Clinical Practice Guideline for Management of Anaphylaxis
Emergency Department, Urgent Care, Inpatient, Ambulatory

Revised 06/20
Original 2/2019

Definition of anaphylaxis:
1) Severe respiratory symptoms OR
2) Severe cardiovascular symptoms OR
3) >1 symptom in ≥2 organ systems that occur suddenly post allergen exposure

Rapid Recognition of Anaphylaxis

<table>
<thead>
<tr>
<th>Skin/Mucosal</th>
<th>Respiratory</th>
<th>Cardiovascular</th>
<th>Gastrointestinal</th>
<th>CNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hives</td>
<td>Stridor</td>
<td>Hypotension</td>
<td>Nausea</td>
<td>Headache</td>
</tr>
<tr>
<td>Rash</td>
<td>Cough</td>
<td>Hoarseness</td>
<td>Abdominal pain</td>
<td>Dizziness</td>
</tr>
<tr>
<td>Itching</td>
<td>Wheeze</td>
<td>Congestion</td>
<td>Vomiting</td>
<td>Confusion</td>
</tr>
<tr>
<td>Tearing or red eyes</td>
<td>Dyspnea</td>
<td>Sneezing</td>
<td>Diarrhea</td>
<td>Altered mental status</td>
</tr>
<tr>
<td>Swelling (e.g. lips/tongue/eyes)</td>
<td>Chest tightness</td>
<td>Shock</td>
<td>Swallowing problem</td>
<td>Vision changes</td>
</tr>
</tbody>
</table>

Immediately stop exposure to suspected medication or agent

- Manage airway, breathing, and circulation
- Apply O2 via non-rebreather and keep sats ≥94%
- Place patient in supine position, unless patient in respiratory distress

Call for assistance:

In hospital:
- Notify Provider
- Emergent: CODE BLUE 5-6161
- Urgent: RAPID RESPONSE TEAM 5-TEAM (5-8326)

Outpatient/Urgent Care:
- Alert on-call Provider if not present
- Emergent: 9-911
- Urgent; or, cannot observe for 4+hours: Transfer Center

Administer IM EPINEPHrine

Injectable Epinephrine available in code cart and as override in omnicell

Concentration 1mg/mL

Quick Dose epi IM:
- Concentration 1mg/mL
  - <10kg: 0.1mg = 0.1mL IM
  - 10-30kg: 0.15mg = 0.15mL IM
  - >30kg: 0.3mg = 0.3mL IM
Rapid Recognition of Anaphylaxis

**Definition of anaphylaxis:**
1) Severe respiratory symptoms OR 2) Severe cardiovascular symptoms OR 3) ≥1 symptom in ≥2 organ systems that occur suddenly post allergen exposure.

### Skin/Mucosal
- Hives
- Rash
- Tearing or red eyes
- Swelling (e.g. lips/tongue/eyes)

### Respiratory
- Stridor
- Cough
- Wheeze
- Dyspnea
- Chest tightness

### Cardiovascular
- Hypoxia
- Hoarseness
- Congestion
- Sneezing
- Chest pain

### Gastrointestinal
- Nausea
- Abdominal pain
- Vomiting
- Diarrhea
- Swallowing problem

### CNS
- Headache
- Vision changes
- Seizures
- Confusion
- Altered mental status

### ABCs

**Immeditely stop exposure to suspected medication or agent**
- Manage airway, breathing, and circulation
- Apply O2 via non-rebreather and keep sats ≥94%
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### Call for Assistance

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### Rescue Medications-Injectable epi available in code cart & override in omnicell!
- **Administer IM EPINEPHrine (epi), within 5 minutes, in the anterolateral thigh**
  - Concentration: 1mg/mL

**Quick Dose epi IM:**
- <10kg:
  - 0.1mg = 0.1mL IM
  - 0.15mg = 0.15mL IM
  - >30kg:
  - 0.3mg = 0.3mL IM

**Failure to respond to first dose of epi:**
- Administer another dose of IM epi (can be administered every 5-15 minutes for rapid progression of symptoms OR failure to respond)
- Obtain IV/IO access
- If hypotensive administer isotonic IV fluid, 20mL/kg, rapidly, over 5-10 minutes
- If wheezing: Albuterol (see page 3)

