ Medications
✓ History of trauma
✓ Change in condition

SIGNS AND SYMPTOMS
✓ Decreased mental status or lethargy
✓ Change in baseline mental status
✓ Bizarre behavior
✓ Hemiparesis, hemiplegia
✓ Facial droop
✓ Slurred speech
✓ Confusion
✓ Aphasia

DIFFERENTIAL
✓ Head trauma
✓ CNS (stroke, tumor, seizure, infection
✓ Cardiac (MI, CHF)
✓ Diabetes (hypo/hyperglycemia)
✓ Toxicological or Ingestion
✓ Acidosis/Alkalosis
✓ Environmental Exposure
✓ Electrolyte Abnormality
✓ Mental Health disorder

PEARSLS
✓ Recommended Exam: Mental Status, HEENT, Skin, Heart, Lungs, Neuro, Extremities
✓ It is vital to determine Time Zero, the time the patient was last known to be neurologically normal
✓ Bring a family member or witness to confirm Time Zero
✓ Checking the glucose level is crucial
HISTORY
- Medications - aminophylline, diet pills, thyroid supplements, decongestants, digoxin
- Diet – caffeine, chocolate
- Drugs – nicotine, cocaine
- Past medical history
- History of palpitations/heart racing
- Syncope/near syncope

SIGNS AND SYMPTOMS
- HR >150/min
- QRS < .12 sec (if QRS > .12 sec, go to Wide-Complex Tachycardia protocol)
- If history of WPW, go to Wide-Complex Tachycardia protocol
- Dizziness, CP, SOB
- Potential presenting rhythm - Atrial/Sinus tachycardia
- Atrial fibrillation/flutter
- Multifocal atrial tachycardia

DIFFERENTIAL
- Heart disease (WPW, Valvular)
- Sick sinus syndrome
- Myocardial infarction
- Electrolyte imbalance
- Exertion, pain, emotional stress
- Fever
- Hypoxia
- Hypovolemia or Anemia
- Drug Effect/Overdose (see History)
- Hyperthyroidism
- Pulmonary Embolus

PEARLS
- Recommended Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro
- If patient has history of or if 12 Lead EKG reveals Wolfe-Parkinson-White (WPW), DO NOT administer a calcium channel blocker (e.g., Diltiazem) or Beta Blockers
- Adenosine may not be effective in identifying atrial flutter/fibrillation, yet is not harmful
- Monitor for hypotension after administration of calcium channel blockers or beta blockers
- Monitor for respiratory depression and hypotension associated with Midazolam
- Continuous pulse oximetry is required for all SVT patients
- Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention

LEGEND
- F FIRST RESPONDER
- B EMT-BASIC
- I EMT-INTERMEDIATE
- P PARAMEDIC
- M MEDICAL CONTROL

Universal Patient Care Protocol

STABLE

Unstable/Preearrest

Signs and Symptoms:
- Altered Mental Status
- Hypotension
- Chest Pain
- Syncope
- Pulmonary Edema

IV Access Protocol

B 12 Lead EKG

May attempt Valsalva’s or other vagal maneuver initially and after each drug administration if indicated

P Adenosine 6 mg, then 12 mg IV if needed

Contact Medical Control and Notify Destination

B 12 Lead EKG

P Adenosine 6 mg, then 12 mg IV if needed

P Synchronized Cardioversion 50-100 J

M Contact Medical Control and Notify Destination

12 Lead EKG

Fever

Hypoxia

Hypovolemia or Anemia

Drug Effect/Overdose (see History)

Hyperthyroidism

Pulmonary Embolus

Universal Patient Care Protocol

STABLE

Unstable/Preearrest

Signs and Symptoms:
- Altered Mental Status
- Hypotension
- Chest Pain
- Syncope
- Pulmonary Edema

IV Access Protocol

B 12 Lead EKG

May attempt Valsalva’s or other vagal maneuver initially and after each drug administration if indicated

P Adenosine 6 mg, then 12 mg IV if needed

Contact Medical Control and Notify Destination

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P Synchronized Cardioversion 50-100 J

M Contact Medical Control and Notify Destination

12 Lead EKG

Fever

Hypoxia

Hypovolemia or Anemia

Drug Effect/Overdose (see History)

Hyperthyroidism

Pulmonary Embolus

Universal Patient Care Protocol

STABLE

Unstable/Preearrest

Signs and Symptoms:
- Altered Mental Status
- Hypotension
- Chest Pain
- Syncope
- Pulmonary Edema

IV Access Protocol

B 12 Lead EKG

May attempt Valsalva’s or other vagal maneuver initially and after each drug administration if indicated

P Adenosine 6 mg, then 12 mg IV if needed

Contact Medical Control and Notify Destination

B 12 Lead EKG

P Adenosine 6 mg, then 12 mg IV if needed

P Synchronized Cardioversion 50-100 J

M Contact Medical Control and Notify Destination

12 Lead EKG

Fever

Hypoxia

Hypovolemia or Anemia

Drug Effect/Overdose (see History)

Hyperthyroidism

Pulmonary Embolus
TRINITY EMS SYSTEM PREHOSPITAL GUIDELINES

SYNCOPE
CARDIAC PROTOCOL # 3 - 13

HISTORY
- Cardiac history, stroke, seizure
- Occult blood loss (GI, ectopic)
- Females: LMP, vaginal bleeding
- Fluid loss: nausea, vomiting, diarrhea
- Past medical history
- Medications

SIGNS AND SYMPTOMS
- Loss of consciousness with recovery
- Lightheadedness, dizziness
- Palpitations, slow or rapid pulse
- Pulse irregularity
- Decreased pulse pressure

DIFFERENTIAL
- Vasovagal
- Orthostatic hypotension
- Cardiac syncope
- Micturition/Defecation
- Syncope
- Psychiatric
- Stroke
- Hypoglycemia
- Seizure
- Shock
- Toxicological (Alcohol)
- Medication effect (hypertension)

LEGEND
- F FIRST RESPONDER
- B EMT-BASIC
- I EMT-INTERMEDIATE
- P PARAMEDIC
- M MEDICAL CONTROL

Universal Patient Care Protocol

Spinal Immobilization Procedure

Check Blood Glucose

12 Lead EKG

Cardiac Monitor

IV Access Protocol

<60

Oral Glucose if awake and no risk of Aspiration

Glucagon 1 mg IM if no IV

AT ANY TIME
If relevant signs/symptoms found, go to appropriate protocol

ALTERED MENTAL STATUS
HYPOTENSION
CHEST PAIN
SUSPECTED STROKE

Contact Medical Control and Notify Destination

PEARLS
- Recommended Exam: Mental Status, Skin, HEENT, Heart, Lungs, Abdomen, Back, Extremities, Neuro
- Assess for signs and symptoms of trauma if associated or questionable fall with syncope
- Consider dysrhythmias, GI bleed, ectopic pregnancy, and seizure as possible causes of syncope
- These patients should be transported
- More than 25% of geriatric syncope is cardiac dysrhythmia based

TRINITY EMS SYSTEM PREHOSPITAL GUIDELINES 2012

2/2015
**Cardiac Arrest Protocol**

- **HISTORY**
  - Estimated down time
  - Past medical history
  - Medications
  - Events leading to arrest
  - Renal failure/dialysis
  - DNR or living will

- **SIGNS AND SYMPTOMS**
  - Unresponsive, apneic, pulseless
  - Ventricular fibrillation or ventricular tachycardia on EKG

- **DIFFERENTIAL**
  - Asystole
  - Artifact/Device failure
  - Cardiac
  - Endocrine/Metabolic
  - Drugs
  - Pulmonary

