

# Allergy Emergency Treatment Protocol

- I. Initial evaluation of possible allergic reaction
  - a. Cease administration of allergenic extracts
  - b. Notify physician
  - c. Record vital signs: blood pressure, pulse, respirations
  - d. Assess reaction type
- II. Office treatment of allergic reactions
  - a. Local reaction (25-30 mm)
    - i. check injection technique
    - ii. review allergy season and possible food cross reaction
    - iii. if bothersome to patient, consider antihistamine before injections or reducing dose
    - iv. may proceed with weekly injections if do not worsen
  - b. Large local reaction (>40mm)
    - i. make sure no general symptoms
    - ii. review allergy season and possible food cross reaction
    - iii. reduce next dose, if resolves, slow readvancement
    - iv. for repeat large reactions, consider retesting sensitivities
      1. isolate offending agent in multi-allergen vials
    - v. may indicate maximum tolerated dose
  - c. Vasovagal reaction
    - i. lower head, loosen clothing
    - ii. cool cloth to neck or forehead
    - iii. usually resolves quickly
  - d. General reaction
    - i. lower head, loosen clothing
    - ii. give oral antihistamine
    - iii. if respiratory symptoms, start low flow oxygen
    - iv. if bronchospasm, consider:
      1. albuterol inhaler: 2 puffs (may repeat)
      2. ipratropium inhaler: 5 – 15 puffs (may repeat)
    - v. if severe symptoms or worried if early anaphylaxis, give epinephrine (see flash card for dosing)
    - vi. consider oral or IM corticosteroid
    - vii. if symptoms progress, consider diagnosis of anaphylaxis and proceed to Anaphylaxis Treatment Protocol.

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# Anaphylaxis Treatment Protocol

1. Lower head and loosen clothing; apply tourniquet proximal to injection site
2. Check vital signs. Assess further to confirm diagnosis
3. Quick review of medical history/medicines
4. Give epinephrine (**1:1,000 solution**)
  1. ADULT
    1. 0.3-0.5 ml IM
    2. **or** 0.2 ml IM (elderly or on beta blocker)
    3. **or** 0.05 ml IM (on monoamine oxidase inhibitor)
  2. PEDIATRICS: 0.01 ml/kg IM (maximum of 0.3 ml)
5. Call ambulance for transport to hospital
6. Consider injecting epinephrine solution around injection site
7. Consider ice pack at injection site
8. Assess respiratory status
9. Give oxygen if available, start with low flow
10. Monitor vital signs frequently (blood pressure, pulse, respirations)
11. If bronchospasm, give albuterol inhaler – 2 puffs
  1. repeat if not effective and consider multiple puffs
12. If continued bronchospasm, ipratropium inhaler (up to 15-30 puffs adults / 5 -10 peds)
13. Loosen tourniquet every 5 – 10 minutes
14. Repeat epinephrine if needed (every 5 – 10 min. adults / 15-20 min pediatrics)
15. Start IV
16. If hypotension, give NS bolus (500–1000 ml adult / 10-20 ml/kg pediatrics)
17. Support blood pressure if needed
  1. Dopamine (see medication dosing table)
  2. Norepinephrine (see medication dosing table)
18. If severe hypotension, consider IV epinephrine(see medication dosing table)
19. Give H1 antihistamine (see medication dosing table)
20. Give H2 antihistamine (see medication dosing table)
21. Administer corticosteroid – dexamethasone (see medication dosing table)
22. For persistent symptoms or special circumstances (beta blockade) try alternate medications
  1. Heparin (see medication dosing table)
  2. Glucagon (see medication dosing table)
  3. Magnesium for bronchospasm (see medication dosing table)
23. Watch for and treat hypertension and bradycardia
  1. Phentolamine – for hypertension (see medication dosing table)
  2. Atropine – for bradycardia (see medication dosing table)
24. In dire respiratory status or rapid progression of laryngeal edema perform tracheal intubation for respiratory support
25. ACLS or PALS protocols whenever appropriate
26. Transport to hospital

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## **EMERGENCY KIT CONTENTS**

