Protocol
M-10

SECTION: M-10

PROTOCOL TITLE: ADULT ALLERGIC/ANAPHYLAXIS

REVISED: November 1, 2017

ADULT ALLERGY/ANAPHYLAXIS

GENERAL COMMENTS: This protocol covers allergic, anaphylactic, and anaphylactoid reactions of all severities.

BLS SPECIFIC CARE: *See adult General Medical Care Protocol M-1*

Epi Pen Protocol (If optional Module not completed)

- Confirm prior to administration
    - Is Epi-Pen indicated : is the patient an adult in anaphylaxis with distress? (Right Patient?)
    - Is it an Epi-Pen of the correct dose (Right Dose?)
        - Epi-Pen Adult: 0.3 mg
        - Epi-Pen Junior: 0.15 mg
    - Is the Epi-Pen an intramuscular (IM) auto injector (Right Route?)
    - Is the Epi-Pen expired?
    - What is the medication's appearance?
        - It should be clear and colorless
- Re-evaluate patient's sign and symptoms every 5 minutes following administration
- Evaluate for presence adverse effects of epinephrine.
    - Chest pain
    - Headache
    - Palpitations
    - Anxiety/tremors
- Repeat in 10 minutes if no improvement

If signs of bronchospasm are present:

- Assist the patient with his prescribed "rescue inhaler." Use a spacer if the patient is prescribed one and has it available
        - Assisted Inhaler: 2 puffs or a specific number of puffs as prescribed by patient's MD
        - Repeat every 5-10 minutes or as prescribed by patient's MD
        - Hold for HR >150/min
- As an alternative, the patient may be allowed to use his/her own nebulized medication. The QRU will offer to hook up oxygen in lieu of a room air "condenser" and run at 6-8 lpm with the patient's hand held nebulizer (HHN). The patient must prepare it him/herself

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ADULT ALLERGY/ANAPHYLAXIS

AEMT/O.M. SPECIFIC CARE: *See adult General Medical Care Protocol M-1*

- Treat hypotension aggressively with IV crystalloid up to max of 1000 cc. Hold for s/s of CHF/pulmonary edema or CHF History

Sympathomimetic

- Epinephrine 1:1000
  - IM: 0.3-0.5 mg
  - Repeat x 1 in 10 minutes if s/s do not significantly improve

Bronchodilators

- Nebulizer Treatment
  - Albuterol 2.5 mg (0.83% in 3 cc)
  - Ipratropium Bromide (Atrovent) 0.5 mg (0.02% in 2.5 cc)
  - May repeat as needed using Albuterol only. May use equivalent solutions of above medications such as *DuoNeb* as available
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ALS SPECIFIC CARE: *See adult General Medical Care Protocol M-1*

IV Fluid Resuscitation

- Treat hypotension aggressively with IV crystalloid PRN. Hold for s/s of CHF/pulmonary edema or CHF History

Sympathomimetic

- Epinephrine 1:1000
  - IM: 0.3-0.5 mg
  - Repeat x 1 in 10 minutes if s/s do not significantly improve
- Epinephrine Infusion for persistent hypotension (<80 mm Hg systolic) and severe refractory s/s
  - Mix 1 mg in either 100 cc buritrol or 250 cc NS,
  - IV: 2-10 mcg/min, titrate for effect
- Epinephrine Neb *(for laryngeal edema only)*
  - 3 mg (3 ml) mixed with 3 ml NS for 6ml total epinephrine 1:1,000 nebulized undiluted

Antihistamines

- Benadryl (Diphenhydramine)
  - IV, IM,IO: 25-50 mg
  - PO: (If available) 25-50 mg (for mild cases)
- Zantac (Ranitidine) To be used in conjunction with Benadryl
  - IV, IM, IO: 50 mg
  - PO: (If available) 150-300 mg (for mild cases)
- Pepcid (Famotidine) May be used in conjunction with Benadryl *as an alternative to* Zantac based on availability
  - IV,IO: 20 mg Slow admin Every 12 hours. *May* dilute to 100 or 250 cc and administer over 15 minutes.
  - PO: (If available) 20-40 mg (for mild cases)