- **PEACEFUL**

**PEARLS**
- Recommended Exam: Mental Status
- Reassess and document endotracheal tube placement and ETCO2 frequently, after every move, and at transfer of care
- Calcium chloride and sodium bicarbonate if hyperkalemia is suspected (renal failure, dialysis)
- Treatment priorities: uninterrupted compressions, defibrillation, then IV access and airway control
- Polymorphic ventricular tachycardia (Torsades de Pointes) may benefit from administration of Magnesium Sulfate
- Do not stop CPR to check for placement of ET tube or to give medications
- If arrest not witnessed by EMS, then 5 cycles of CPR prior to first defibrillation
- Effective CPR and prompt defibrillation are the keys to successful resuscitation
- If BVM is ventilating the patient successfully, intubation should be deferred until rhythm change or 4 or 5 defibrillation sequences completed

**DEFIBRILLATE X1**
- After defibrillation, resume CPR without pulse check

**IV Access Protocol, consider IO Procedure first line**
- **Epinephrine 1 mg IV/IO**
  - Repeat every 3 – 5 minutes
  - After 5 cycles of CPR, check rhythm and pulse

- **Repeat Defibrillation**
  - After defibrillation, resume CPR without pulse check

**Amiodarone**
- 1st dose is 300 mg and may be repeated once at 150 mg

**Consider Sodium Bicarbonate**

- Establish a secondary circulatory access point
  - After 5 cycles of CPR, check rhythm and pulse

- **Repeat Defibrillation**
  - After Defibrillation, resume CPR without pulse check

**Consider Magnesium Sulfate 2 grams IV/IO**
- if rhythm is polymorphic

- **Repeat Defibrillation**
  - After Defibrillation, resume CPR without pulse check

**Consider Sodium Bicarbonate**

**Airway Protocol Adult**

**Repeat Defibrillation**
- After Defibrillation, resume CPR without pulse check

**Persistent V-fib/V-Tach Protocol**
TRINITY EMS SYSTEM PREHOSPITAL GUIDELINES

V-FIB/PULSELESS V-TACH (PERSISTENT)
CARDIAC PROTOCOL # 3 - 15

HISTORY
✓ Verified execution of resuscitation checklist

SIGNS AND SYMPTOMS
✓ Unresponsive, pulseless
✓ Persisted in ventricular fibrillation/tachycardia or returned to this rhythm post ROSC/other rhythm changes

DIFFERENTIAL
✓ Artifact/Device failure
✓ Cardiac
✓ Endocrine/Metabolic/Drugs
✓ Pulmonary

V-fib/V-tach Protocol complete and V-fib/V-tach still present?

NO

AT ANY TIME
Rhythm changes to non-shockable rhythm

GO TO APPROPRIATE PROTOCOL

YES

Lidocaine
1-1.5 mg/kg IV/IO

Apply new defib pads or new site

After 5 cycles of CPR, check rhythm and pulse

Repeat Defibrillation
Pause 5 secs max to check rhythm/pulse, resume CPR

Repeat Defibrillation
Pause 5 secs max to check rhythm/pulse, resume CPR

Max dose of Lidocaine reached?

YES

M
Contact Medical Control and Notify Destination

NO

AT ANY TIME
Return of Spontaneous Circulation

GO TO POST RESUSCITATION PROTOCOL

PEAIRLS
✓ Recurrent ventricular fibrillation/tachycardia is successfully broken by standard defibrillation techniques, but subsequently returns. It is managed by ongoing treatment of correctable causes and use of anti-arrhythmic medication therapies
✓ Refractory ventricular fibrillation/tachycardia is an arrhythmia not responsive to standard external defibrillation techniques. It is initially managed by treating correctable causes and antiarrhythmic medications.
✓ Prolonged cardiac arrests may lead to tired providers and decreased compression quality. Ensure compression rotation, summon additional resources as needed, and ensure provider rest and rehab during and post-event
✓ If available, automated CPR devices are encouraged for prolonged cardiac arrests