# Table 6

## *Management of Acute Reactions in Adults*

**Urticaria**

1. Discontinue injection if not completed
2. No treatment needed in most cases
3. Give $H_1$-receptor blocker: Diphenhydramine (Benadryl®) PO/IM/IV 25-50 mg

   If severe or widely disseminated: Alpha agonist (arteriolar and venous constriction) Epinephrine SC (1:1,000) 0.1-0.3 ml (=0.1-0.3 mg) (if no cardiac contraindications)

**Facial or Laryngeal Edema**

1. Give alpha agonist (arteriolar and venous constriction): Epinephrine SC or IM (1:1,000) 0.1-0.3 ml (=0.1-0.3 mg) or, if hypotension evident, Epinephrine (1:10,000) slowly IV 1 ml (=0.1 mg). Repeat as needed up to a maximum of 1 mg.
2. Give $O_2$ 6-10 liters/min (via mask).

   If not responsive to therapy or if there is obvious acute laryngeal edema, seek appropriate assistance (e.g., cardiopulmonary arrest response team).

**Bronchospasm**

1. Give $O_2$ 6-10 liters/min (via mask).
   Monitor: electrocardiogram, $O_2$ saturation (pulse oximeter), and blood pressure.
2. Give beta-agonist inhalers [bronchiolar dilators, such as metaproterenol (Alupent®), terbutaline (Brethaire®), or albuterol (Proventil®)(Ventolin®) 2-3 puffs; repeat prn. If unresponsive to inhalers, use SC, IM or IV epinephrine.
3. Give epinephrine SC or IM (1:1,000) 0.1-0.3 ml (=0.1-0.3 mg) or, if hypotension evident, Epinephrine (1:10,000) slowly IV 1 ml (=0.1 mg). Repeat as needed up to a maximum of 1 mg.

*Alternatively:* Give aminophylline: 6 mg/kg IV in D5W over 10-20 minutes (loading dose), then 0.4-1 mg/kg/hr, as needed (caution: hypotension).

Call for assistance (e.g., cardiopulmonary arrest response team) for severe bronchospasm or if $O_2$ saturation < 88% persists.

**Hypotension with Tachycardia**

1. Legs elevated 60° or more (preferred) or Trendelenburg position.
2. Monitor: electrocardiogram, pulse oximeter, blood pressure.
3. Give $O_2$ 6-10 liters/min (via mask).
4. Rapid intravenous administration of large volumes of isotonic Ringer's lactate or normal saline.

*If poorly responsive*: Epinephrine (1:10,000) slowly IV 1 ml (=0.1 mg) (if no cardiac contraindications). Repeat as needed up to a maximum of 1 mg

If still poorly responsive seek appropriate assistance (e.g., cardiopulmonary arrest response team).

**Hypotension with Bradycardia** (Vagal Reaction)

1. Monitor vital signs.
2. Legs elevated 60° or more (preferred) or Trendelenburg position.
3. Secure airway: give $O_2$ 6-10 liters/min (via mask).
4. Secure IV access: rapid fluid replacement with Ringer's lactate or normal saline.
5. Give atropine 0.6-1 mg IV slowly if patient does not respond quickly to steps 2 – 4.
6. Repeat atropine up to a total dose of 0.04 mg/kg (2-3 mg) in adult.
7. Ensure complete resolution of hypotension and bradycardia prior to discharge.

**Hypertension, Severe**

1. Give $O_2$ 6-10 liters/min (via mask).
2. Monitor electrocardiogram, pulse oximeter, blood pressure.
3. Give nitroglycerine 0.4-mg tablet, sublingual (may repeat x 3); *or,* topical 2% ointment, apply 1 in. strip.
4. Transfer to intensive care unit or emergency department.
5. For pheochromocytoma—phentolamine 5 mg IV.

**Seizures or Convulsions**

1. Give $O_2$ 6-10 liters/min (via mask).
2. Consider diazepam (Valium®) 5 mg (or more, as appropriate) or midazolam (Versed®) 0.5-1 mg IV.
3. If longer effect needed, obtain consultation; consider phenytoin (Dilantin®) infusion – 15-18 mg/kg at 50 mg/min.
4. Careful monitoring of vital signs required, particularly of $pO_2$ because of risk to respiratory depression with benzodiazepine administration.
5. Consider using cardiopulmonary arrest response team for intubation if needed.

**Pulmonary Edema**

1. Elevate torso; rotating tourniquets (venous compression).
2. Give $O_2$ 6-10 liters/min (via mask).
3. Give diuretics – furosemide (Lasix®) 20-40 mg IV, slow push.
4. Consider giving morphine (1-3 mg IV).
5. Transfer to intensive care unit or emergency department.
6. Corticosteroids optional.

Abbreviations: IM= intramuscular
IV=intravenous
SC=subcutaneous
PO=orally