Antiemetic:

- Zofran (ondansetron) IV/IM/IO
  - 4 mg
  - Repeat one time in 15 minutes, if needed
- Benadryl (diphenhydramine) IV/IM/IO
  - 25-50 mg

Benzodiazepines:

- For concomitant vertigo-type symptoms.
- Valium (diazepam) IV/IO
  - IV 2.5mg every 10 minutes as needed.
  - Maximum: 10 mg
- Versed (midazolam) IV/IM/IO
  - 0.5 mg every 10 minutes as needed
  - Maximum: 2.5 mg

PHYSICIAN PEARLS:

CAUTION: All patients receiving inhaled beta agonists and/or anticholinergic medications should be observed for a least one-hour following treatment for return of symptoms.

ALS evaluation is indicated if Epi administered either PTA or by EMS, and transport strongly encouraged. Refusals require medical control contact.

Epinephrine Auto injector: EMTs can administer the epinephrine Auto-Injector if it has been prescribed to the patient. In addition, EMTs may administer an auto injector that HAS NOT been prescribed to the patient IF they have successfully completed additional training as required by the Department of Health and Welfare, Bureau of EMS and the ACCESS Medical Directors.

Epi IM admin Optional Module: EMTs can administer the epinephrine via IM injection after drawing it from a vial , glass amp, or other container if they have successfully completed additional training as required by the Department of Health and Welfare, Bureau of EMS and the ACCESS Medical Directors.

Zantac or Pepcid: H2 antagonists are adjunctive therapies to Benadryl (with or without epinephrine) in anaphylaxis & allergic reactions. It is not a stand-alone intervention. One or the other, based on availability should be used, but not both unless instructed to do so by physician order. **PEPCID is IV/IO ONLY.**

Common Presentations: The most common symptoms are urticaria and angioedema, occurring in approximately 88% of patients. The next most common manifestations are respiratory symptoms, such as upper airway edema, dyspnea, and wheezing. Gastrointestinal symptoms occur most commonly in food-induced anaphylaxis, but can occur with other causes as well. Oral pruritus is often the first symptom observed in patients experiencing food-induced anaphylaxis. Abdominal cramping is also common, but nausea, vomiting, and diarrhea are frequently observed as well. Remember that a reaction may be monophasic, biphasic, or even protracted in duration. Laryngeal edema is more common in the protracted (57%) or biphasic (40%) cases

Cardiovascular symptoms of dizziness, syncope, and hypotension are less common, *but it is important to remember that cardiovascular collapse may occur abruptly, without the prior development of skin or respiratory symptoms.*

PITFALLS: It is commonly believed that all cases of anaphylaxis present with cutaneous manifestations, such as hives or mucocutaneous swelling. But in fact, as previously mentioned, up to 20% of anaphylactic episodes may not involve these signs and symptoms on presentation for emergency care. Moreover, a survey of children with food-induced anaphylaxis showed that 80% of fatal reactions were not associated with cutaneous manifestations. *Therefore, a thorough assessment and a high index of suspicion are required for all potential allergic reaction patients.*

In one study (Sampson et al) many cases of fatal food-induced anaphylaxis occurred in a biphasic clinical pattern. In these, mild oral and gastrointestinal symptoms occurred within 30 minutes of food ingestion. These symptoms resolved, only to be followed 1–2 hours later by severe respiratory symptoms and hypotension. *Due to the potential for this presentation, it is critical that patients with food-induced anaphylaxis presenting for emergency care be closely observed a minimum of 4 hours following their recovery from the initial event.*

Individuals at greater risk for a fatal reaction include those with asthma, atopic dermatitis (eczema), prior anaphylactic history, and those who delay treatment.