UNMH Pediatric Anaphylaxis Pathway

Anaphylaxis Triage Screening Tool[2]
(Anaphylaxis highly likely if any ONE of the following 2 criteria are fulfilled)
Use Clinical Judgement

1. Acute onset of illness with skin or mucosal symptoms **AND AT LEAST ONE OF THE FOLLOWING:** respiratory compromise, reduced BP or symptoms of end-organ dysfunction (collapse, syncope, incontinence), or severe GI symptoms

2. Acute onset of **HYPOTENSION** or **BRONCHOSPASM** or **LARYNGEAL INVOLVEMENT** after exposure to known or highly probable allergen, even in absence of skin involvement

Positive=MD/RN SWARM

Remove exposure to trigger
Assess airway, breathing, circulation
IMMEDIATE IM EPINEPHRINE
100% oxygen via NRB
Position patient appropriately (see page 2)
Cardiac monitor
Obtain IV/IO access (if new onset, send tryptase level)

Improved after 1 dose of IM epinephrine

Yes

Monitor 4-6 hours
Consider adjunct medications

If well-appearing after 4-6 hours→
Discharge home
Epinephrine autoinjector prescription and teaching
Anaphylaxis action plan
Ad hoc referral to pediatric allergy
Patient support resources

No

Repeat IM epinephrine q 5-15 mins prn (up to 3 doses)
Consider NS bolus(es) 20 ml/kg
If wheezing→ albuterol neb(s)
If stridor→ racemic epinephrine neb(s)
Consider adjunct medications (page 2) only after treatment with epinephrine

If improved→
Admit to GPU

If refractory anaphylaxis→
Start epinephrine infusion
Admit to PICU

Epinephrine Dosing 1mg/mL:

- ❑ < 7.5 kg: 0.01 mg/kg IM
- ❑ 7.5 to 12.9 kg: 0.1 mg IM
- ❑ 13 to 24.9 kg: 0.15 mg IM
- ❑ Age < 13y AND ≥25 kg: 0.3 mg IM
- ❑ Age 13-18y AND 25 to 49.9 kg: 0.3 mg IM
- ❑ Age 13-18y AND ≥50 kg: 0.5 mg

IM mid-anterolateral thigh
Use anaphylaxis care set

Medication Dosing for Anaphylaxis

Epinephrine infusion: (64mcg/mL), 0.03 mcg/kg/min, IV
(0.03 to 1 mcg/kg/min IV infusion, titrate per protocol)

Nebulized Medications:
Racemic epinephrine 2.25% solution, 0.5mL, nebulized
Albuterol 5mg, nebulized

Adjunct Medications:
Diphenhydramine 1 mg/kg, IV (max 50 mg)
Diphenhydramine 1 mg/kg, by mouth (max 50 mg)
Famotidine 0.5 mg/kg, IV (max 20 mg)
Famotidine 0.5 mg/kg, by mouth (max 20 mg)
Methylprednisolone 1-2 mg/kg, IV (max 125 mg)
Dexamethasone 0.6 mg/kg, by mouth (max 10 mg)

Remove Trigger Exposure

Discontinue IV/oral medications
Wash skin (face/hands)
Brush teeth and rinse mouth

Patient Positioning in Anaphylaxis

Place patient **SUPINE** and **elevate lower extremities**
If respiratory distress → place in position of comfort
If active emesis or pregnant → left lateral decubitus
AVOID RAPIDLY MOVING PATIENT UPRIGHT (can cause CV collapse)

Signs and Symptoms of Anaphylaxis[4]

Skin: feeling of warmth, flushing, itching, urticaria, angioedema, piloerection
Oral: itching/tingling of lips/tongue/palate, edema of lips/tongue/uvula, metallic taste
Ocular: periorbital itching/erythema/edema, conjunctival erythema, tearing
Respiratory: Nose: nasal itching/congestion/rhinorrhea/sneezing; **Laryngeal:** itching/tightness of throat, dysphonia, hoarseness, stridor; **Lower airways:** shortness of breath, chest tightness, cough, wheezing, cyanosis; respiratory arrest
GI: nausea, vomiting, diarrhea, abdominal pain, difficulty swallowing
CV: feeling faint/dizziness, syncope, chest pain, palpitations, tachycardia, bradycardia, other dysrhythmia, hypotension, tunnel vision, incontinence, shock, cardiac arrest
CNS: anxiety, apprehension, sense of impending doom, altered mental status, dizziness, confusion, seizures, headache; sudden behavioral change in young children (cling, cry, become irritable, cease to play)

Anaphylaxis Pathway Goals

Patients with anaphylaxis will receive :

- IM epinephrine within 5 minutes of ED arrival
- New-onset anaphylaxis will be discharged with epinephrine autoinjector prescription
- New-onset anaphylaxis will be discharged with an anaphylaxis action plan
- New-onset anaphylaxis will be referred to pediatric allergy

References

1. Lieberman Phillip et al. Anaphylaxis – a practice parameter update 2015. Ann Allergy Asthma Immunol. 2015;115:341-384.
2. Cardona V et al. World Allergy Organization Anaphylaxis Guidance 2020. WAO Journal. 2020; Vol 13, Issue 10.
3. Campbell RL, et al. Emergency department diagnosis and treatment of anaphylaxis: a practice parameter. Ann Allergy Asthma Immunol. 2014;113:599-608.
4. Campbell RL and JM Kelso. Anaphylaxis: acute diagnosis. UpToDate. Accessed April 18, 2024