ADPH Alabama Department of Public Health

OEMST Office of EMS and Trauma

PATIENT CARE PROTOCOLS
EMT - BASIC

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CARDIAC ARREST 4.8

SPECIFIC INFORMATION:

A. History: Preceding symptoms, onset, and downtime without CPR.
B. Past History: Diseases, medications, and allergies.
C. Surrounding evidence of drug ingestion. Is there penetrating or blunt injury?
D. Appropriateness of resuscitative efforts: In unexpected or unwitnessed cardiovascular collapse, proceed with the protocol unless obvious signs of death are present (rigor, etc.). In all others, begin treatment, and then request further information from family members. OLMD may also be of assistance. (See Death In The Field Protocol)
E. Once resuscitative efforts have been initiated, they should be continued until arrival at the receiving hospital, or until a joint decision has been made with Medical Direction or the attending physician, that resuscitation should cease. (See Death In The Field Protocol)

PHYSICAL ASSESSMENT:

A. Determine presence of arrest.
   - Unresponsive
   - Absent or terminal respiration
   - Absent pulses over major arteries
B. If signs of penetrating torso injury are present with cardiopulmonary arrest, patient's only chance for survival is immediate transport.
   - Ventilate and transport rapidly to appropriate facility.
   - CHEST COMPRESSIONS ARE NOT INDICATED BEFORE TRANSPORT IN THESE CIRCUMSTANCES, IF THIS MEANS A DELAY IN IMMEDIATE TRANSPORT.
   - Once en route, contact OLMD to determine whether to continue resuscitative efforts (See Death In The Field Protocol).

TREATMENT

A. Initiate CPR.
B. If AED is available, attach AED and follow its directions.
C. If AED use is not successful or AED is not available, continue CPR until ALS arrival or until you get to the hospital.

CARDIAC SYMPTOMS/ACUTE CORONARY SYNDROME 4.9

NOTE: This protocol is for adults. Contact OLMD for suspected cardiac symptoms or chest pain in pediatric patients (age 15 years or less).

SPECIFIC INFORMATION:

A. "Discomfort," pressure, pain: Place, Quality, Radiation, Severity, and Time began (PQRST).
B. Associated symptoms: Nausea, vomiting, diaphoresis, and shortness of breath, usually not pleuritic.
C. Past History: Cardiac or pulmonary events; medications; medication allergies, or syncopal episodes.
D. Risk Factors: Determine family history, smoking, obesity, age, and related diseases.

PHYSICAL ASSESSMENT:

A. General appearance.
B. Vital signs should be obtained and recorded not less than every 10 minutes. Symmetry of pulses should be recorded at least once.
C. Observe for neck vein distention and peripheral edema, and if present, suspect Congestive Heart Failure.
D. Breath and chest sounds: rales (crackles), rhonchi, wheezes, and if present, suspect Congestive Heart Failure.
E. Chest wall tenderness does not rule out cardiac ischemia.
F. Examine abdomen.

TREATMENT:

A. Reassure and place patient at rest in position of comfort.
B. Airway - maintain patency
C. Breathing - Oxygen as needed to maintain oxygen saturation (pulse oximeter) reading of >95%.
D. Circulation - monitor for shock. Obtain a 12-lead ECG if AED is capable. If your AED is capable of recording a 12-lead ECG, it should be transmitted to the receiving hospital in advance of patient arrival unless transmission is not possible, in which case the 12-lead ECG should be delivered with the patient.
E. You may assist patient in administration of his/her own nitroglycerin.
F. Provide four chewable baby aspirin if the patient can swallow.
   Contraindications to administration of Aspirin:
   - An Allergy to aspirin.
   - Current G.I. Bleeding.
   - Already received 324 mg or more of aspirin (not just 81 mg) in last 24 hours.
G. If cardiogenic shock syndrome presents in patients with chest pain—go to Shock Protocol.
H. Continue monitoring cardiac, vitals, etc., and record during transport.
I. Complete the thrombolytic check list (Section 7 Forms 7.1) during transport.

SPECIFIC PRECAUTIONS:

A. Contact OLMD for suspected cardiac symptoms or chest pain in pediatric patients.

B. Suspicion of cardiac disease causing chest pain or discomfort is based on history obtained. Since time to thrombolytics is critical, minimize scene times when possible. Most interventions and treatments should be performed en route.
C. You should have a high index of suspicion for women, diabetics, and all adult medical patients over the age of 50 years who have any symptoms that might be from coronary artery disease.
D. You should perform an ECG on all adults who complain of epigastric discomfort (If you have the capability).
E. Nitroglycerin may cause hypotension in patients taking medication for erectile dysfunction.

