Emergency Department Anaphylaxis Pathway

The following information is intended as a guideline for the management of children with anaphylaxis. Management of your patient may require a more individualized approach.

Clinical Criteria for Anaphylaxis Diagnosis: Patient meets ONE of the following 3 criteria

**Anaphylaxis is highly likely when any one of the following three criteria is fulfilled:**

1. Sudden onset of an illness (minutes to several hours), with involvement of the skin, mucosal tissue, or both (e.g. generalized hives, itching or flushing, swollen lips/tongue/uvula)

AND AT LEAST ONE OF THE FOLLOWING:

- Sudden respiratory symptoms and signs (e.g. shortness of breath, wheeze, cough, stridor, hypoxemia)
- Sudden reduced BP or symptoms of end-organ dysfunction (e.g. hypotonia, collapse, incontinence)
- Sudden gastrointestinal symptoms (e.g. crampy abdominal pain, vomiting)

**OR** 2. Two or more of the following that occur suddenly after exposure to a likely allergen or other trigger:

- Intact and children: Low systolic BP (age-specific) or greater than 30% decrease in systolic BP
- Adolts: systolic BP of less than 90 mm Hg or greater than 30% decrease from that person's baseline

**Administer Epinephrine IM IMMEDIATELY**

- 0-25 Kg-EPIPEN JR (0.15 mg)
- > 25 Kg-EPIPEN (0.3 mg)

Patients on beta-blockers may not respond. If no response to Epinephrine treat with GLUCAGON

**Assess AND Manage Airway, Breathing and Circulation**

- Place in supine position
- Place cardiac monitor
- Administer oxygen if airway, respiratory or cardiovascular signs or symptoms
- Establish IV access. IV Fluid bolus if hypotension or signs of shock

**Anaphylaxis Medications**

- Steroids
- Antihistamines

Administer adjunct, respiratory and vasopressor medications based on clinical findings (medication list below)

Reassess after first Epinephrine dose. Repeat dose as clinically indicated q 5-15 minutes

Determine disposition based on clinical improvement

**Admit if**

- History of biphasic or severe reactions
- Progression or persistence of symptoms
- History of severe asthma
- Current asthma exacerbation
- Hypotensive during ED course
- Requires fluid bolus
- Requires > 1 Epinephrine dose
- Upper airway obstruction
- Lower airway symptoms
- Refractory to Epinephrine

Symptoms (except rash) resolve and no indications for admission

- Observe 4 hours after symptoms resolve
- Teach use of EPIPEN
- Arrange for EPIPEN for home use
- Continue steroids and antihistamines if administered in the ED

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## Anaphylaxis Medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>Route</th>
<th>Dose</th>
<th>Max Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPIPEN©</td>
<td>IM</td>
<td>0-25 kg: EPIPEN JR (0.15 mg)</td>
<td>&gt; 25 kg: EPIPEN (0.3 mg)</td>
<td>Preferred preparation</td>
</tr>
<tr>
<td>Epinephrine (1:1000)</td>
<td>IM</td>
<td>0.01 mg/kg</td>
<td>0.5 mg</td>
<td>Use ONLY IF EPIPEN is not available</td>
</tr>
<tr>
<td>Glucagon</td>
<td>SQ/IM</td>
<td>&lt; 20 kg: 0.5 mg</td>
<td>≥ 20 kg: 1 mg</td>
<td>Indicated if patient is on a beta-blocker and 1st dose of epinephrine is ineffective Follow with IV infusion</td>
</tr>
<tr>
<td>Glucagon IV infusion</td>
<td>IV infusion</td>
<td>5-15 mcg/min titrated to clinical effect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methylprednisolone</td>
<td>IV</td>
<td>2 mg/kg</td>
<td>125 mg</td>
<td></td>
</tr>
<tr>
<td>Prednisone</td>
<td>PO</td>
<td>2 mg/kg</td>
<td>60 mg</td>
<td></td>
</tr>
<tr>
<td>Dexamethasone</td>
<td>PO</td>
<td>0.6 mg/kg</td>
<td>16 mg</td>
<td></td>
</tr>
<tr>
<td>Diphenhydramine</td>
<td>IV/PO</td>
<td>1 mg/kg</td>
<td>50 mg</td>
<td></td>
</tr>
<tr>
<td>Famotidine</td>
<td>IV</td>
<td>0.5 mg/kg</td>
<td>20 mg</td>
<td></td>
</tr>
<tr>
<td>Famotidine</td>
<td>PO</td>
<td>1 mg/kg</td>
<td>40 mg</td>
<td></td>
</tr>
<tr>
<td>Cetirizine</td>
<td>PO</td>
<td>6-23 months: 2.5 mg/day</td>
<td>&gt; 5 years: 10 mg/day</td>
<td></td>
</tr>
<tr>
<td>Albuterol</td>
<td>Inhalation</td>
<td>&lt; 15 kg: 2.5 mg</td>
<td>≥ 15 kg: 5 mg</td>
<td></td>
</tr>
<tr>
<td>Racemic Epinephrine (1%)</td>
<td>Inhalation</td>
<td>&lt; 5 kg: 0.25 ml</td>
<td>≥ 5 kg: 0.5 ml</td>
<td></td>
</tr>
<tr>
<td>Epinephrine Infusion</td>
<td>IV</td>
<td>0.1-1 mcg/kg/min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dopamine Infusion</td>
<td>IV</td>
<td>5-20 mcg/kg/min</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1% Methylene Blue** has been used in patients with anaphylaxis who are refractory to Epinephrine. Consultation with allergy is recommended. Recommended dose: 1.5 mg/kg in 100 ml D5NS over 20 minutes.

### Bibliography


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