Diagnosis and Management of Anaphylaxis

**Anaphylactic Reaction present?**
Two or more of the following that occur after exposure to a likely allergen for that patient: (occurring within minutes to hours of exposure):
- Involvement of the skin or mucosal tissue
- Respiratory compromise
- Reduced BP or associated symptoms
- Persistent GI tract symptoms

- Assess ABCs
- Epinephrine (1:1000) IM

- Good clinical response? Yes

- **If Discharge:**
  - EpiPen/EpiPen Jr. Twinpack Rx
  - Instructions on EpiPen use – how and when to use
  - 72h Rx for:
    - H1 & H2-antihistamines
    - Glucocorticoid
  - Follow up with PCP; if no PCP, referral to allergist

- **Hypotension/Shock Present?**

  - Maintain supine/Trendelenberg position
  - IV fluids: 0.9% NaCl
  - Vaspressors
    - Consider Epinephrine IV
    - Dopamine
  - Glucagon if patient on beta-blocker

  **Admit**

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**Drug Doses**

**Epinephrine [1:1000] IM:** 0.01 mg/kg per dose
- Adult max per dose: 0.5 mg
- Child max per dose: 0.5 mg

**Epinephrine (1:10,000 to 1:100,000 dilution) IV (Never give 1:1000 IV)**
- 100 mcg/min

**Albuterol:** 2.5-5 mg in 3mL NaCl 0.9% NaCl

**Glucagon:** given IV over 5 minutes (follow with 5-15 mcg/min infusion)

**H1-antihistamine:** Diphenhydramine q6h
- Adult: 1-2 mg/kg; max per dose 50 mg IV
- Child: 1-2 mg/kg max per dose 50 mg IV

**H2-antihistamine:** Ranitidine 50 mg IV or Cimetidine
- 4mg/kg IV; max per dose 300 mg
- Child: Ranitidine 1 mg/kg; max dose 50 mg IV

**Glucocorticoid:** Methylprednisolone/Prednisone
- Given q6h IV or bid PO
- Adult: 1-2 mg/kg/d
- Child: 1-2 mg/kg/d

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This guideline was ratified by the emergency department faculty at Maine Medical Center in December 2010. It reflects our expert opinion and is not necessarily applicable to all institutions. It is intended to be a reference for clinicians caring for patients and is not intended to replace providers’ clinical judgment.

Produced by Kate Drummond Zimmerman, DO, FACEP
Diagnosis and Management of Anaphylaxis

Definition of Anaphylactic Reaction:
Anaphylactic Reaction present (should capture more than 95% of cases of anaphylaxis):
Must fulfill one of the following criteria (occurring within minutes to hours of exposure):

1. Acute onset of an illness with involvement of the skin, mucosal tissue, or both (80% of cases). AND AT LEAST 1 OF THE FOLLOWING:
   a. Respiratory compromise
   b. Reduced BP or associated symptoms of end-organ dysfunction

2. Two or more of the following that occur rapidly after exposure to a likely allergen for that patient:
   a. Involvement of the skin or mucosal tissue (may be absent in 20% of children with food or insect sting allergy)
   b. Respiratory compromise
   c. Reduced BP or associated symptoms
   d. Persistent GI tract symptoms

3. Reduced BP after exposure to known allergen for that patient:
   a. Infants and children: low systolic BP or greater than 30% decrease in systolic BP
   b. Adults: systolic BP less than 90 mmHg or greater than 30% decrease from that person's baseline.

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<table>
<thead>
<tr>
<th>Age</th>
<th>IM Epinephrine (1:1000) Doses in Children</th>
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</thead>
<tbody>
<tr>
<td>Greater than 12 years</td>
<td>0.5 mg</td>
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<tr>
<td>6-12 years</td>
<td>0.3 mg if child is small or prepubertal</td>
</tr>
<tr>
<td>Less than 6 years</td>
<td>0.15 mg (EpiPen Jr.)</td>
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References & Recommended Readings: