Treatment and Interventions

1. If signs of allergic reaction **without** signs of anaphylaxis, go to Step 8
2. Epinephrine administration is the primary treatment for anaphylaxis. If signs of anaphylaxis, administer epinephrine 1 mg/mL at the following dose and route:
   a. **Adult** (25 kg or more) 0.3 mg IM in the anterolateral thigh
   b. **Pediatric** (less than 25 kg) 0.15 mg in the anterolateral thigh
   c. Epinephrine 1 mg/mL may be administered from a vial or via auto-injector, if available
3. If respiratory distress with wheezing is present, consider administering
   a. Albuterol 2.5–5 mg nebulized
      AND/OR
   b. Epinephrine 1 mg/mL, 5 mL nebulized
4. If stridor is present, consider administering epinephrine 1 mg/mL, 5 mL nebulized
5. If signs of anaphylaxis and hypoperfusion persist following the first dose of epinephrine, additional IM epinephrine can be repeated q5–15 minutes at above noted doses
6. For signs of hypoperfusion, also administer 20 mL/kg isotonic fluid (normal saline or lactated Ringer's) rapidly (over 15 minutes) via IV or IO, and repeat as needed for ongoing hypoperfusion
7. Consider an epinephrine IV drip (0.5 mcg/kg/minute) when cardiovascular collapse (hypotension with altered mental status, pallor, diaphoresis and/or delayed capillary refill) is present despite repeated IM doses of epinephrine in conjunction with at least 60 mL/kg isotonic fluid boluses
8. For urticaria or pruritus, administer a diphenhydramine 1 mg/kg, up to maximum dose of 50 mg IM, IV, or PO)
   a. The IV route is preferred for the patient in severe symptoms
   b. As a supplement to diphenhydramine given for urticaria, any H2-blocking antihistamine (e.g., famotidine, cimetidine) can be given IV or PO in conjunction with diphenhydramine
9. Transport as soon as possible, and perform ongoing assessment as indicated. Cardiac monitoring is not required, but should be considered for those with known heart problems or who received multiple doses of epinephrine

Patient Safety Considerations

1. Time to epinephrine delivery
2. Concentration of epinephrine in relation to route
3. Weight-based dosing of medications

Notes/Educational Pearls

Key Considerations

1. When anaphylaxis is suspected, **EMS personnel should always consider epinephrine as first-line treatment**
2. Allergic reactions and anaphylaxis are serious and potentially life-threatening medical emergencies. It is the body's adverse reaction to a foreign protein (e.g., food, medicine, pollen, insect sting or any ingested, inhaled, or injected substance). A localized allergic reaction (e.g., urticaria or angioedema that does not compromise the airway) may be treated with antihistamine therapy. Cardiovascular collapse may occur abruptly, without the prior development of skin or respiratory symptoms. Constant monitoring of the patient's airway and breathing is essential