Nurse Initiated Anaphylaxis Algorithm – Adults

If patient is experiencing anaphylaxis, there should be an immediate effort to administer **EPINEPHrine** as below:

Anaphylaxis should be suspected when either criterion 1 *or* 2 is met:

1 Changes in skin and/or mucosa (hives or pruritis or swelling), **AND** new onset of one of:

- **Respiratory distress**
- **Signs of shock**
- **Severe GI symptoms** (e.g., severe crampy abdominal pain, repetitive vomiting)

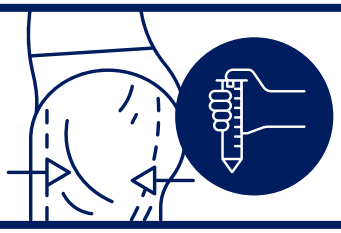
2 Acute onset hypotension or bronchospasm or laryngeal changes after common allergen (minutes to hours).

- **Hypotension** (systolic BP of less than 90 mmHg or greater than 30% decrease from baseline)
- **Bronchospasm**
- **Laryngeal changes** (e.g., stridor, vocal changes, painful swallowing)

ABCs

Administer IM EPINEPHrine

EPINEPHrine 0.5 mg IM (= 0.5 mL from 1 mg/1 mL ampoule) into anterolateral aspect of the thigh muscle.



CALL FOR BACK-UP and ACCESS PHYSICIAN ON CALL

Oxygen | **Cardiac monitor** | **IV access** | **Fluid bolus PRN**

IF NO or INADEQUATE response after 5 minutes

Repeat **EPINEPHrine 0.5 mg IM (= 0.5 mL from 1 mg/mL ampoule)** q5-15 minutes PRN x 2 doses (to a maximum of 3 total doses) for ongoing signs and symptoms of anaphylaxis

Additional optional therapies in table on next page may be considered

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If refractory anaphylaxis, may consider IV infusion of EPINEPHrine in consultation with physician. Must have cardiac monitor and back-up present for IV EPINEPHrine administration.

If ongoing EPINEPHrine required: Start IV infusion with EPINEPHrine 1 mg mixed in NS or D5W and run as per chart below. Dose range of EPINEPHrine is 4-10 mcg/min IV.

EPINEPHrine added (1 mg/mL)	Size of bag of NS or D5W	Concentration in bag	Starting Dose	Starting Rate
1 mg	100 mL	10 mcg/mL	4 mcg/min	24 mL/hr
1 mg	250 mL	4 mcg/mL	4 mcg/min	60 mL/hr
1 mg	1000 mL	1 mcg/mL	4 mcg/min	240 mL/hr

Additional Optional Therapies Table

Notes:

- For anaphylaxis, these occasionally are given in addition to EPINEPHrine, but their use should not delay giving EPINEPHrine.
- H2 Receptor Antagonists (H2RAs), e.g., ranitidine, famotidine, are no longer indicated after anaphylaxis onset.
- A physician order is required for most of these therapies as indicated by their formulary treatment code. Health Care Providers must administer medications in accordance with their scope of practice along with their knowledge, skills and abilities.

Clinical Findings	Optional Patient Care Intervention(s)	Formulary Treatment Code
Itching, flushing, urticaria, hives, erythema	• Cetirizine 5-10 mg PO once • DiphenhydrAMINE 12.5-50 mg IV q4h PRN (Caution: DiphenhydrAMINE is very sedating)	A C
Wheezing	• Salbutamol 2 puffs, 1 minute apart, may repeat q30min PRN • Salbutamol nebulizer; 5 mg q30min PRN	C
Stridor, cyanosis, angioedema, hypoxia	• Hydrocortisone 100-250 mg IV (preferred for fast onset) • MethylPREDNISolone 1-2 mg/kg IV (max 125 mg IV)	B B
Chest tightness, tachycardia, hypotension	• Crystalloid fluid (e.g., NS or RL) 10-30 mL/kg over 15-30 min PRN to mean arterial pressure (MAP) 60 or greater. • Nitroglycerin 0.4 mg 1 spray ONLY IF MAP greater than 60. • Other anti-ischemic agent(s) at discretion of physician. • Hydrocortisone 100-250 mg IV	C B
Requires vasopressor(s) to keep SBP greater than 90/MAP greater than 60	• Consider adding: Vasopressin 0.04-0.08 units/min IV infusion	B
Patient on beta-blockers	• Consider increasing dose of EPINEPHrine, titrate to effect: EPINEPHrine infusion 4-30 mcg/min IV infusion • Consider if available: Glucagon 1-5 mg slow IV bolus over 5 min	Contact MD if considering Contact MD if considering
Seizure	• LORazepam 1-4 mg IV q15min PRN • Midazolam 2-5 mg IV q5min PRN	B+ B
Nausea/vomiting	• Ondansetron 4-8 mg IV q6h PRN	D

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