Table 5Management of Acute Reactions in Children

Urticaria

- 1. No treatment needed in most cases
- 2. Give H₁-receptor blocker: Diphenhydramine (Benadryl[®]) PO/IM/IV 1 to 2 mg/kg, up to 50 mg.
- 3. If severe or widely disseminated: give alpha agonist: epinephrine SC (1:1,000) 0.01mL/kg.

Facial Edema

- 1. Give O₂ 6-10 liters/min (via mask, face tent, or blow-by stream). Monitor: electrocardiogram, O₂ saturation (pulse oximeter), and blood pressure.
- 2. Give alpha agonist: epinephrine SC or IM (1:1,000) 0.01 mL/kg, up to 0.3 mL/dose. Repeat in 15 to 30 minutes as needed.
- 3. Give H₁-receptor blocker: Diphenhydramine (Benadryl[®]) IM/IV 1 to 2 mg/kg, up to 50 mg.

If not responsive to therapy, seek appropriate assistance (e.g., cardiopulmonary arrest response team).

Laryngeal Edema or Bronchospasm

- 1. Give O₂ 6 to 10 liters/min (via mask, face tent, or blow-by stream). Monitor: electrocardiogram, O₂ saturation (pulse oximeter), and blood pressure.
- 2. Give beta-agonist inhalers [bronchiolar dilators, such as metaproterenol (Alupent[®]), terbutaline (Brethaire[®]), or albuterol (Proventil[®]) or (Ventolin[®])] 2 to 3 puffs; repeat as necessary.
- Give epinephrine SC or IM (1:1,000) 0.01 mL/kg , maximum 0.3 mL/dose OR epinephrine (1:10,000) IV 0.1 mL/kg, maximum 3mL/dose. Repeat in 3 to 5 minutes as needed.

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

Pulmonary Edema

- 1. Give O₂ 6 to 10 liters/min (via mask, face tent, or blow-by stream). Monitor: electrocardiogram, O₂ saturation (pulse oximeter), and blood pressure.
- 2. Give diuretic furosemide (Lasix^{\mathbb{R}}) IV 1 to 2 mg/kg.

Call for assistance (e.g., cardiopulmonary arrest response team).

Hypotension with Tachycardia

- 1. Give O₂ 6 to 10 liters/min (via mask). Monitor: electrocardiogram, O₂ saturation (pulse oximeter), and blood pressure.
- 2. Legs elevated 60° or more (preferred) or Trendelenburg position.
- 3. Keep patient warm.
- 4. Give IV or IO normal saline or Ringer's lactate 20 mL/kg over 5 to 10 minutes. Bolus infusion over 10 to 20 minutes in patients with myocardial dysfunction.

Seek appropriate assistance (e.g., cardiopulmonary arrest response team).

Hypotension with Bradycardia (Vagal Reaction)

- 1. Give O₂ 6-10 liters/min (via mask). Monitor: electrocardiogram, O₂ saturation (pulse oximeter), and blood pressure.
- 2. Legs elevated 60° or more (preferred) or Trendelenburg position.
- 3. Keep patient warm.
- 4. Give IV or IO normal saline or Ringer's lactate 20 mL/kg over 5 to 10 minutes. Give infusion over 10 to 20 minutes in patients with myocardial dysfunction.
- 5. Give atropine IV 0.02 mg/kg if patient does not respond quickly to steps 2, 3, and 4. Minimum initial dose of 0.1 mg. Maximum initial dose of 0.5 mg (infant/child), 1.0 mg (adolescent).
- 6. Atropine dose may be doubled for second administration.

Seek appropriate assistance (e.g., cardiopulmonary arrest response team).

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