CONTRAST REACTION TREATMENT DETAILED

GENERAL GUIDELINES/COMMENTS

- The radiologist should have the knowledge and equipment available to treat most contrast reactions without assistance. It is the responsibility of the technologist performing the scan to have the necessary medications and equipment readily available and in working order.
- The response time to treatment should be minimized. Not all contrast reactions present with a classical complex of signs and symptoms. Failure to recognize that a patient is indeed having an adverse reaction may delay appropriate treatment.
- Know the Patient
  - Does the patient have a history of coronary artery disease or other significant cardiac problems? IV contrast agents can compromise cardiac function.
  - Is the patient being treated for congestive heart failure? IV contrast agents will increase the effective circulating volume and may cause pulmonary edema in a poorly compensated patient.
  - Does the patient have a history of asthma and is experiencing an acute exacerbation? IV contrast agents can provoke bronchospasm and worsen preexisting airway constriction.
  - The technologist performing the procedure will obtain a list of the medications that the patient is taking before the examination. Some medications may mask the symptoms of a contrast reaction.
  - Beta blockers slow the heart rate and block its acceleration response to physiologic stress. They may interfere with a tachycardic response (which sometimes occurs prior to a severe reaction). Beta blockade blunts the effects of epinephrine, requiring increased doses to achieve similar physiologic effects. Once the beta blockade effect is overcome, there is an unopposed alpha-adrenergic effect of epinephrine that predominates with a marked increase in peripheral vascular resistance and a subsequent hypertensive response. Beta blockers may increase the rate of moderate to severe anaphylactoid reactions caused by IV contrast agents.
  - Calcium channel blockers are peripheral vasodilators and are frequently prescribed for hypertension, coronary insufficiency and arrhythmias. Correction of hypotension by fluid replacement may be more difficult due to persistent peripheral vasodilation.
- Recognize That There Is A Problem
  - Look for the classic and more subtle signs that the patient is having an adverse reaction.
    1) Dermal - urticaria, pruritus, and skin flushing.
    2) Mucosal edema may present with increased production of tears, difficulty in swallowing, nasal congestion, severe bronchoconstriction or laryngeal edema with hoarseness.
    3) Generalized edema may present with edematous eyelids or perioral edema.
  - All patients in the IR suite should have continuous vital signs monitoring.

- The person in attendance will have to depend on the patient's signs and symptoms to determine if the patient is having an adverse reaction. A patient who is becoming hypotensive may display a change in mental status, becoming restless or confused. This may be related to analgesics, sedative medications or could indicate a vasovagal reaction. This should prompt the radiologist to check the patient's vital signs.

- <u>Be Prepared to Deliver Treatment Quickly and Know When to Call for Help</u>
  - Evaluate the situation, categorize the type of adverse reaction and determine if it is mild, moderate or severe.
  - After treatment is given, reevaluate the patient frequently and decide if the situation is improving or becoming worse.

URTICARIA (HIVES) - ADULT TREATMENT ALGORITHM

	Treatment	Dosing
Mild (scattered and/or transient)	No treatment often needed; however, if symptomatic, can consider:	
	Diphenhydramine (Benadryl®)*	25–50 mg PO
	or	
	Fexofenadine (Allegra®)**	180 mg PO
Moderate (more numerous/bothersome)	Monitor vitals	
	Preserve IV access	
	Consider diphenhydramine (Benadryl®)*	25–50 mg PO
	or	
	Fexofenadine (Allegra®)**	180 mg PO
	or	
	Consider diphenhydramine (Benadryl®)*	25–50 mg IM or IV (administer IV dose slowly over 1–2 min)
Severe (widespread and/or progressive)	Monitor vitals	
	Preserve IV access	
Consider	Diphenhydramine (Benadryl®)*	25–50 mg IM or IV (administer IV dose slowly over 1–2 min)
* Note: all forms can cause drowsiness; IM/IV form may cause or worsen hypotension	** Note: second generation antihistamines cause less drowsiness; may be beneficial for patients who need to drive themselves home	

URTICARIA (HIVES) - PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
General comment: observe until hives are resolving. Further observation may be necessary if treatment is administered.		
Mild (scattered and/or transient)	No treatment often needed; however, if symptomatic, can consider	
	Diphenhydramine (Benadryl®)*	1 mg/kg (max = 50 mg) PO, IM, or IV; administer IV dose slowly over 1 – 2 min
Moderate (more numerous/bothersome)	Monitor vitals	
	Preserve IV access	
Consider	Diphenhydramine (Benadryl®)*	1 mg/kg (max = 50 mg) PO, IM, or IV; administer IV dose slowly over 1 – 2 min
Severe (widespread and/or progressive)	Monitor vitals	
	Preserve IV access	
Consider	Diphenhydramine (Benadryl®)*	1 mg/kg (max = 50 mg) PO, IM, IV; administer IV dose slowly over 1 – 2 min

*Note: All forms can cause drowsiness; IV/IM form may cause or worsen hypotension.
Note: It can be difficult to dose medications accurately in neonates and infants. Also, with respect to IM delivery of epinephrine, EpiPen Jr® package insert does not provide dosing recommendations for children < 15 kg.