NOTE:
By June 2013 all ALS services must have the ability to obtain 12-lead ECGs. Though not required, BLS services are encouraged to obtain the equipment to perform ECGs.

1. Follow General Patient Care Protocol 4.1.
2. Be sure you are using appropriate standard precautions.
    a. If Dispatch advises you of the potential for acute febrile respiratory illness symptoms on scene, you should don PPE for suspected cases of influenza prior to entering scene (disposable N-95 mask, eye protection [shield or goggles], and disposable non-sterile gloves). Disposable non-sterile gown is optional depending on the situation (follow guidance of service medical director).
    b. If Dispatch has not identified individuals with symptoms of acute febrile respiratory illness on scene, you should stay more than six (6) feet away from patient and bystanders with symptoms and exercise appropriate routine respiratory droplet precautions while assessing all patients for suspected cases of influenza. If patient has signs or symptoms of influenza or acute febrile respiratory illness, you should don the PPE described in a. above before coming into close contact with the patient.
3. Signs and Symptoms of Influenza
    a. Rapid onset of symptoms
    b. Difficulty breathing with exertion
    c. Doctor has already diagnosed influenza
    d. Cough
    e. Fever
    f. Shaking Chills
    g. Pleuritic chest pain
    h. Sore throat (no difficulty breathing or swallowing)
    i. Nasal congestion
    j. Runny nose
    k. Muscle aches
    l. Headache
4. All EMS personnel engaged in aerosol generating activities (e.g. bag-mask ventilation) should wear the PPE described in 2.a.
5. All patients with acute febrile respiratory illness should wear a surgical mask, if tolerated by the patient.
6. Encourage good patient compartment vehicle airflow/ventilation (turn on exhaust fan) to reduce the concentration of aerosol accumulation when possible.

TRANSPORT OF PATIENTS TO HEALTHCARE FACILITIES

When transporting a patient with symptoms of acute febrile respiratory illness, you should notify the receiving healthcare facility so that appropriate infection control precautions may be taken prior to patient arrival. Patients with febrile respiratory illness should wear a surgical mask, if tolerated.

INTERFACILITY TRANSPORT

EMS personnel involved in the transfer of patients with confirmed influenza or suspected infectious respiratory illness should use standard droplet and contact precautions for all patient care activities. This should include wearing disposable N-95 mask, eye protection [shield or goggles], disposable non-sterile gloves and gown. If the transported patient can tolerate a surgical mask, its use can help to minimize the spread of infectious droplets in the patient care compartment. Encourage good patient compartment vehicle airflow/ventilation (turn on exhaust fan) to reduce the concentration of aerosol accumulation when possible. Any nonessential equipment that can be removed from the patient compartment of the ambulance before transport will hasten the time needed to disinfect and return to service.

CLEANING EMS TRANSPORT VEHICLES AFTER TRANSPORTING A SUSPECTED OR CONFIRMED INFLUENZA PATIENT

After the patient has been removed and prior to cleaning, the air within the vehicle may be exhausted by opening the doors and windows of the vehicle while the ventilation system is running. This should be done outdoors and away from pedestrian traffic. Routine cleaning methods should be employed throughout the vehicle and on non-disposable equipment.

Routine cleaning with soap or detergent and water to remove soil and organic matter, followed by the proper use of disinfectants, are the basic components of effective environmental management of influenza. Reducing the number of influenza virus particles on a surface through these steps can reduce the chance of hand transfer of virus particles. Influenza viruses are susceptible to inactivation by a number of chemical disinfectants readily available from consumer and commercial sources.

RESPIRATORY ILLNESS/INFLUENZA MASS CASUALTY EMERGENCY 4.25

This protocol is designed to be implemented only when there is a significant respiratory disease that has impacted the health care system to the extent that hospital beds are full, few or no ventilators are available for new patients with respiratory failure, the EMS/Dispatch work force is significantly depleted due to absenteeism, and the calls for EMS support overwhelm resources to manage all calls. When the Governor proclaims a state of emergency, the Alabama Public Health Department (ADPH) Office of EMS & Trauma (OEMS&T) will activate this protocol to provide authorization for the adjustment in the prehospital standard of care. Depending upon the Governor's proclamation, ADPH OEMS&T may activate this protocol statewide or on a regional or local basis.