**PALS criteria for hypotension based on Systolic Blood Pressure (SBP):**
- **AGE**
  - Neonates: <60
  - Infants (0-28 days): <70
  - Children (1-12 months): <70 + [Age in yrs x2]
  - Children (10-18 years): <90

### Observation/Admission Criteria

**Observation Period**
- If NO hypotension, observe for a minimum of 4 hours prior to discharge
- Patients with resolved respiratory compromise and/or hypotension, observe 6-8 hours prior to discharge

**Admission Criteria**
- Persistent symptoms >4 hours
- History of severe asthma
- History of severe biphasic reaction
- Required more than 1 dose of epi
- Required a fluid bolus

**Consider PICU Admission**
- Hemodynamic instability
- Respiratory failure
- Continued/recurrent airway compromise
- Requiring any of the following:
  - Hypotension
  - Nausea

Additional Medication/Interventions

**See page 3 for dosing**

If upper airway obstruction/stridor:
- Consider racemic EPINEPHrine

**H1-Blocker Recommended:**
- Liquid concentration preferred for all PO doses to increase absorption
- Choose from ONE of the following:
  - DiphenhydRAMINE PO/IV/IM
  - Cetirizine PO
  - HydroXYZine IM/PO
  - Loratidine PO

Steroid Treatment (optional): PrednisONE PO
OR
MethylPREDNISolone IV/IM

**Education and Prescriptions**

1. Prescribe epinephrine autoinjector
2. Prescribe other meds as indicated (see page 3)
3. Follow up with Allergist in 3-4 weeks
4. Epinephrine autoinjector video
5. Food and Allergy Action Plan

Discharge Planning

**Prior to Discharge**
- Consider consulting allergy for inpatients who experience a biphasic reaction or are high-risk asthmatics
- Consider Case Management consult to assist with filling prescription for epinephrine autoinjectors

**Developed through the efforts of Children’s Healthcare of Atlanta and physicians on Children’s Medical Staff in the interest of advancing pediatric healthcare. This is a general guideline and does not represent a professional care standard governing providers’ obligation to patients. Ultimately the patient’s physician must determine the most appropriate care.**

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# Medication Recommendations

<table>
<thead>
<tr>
<th>Antihistamines</th>
<th>Medication</th>
<th>Standard mg/kg Dose</th>
<th>Recommended Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DiphenhydRAMINE (Benadryl)</td>
<td>1mg/kg/dose PO/IV/IM Max dose 50mg</td>
<td>Q6H PRN</td>
</tr>
<tr>
<td></td>
<td>Cetirizine (Zyrtec)</td>
<td>6-23 months old: 2.5mg PO 24 months-5 years old: 2.5-5mg PO &gt;6 years old: 5-10mg PO</td>
<td>Once daily PRN</td>
</tr>
<tr>
<td></td>
<td>HydrOXYzine (Vistaril)</td>
<td>&lt;40kg: 0.5mg/kg/dose PO &gt;40kg: 25-50mg PO</td>
<td>≤40kg: QID PRN &gt;40kg: Once daily PRN</td>
</tr>
<tr>
<td></td>
<td>Loratadine (Claritin)</td>
<td>2-6 years old: 5mg PO &gt;6 years old: 10mg PO</td>
<td>Once daily PRN</td>
</tr>
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<tr>
<th>Additional Medications</th>
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<tbody>
<tr>
<td></td>
<td>Albuterol</td>
<td>&lt;15kg: Intermittent 2.5mg Continuous 7.5mg/hr 15kg: Intermittent 5mg Continuous 15mg/hr</td>
<td>•Q4-6H for 24 hours; then, •Q4-6H PRN for cough/wheeze/difficulty in breathing</td>
</tr>
<tr>
<td></td>
<td>PrednisoLONE</td>
<td>1mg/kg/dose PO Max dose: 60mg</td>
<td>If clinically indicated: •Weight-based PO daily •2-5 day course</td>
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<tr>
<td></td>
<td>MethylPREDNisolone</td>
<td>2mg/kg/dose IV/IM Max dose: 125mg If IV, infuse over 10 minutes</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Famotidine* (Pepcid) (per provider discretion)</td>
<td>*IV 0.25mg/kg x1 (max dose of 20mg) *Tablet 0.5mg/kg (max dose of 40mg) *Suspension 0.5mg/kg (max dose 40mg)</td>
<td>*No clear evidence of benefit from H2 blockers in immediate treatment of anaphylaxis or biphasic reactions</td>
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