### **TOP SHELF**

- 1 – Albuterol, USP Inhalation Aerosol 17g
- 1 – Atrovent Inhalation Aerosol 14g
- 2 – Dexamethasone 4 mg/ml (5 ml Multiple Dose Vial – IM or IV)
- 2 – Diphenhydramine (Benadryl) 50mg/ml (IM or IV use)
- 1 – Dopamine (200mg vial)
- 3 – Epinephrine Injection, 1mL UNI-AMP unit dose pack 1: 1000
- 2 – Heparin 10,000 units/1ml (4 mL Multi Dose Vial – IV or SC use)
- 1 – NitroQuick (Nitroglycerin Sublingual Tab) 0.4 mg (1/150 gr)
- 1 – Ranitidine 25mg/ml (2ml single-dose vial)

Alcohol Preps

Syringes: 2 – 10cc syringes, 3 – 3ml 20G l syringes, 4 – 1ml 26G 3/8 syringes

Tape & Tourniquet

### **Bottom Shelf**

- 2 – Bags normal saline 500 mL
- 2 – Bags of D5W 500ml
- 2 – IV starter kits
- 2 – Laryngoscopes ( 1 lg. & 1 sm.) Battery in Lg. Scope
- 7 - Endotracheal Tubes (8.0, 7.5, 7.0, 6.0, 5.0, 4.0, & 3.0)
- 1 – Cepti-Seal – (IV Prep Kit)
- 3 – Airways ( sm, med., & lg.)
- 6 – Introcath – W Safety (2 - 18G 1 1/4 in. / 2 – 20G 1in. / 2 – 22G 1in.)

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## Medication Dosing Table

### Epinephrine

#### **Adult Dosing**

0.3 – 0.5 mg IM (0.3 – 0.5 ml of a 1:1,000 solution)

Alternate routes

sublingual: 0.5 ml of 1:1,000 solution

endotracheal: 3-5 ml of 1:10,000 solution

May repeat every 5-10 minutes

#### **Pediatric Dosing**

0.01 – 0.03 mg/kg IM (0.1 – 0.3 ml/kg of 1:1,000 solution)

May repeat at 15 minute intervals

#### **IV Dosing (for dire circumstances only)**

##### **Adult:**

1 - 3 ml of 1:10,000 solution

##### **Pediatric:**

0.1 ml/kg of 1:10,000 solution

repeat at 5 – 10 minute intervals

### Albuterol

**Adult:** metered dose inhaler: 2 – 4 puffs

**Pediatric:** (nebulizer) 0.25 – 0.5 ml in 1.5 – 2 mL saline

### Ipratropium

**Adult (and > 12 years old):** MDI 2-4 puffs (up to 15-30 in adults)

### Diphenhydramine

**Adult:** 100mg IV push

**Pediatric:** 1 mg/kg IV push

### Ranitidine

**Adult:** 50 mg slow IV push

**Pediatric:** 2 mg/kg (up to 50 mg) slow IV push

### Dexamethasone

**Adult:** 20 mg IV or PO

**Children:** 0.5 – 1mg / kg up to 20mg IV

### Methylprednisolone

**Adult:** 40 mg IV

**Pediatric:** 0.5 mg/kg IV

### Dopamine

Start 2 - 20 µg/kg/min IV (start low and titrate up as needed)

mix 200 mg in D5W to make 250 ml solution

$0.075 \times (\text{desired } \mu\text{g/kg/min}) \times (\text{wt in kg}) = \text{ml/hr rate}$

### Glucagon

**Adult:** 1-5 mg IV push; repeat every 5 minutes if needed

titrate 5-15 µg/min continuous infusion if effective

**Pediatric:** 0.5 mg IV push

### Atropine

**Adult:** 0.3-0.5 mg SC every 10 minutes

repeat every 5 minutes up to 2 mg total

**Pediatric:** 0.02 mg/kg repeat up to 0.5 mg/kg total

### Heparin

**Adult:** 10,000 Units IV bolus, then 1,000 U/hr

**Pediatric:** 50-75 U/kg bolus, then 25U/kg/hr

### Magnesium (Adult use only)

1 gm in 50ml NS over 20 minutes

can repeat up to 4gm, 1gm/hr thereafter

monitor deep tendon reflexes

### Phentolamine

**Adult:** 5 to 10 mg IV q 5-15 min.

**Pediatric:** 1mg IV q 5-15 min.

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