ON-SCENE PROTOCOL
PATIENTS WITH ACUTE FEBRILE RESPIRATORY ILLNESS

7. Follow General Patient Care Protocol 4.1.
8. Be sure you are using appropriate standard precautions.
    a. If Dispatch advises you of the potential for acute febrile respiratory illness symptoms on scene, you should don PPE for suspected cases of influenza prior to entering scene (disposable N-95 mask [or surgical mask if N-95 masks are unobtainable], eye protection [shield or goggles], and disposable non-sterile gloves). Disposable non-sterile gown is optional depending on the situation (follow guidance of service medical director).
    b. If Dispatch has not identified individuals with symptoms of acute febrile respiratory illness on scene, you should stay more than six (6) feet away from patient and bystanders with symptoms and exercise appropriate routine respiratory droplet precautions while assessing all patients for suspected cases of influenza (3 below). If patient has signs or symptoms of influenza or acute febrile respiratory illness, you should don the PPE described in a. above before coming into close contact with the patient.
9. Signs and Symptoms of Influenza
    a. Rapid onset of symptoms
    b. Difficulty breathing with exertion
    c. Doctor has already diagnosed influenza
    d. Cough
    e. Fever
    f. Shaking Chills
    g. Pleuritic chest pain
    h. Sore throat (no difficulty breathing or swallowing)
    i. Nasal congestion
    j. Runny nose
    k. Muscle aches
    l. Headache

10. If patient has critical vital signs, immediately transport to Emergency Department

a. Critical Vital Signs: Adult

If present, immediately transport to an Emergency Department

i. Pulse: equal or greater than 130 beats per minute
ii. Respiratory Rate: equal or greater than 30 breaths per minute
iii. Systolic Blood Pressure: Less than 90 mm/Hg
iv. Pulse Oximeter: Less than 92 on room air
v. Temperature: Febrile
vi. Level of Consciousness: Responds only to Pain or is Unresponsive
vii. Lung sounds: Rales or Wheezing

b. Critical Vital Signs: Pediatric:

If present, immediately transport to Emergency Department

Vital Signs	Neonates	Infants	Children
Capillary refill:	> 2 seconds	> 2 seconds	> 2 seconds
Resp. rate:	<30 or >45 or increased work of breathing	<20 or >45 or increased work of breathing	<15 or >45 or increased work of breathing
Systolic Blood pressure	< 60 mmHg	< 70 mmHg	Under age 10 < 70 + (2 X age in years)
Pulse Oximeter	< 92 on room air	< 92 on room air	< 92 on room air
Temperature	Febrile	Febrile	Febrile
Level of Consciousness	responds only to pain or is unresponsive	responds only to pain or is unresponsive	responds only to pain or is unresponsive
Lung sounds	Rales or Wheezing	Rales or Wheezing	Rales or Wheezing

11. If patient has "normal" vital signs, then evaluate for signs and symptoms of influenza.

a. "Normal" Vital Signs Adult with respiratory illness

a. Pulse: Less than 130 beats per minute
b. Respiratory Rate: Less than 30 breaths per minute
c. Systolic Blood Pressure: equal or greater than 91 mmHg
d. Pulse Oximeter equal or greater than 92
e. Temperature: Afebrile
f. Level of Consciousness: Alert or responds to verbal stimuli
g. Lung sounds: Clear

b. "Normal" Vital Signs Pediatric Patient with Respiratory Illness

Vital Signs	Neonates	Infants	Children
Capillary refill:	≤ 2 seconds	≤ 2 seconds	≤ 2 seconds
Unlabored breathing or resp. rate:	30-45	20-45	15-45
Systolic Blood pressure	≥ 60 mmHg	≥ 70 mmHg	Under age 10 ≥ 70 + (2 X age in years)
Pulse Oximeter	≥ 92	≥ 92	≥ 92
Temperature	Afebrile	Afebrile	Afebrile
Level of Consciousness	Alert or responds to verbal stimuli	Alert or responds to verbal stimuli	Alert
Lung sounds	Clear	Clear	Clear

