



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)
- Flushing
- Itching

Respiratory

- Stridor
- Cough
- Wheeze
- Dyspnea
- Chest tightness
- Hypoxia
- Hoarseness
- Congestion
- Sneezing

Cardiovascular

- Hypotension
- Arrhythmia
- Tachy/bradycardia
- Syncope
- Chest pain
- Shock

Gastrointestinal

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

CNS

- Headache
- Dizziness
- Confusion
- Altered mental status
- Vision changes
- Seizures

Immediately stop exposure to suspected medication or agent

- Manage airway, breathing, and circulation
- Apply O2 via non-rebreather and keep sats $\geq 94\%$
- 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 Immediately into the anterolateral thigh

*Injectable Epinephrine available in code cart and as override in omnicell
Concentration 1mg/mL*

**Quick Dose epi IM:
Concentration 1mg/mL**

- $<10\text{kg}$: 0.1mg = 0.1mL IM
- 10-30kg: 0.15mg = 0.15mL IM
- $>30\text{kg}$: 0.3mg = 0.3mL IM

0 min

5 min



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ABCs

Immediately stop exposure to suspected medication or agent

- Manage airway, breathing, and circulation
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Outpatient/Urgent Care:

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Transfer Center

Rescue Medications—Injectable epi available in code cart & override in omniceII

- Administer IM EPINEPHrine (epi), **within 5 minutes**, in the anterolateral thigh

Concentration: **1mg/mL**

Quick Dose epi IM:

- **<10kg:**
0.1mg= 0.1mL IM
- **10-30kg:**
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	SBP
Neonates (0-28 days)	<60
Infants (1-12 months)	<70
Children (1-10 years)	<70 + [Age in yrs x2]
Children (>10 years)	<90

Immediate Management

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;
- HydroOXYzine IM/PO;
- Loratidine PO

Steroid Treatment (optional):

PrednisolONE PO

OR

MethylPREDNISolone IV/IM

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
- Worsening symptoms
- History of severe biphasic reaction
- History of severe asthma
- 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:
 - >40mL/kg volume
 - >2 doses of IM epi
 - >1 continuous neb
 - Pressors
 - Heliox
 - NIPPV

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

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](#)



Medication Recommendations

Antihistamines	Medication	Standard mg/kg Dose	Recommended Frequency
	DiphenhydrAMINE (<i>Benadryl</i>)	1mg/kg/dose PO/IV/IM Max dose 50mg	Q6H PRN
	Cetirizine (<i>Zyrtec</i>)	6-23 months old: 2.5mg PO 24 months-5 years old: 2.5-5mg PO ≥6 years old: 5-10mg PO	Once daily PRN
	HydrOXYzine (<i>Vistaril</i>)	≤40kg: 0.5mg/kg/dose PO >40kg: 25-50mg PO	≤40kg: QID PRN >40kg: Once daily PRN
	Loratadine (<i>Claritin</i>)	2-6 years old: 5mg PO ≥6 years old: 10mg PO	Once daily PRN

Additional Medications	Medication	Standard mg/kg Dose	Recommended Frequency
	Albuterol	<15kg: Intermittent 2.5mg Continuous 7.5mg/hr ≥15kg: Intermittent 5mg Continuous 15mg/hr	•Q4-6H for 24 hours; <i>then</i> , •Q4-6H PRN for cough/wheezing/difficulty in breathing
	PrednisOLONE	1mg/kg/dose PO Max dose: 60mg	If clinically indicated: •Weight-based PO daily •2-5 day course
	MethylPREDNISolone	2mg/kg/dose IV/IM Max dose: 125mg If IV, infuse over 10 minutes	N/A
Famotidine* (<i>Pepcid</i>) (per provider discretion)	*IV 0.25mg/kg x1 (max dose of 20mg) *Tablet 0.5mg/kg (max dose of 40mg) *Suspension 0.5mg/kg (max dose 40mg)	*No clear evidence of benefit from H2 blockers in immediate treatment of anaphylaxis or biphasic reactions	