12. If patient has three (3) or more signs or symptoms of influenza, transport patient to alternate care facility (if available).
13. If patient has two (2) or fewer signs or symptoms of influenza, call On-line Medical Direction (OLMD) to determine if patient may be left on-scene, self quarantine, and refer to nurse/public health hotline (insert phone number here) for further assistance.
14. Because of the danger of EMS personnel becoming infected, aerosol-generating procedures such as use of bag-mask should not be performed on patients with acute febrile respiratory illness except by direct order of the OLMD physician (Cat. B).
15. If OLMD orders use of bag-mask on a patient with acute febrile respiratory illness, EMS personnel must be in PPE as described in 2.a above.
16. All patients with acute febrile respiratory illness should wear a surgical mask, if tolerated by the patient.
17. Encourage good patient compartment vehicle airflow/ventilation (turn on exhaust fan) to reduce the concentration of aerosol accumulation when possible.

TRANSPORT OF PATIENTS TO HEALTHCARE FACILITIES

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STROKE 4.28

This protocol is for patients who have an ACUTE episode of neurological deficit without any evidence of trauma. If patient has altered mental status, consider other causes such as hypoxia, hypoperfusion, hypoglycemia, trauma, or overdose.

SPECIFIC INFORMATION NEEDED

A. Last (clock) time patient was seen normal. Determination of time of symptom onset is critical as treatment for stroke can be time dependent.
B. Did the patient have a previous neurologic deficit?
C. Does the patient have stroke risk factors (i.e., hypertension, diabetes, heart disease, smoking, dysrhythmias, coumadin or heparin use, or previous stroke)?
D. Has the patient had any recent similar events?
E. Medic Alert tags?

PHYSICAL ASSESSMENT

A. Vital signs: Glasgow Coma Scale Score.
B. Rapid physical exam

Perform FAST stroke scale (Face, Arm, Speech, Time):

1. **Face:** Assess for facial droop: have the patient show teeth or smile
   - Normal – both sides of face move equally
   - Abnormal – one side of face does not move as well as the other side
2. **Arm**: Assess for arm drift: have the patient close eyes and hold both arms straight out; with palms up, for 10 seconds
   - Normal – both arms move the same *or* both arms do not move at all
   - Abnormal – one arm does not move or one arm drifts down compared to the other
3. **Speech**: Assess for abnormal speech: have the patient say "you can't teach an old dog new tricks"
   - Normal – patient uses correct words with no slurring
   - Abnormal – patient slurs words, uses the wrong words, or is unable to speak
4. **Time**: If any of above are positive, attempt to determine the time of symptom onset (clock time).

NOTE: THERE IS NO SCORE, if 1, 2, or 3 are abnormal, the probability of a stroke is 72%.

TREATMENT:

A. Airway - ensure patency
B. Breathing - Oxygen 12-15 L/M, by non-rebreather mask. Assist ventilations with bag-valve-mask if necessary. Pulse oximeter to maintain oxygen saturation >95%.
C. Circulation - attach cardiac monitor, perform 12 lead ECG if available.
D. Keep patient NPO
E. Utilize blood glucometer to determine blood sugar level: If <70 in adults, or **<60 in children** transport immediately. Consider ALS intercept (if available and will speed time to ALS care).
F. Transport with frequent monitoring of neurological function.
G. If possible, bring a knowledgeable friend or family member with the patient.
H. Complete the stroke checklist on the patient.
I. Contact receiving hospital with patient report as soon as possible during transport.

VOMITING OR NAUSEA 4.32

SPECIFIC INFORMATION NEEDED:

A. When did symptoms begin?
B. Is the patient nauseated?
C. If vomiting, is the cause known?
D. Has the patient ingested any potential poison or spoiled food?
E. Has there been blood or material like coffee grounds in the vomitus?
F. Has the patient also had diarrhea?
G. If female of child-bearing age, is the patient pregnant?
H. Are there any associated symptoms (such as abdominal pain)?
I. Does the patient have a head injury or severe headache?
J. If headache, is there a history of migraine headaches?

PHYSICAL ASSESSMENT:

A. Vital signs (are there signs of shock)?
B. Skin: Are there signs of dehydration (poor skin turgor, dry mucous membranes)?
C. Is jaundice present?
D. Head: Any sign of head trauma?
E. Abdomen: Tenderness, rebound tenderness, guarding, rigidity, bowel sounds, and distention.
F. Neurologic exam: LOC, pupils, and focal findings?

TREATMENT

Apply wet towel (water or saline) to forehead.