DIFFUSE ERYTHEMA – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	Pulse oximeter	
	O2 by mask	6–10 L/min
Normotensive	No other treatment usually needed	
	Treatment	**Dosing**
Hypotensive	IV fluids 0.9% normal saline	1,000 mL rapidly
	or	
	Lactated Ringer's	1,000 mL rapidly
If profound or unresponsive to fluids alone can also consider	Epinephrine (IV)*	IV 1 mL of 0.1 mg/mL (1:10,000) dilution (0.1 mg); administer slowly into a running IV infusion of fluids; can repeat every few minutes as needed up to 10 mL (1 mg) total
	or (if no IV access available)	
	Epinephrine (IM)*	IM 0.3 mL of 1.0 mg/mL (1:1,000) dilution (0.3 mg); can repeat every 5-15 minutes up to 1 mL (1 mg) total
		or
		Epinephrine auto-injector (EpiPen® or equivalent) (0.3mL of 1.0 mg/mL (1:1,000) dilution, fixed [0.3mg]); can repeat every 5-15 minutes up to three times
	Consider calling emergency response team or 911	
* Note: in hypotensive patients, the preferred route of epinephrine delivery is IV, as the extremities may not be perfused sufficiently to allow for adequate absorption of IM administered drug.		

DIFFUSE ERYTHEMA – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	O2 by mask	6 – 10 L / min
Normotensive	No other treatment usually needed	
	Treatment	**Dosing**
Hypotensive	IV fluids: 0.9% normal saline	10 – 20 mL / kg;
	or	Maximum of 500 – 1,000 mL
	Lactated Ringer's	
If profound or unresponsive to fluids alone can also consider	Epinephrine (IV)*	IV 0.1 mL/kg of 0.1 mg/mL (1:10,000) dilution (0.01 mg/kg); administer slowly into a running IV infusion of fluids; can repeat every 5 – 15 min, as needed; maximum single dose: 1.0 mL (0.1 mg); can repeat up to 1 mg total dose
	or (if no IV access available)	
	Epinephrine (IM)*	IM 0.01 mL/kg of 1.0 mg/mL (1:1,000) dilution (0.01 mg / kg); max 0.30 mL (0.30 mg); can repeat every 5-15 minutes up to 1 mL (1 mg) total
		or
		Epinephrine auto-injector (1.0 mg/mL (1:1,000) dilution equivalent) If < 30 kg, pediatric epinephrine auto-injector (EpiPen Jr® or equivalent) 0.15 mL equivalent (0.15 mg); If ≥ 30 kg, adult epinephrine auto-injector (EpiPen® or equivalent) 0.30 mL (0.30 mg)
	Consider calling emergency response team or 911	

*Note: In hypotensive patients, the preferred route of epinephrine delivery is IV, as the extremities may not be perfused sufficiently to allow for adequate absorption of IM administration. Also, with respect to IM delivery of epinephrine, the EpiPen Jr® package insert does not provide dosing recommendations for children < 15 kg.
Note: It can be difficult to dose medications accurately in neonates and infants.

BRONCHOSPASM – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	Pulse oximeter	
	O2 by mask	6–10 L/min
Mild	Beta agonist inhaler (Albuterol®)	2 puffs (90 mcg/puff) for a total of 180 mcg; can repeat up to 3 times
	Consider sending patient to the Emergency Department or calling emergency response team or 911, based upon the completeness of the response to the beta agonist inhaler	
Moderate	Beta agonist inhaler (Albuterol®)	2 puffs (90 mcg/puff) for a total of 180 mcg; can repeat up to 3 times
	Consider adding epinephrine (IM)*	IM 0.3 mL of 1.0 mg/mL (1:1,000) dilution (0.3 mg); can repeat every 5-15 minutes up to 1 mL (1 mg) total
		or
		Epinephrine auto-injector (EpiPen® or equivalent) (0.3 mL of 1.0 mg/mL (1:1,000) dilution, fixed [0.3mg]); can repeat every 5-15 minutes up to three times
	or	
	Epinephrine (IV)*	IV 1 mL of 0.1 mg/mL(1:10,000) dilution (0.1 mg); administer slowly into a running IV infusion of fluids or use saline flush; can repeat every few minutes as needed up to 10 mL (1 mg) total
	Consider calling emergency response team or 911 based upon the completeness of the response	
Severe	Epinephrine (IV)*	IV 1 mL of 0.1 mg/mL (1:10,000) dilution (0.1 mg); administer slowly into a running IV infusion of fluids or slow IV push followed by a slow saline flush; can repeat every few minutes as needed up to 10 mL (1 mg) total
	or	
	Epinephrine (IM)*	IM 0.3 mL of 1:1,000 dilution (0.3 mg); can repeat every 5-15 minutes up to 1 mL (1 mg) total
		or
		Epinephrine auto-injector (EpiPen® or equivalent) (0.3 mL of 1.0 mg/mL(1:1,000) dilution, Fixed [0.3mg]); can repeat every 5-15 minutes up to three times
	AND Beta agonist inhaler (Albuterol®) (may work synergistically)	2 puffs (90 mcg/puff) for a total of 180 mcg; can repeat up to 3 times
	Call emergency response team or 911	
* Note: in hypotensive patients, the preferred route of epinephrine delivery is IV, as the extremities may not be perfused sufficiently to allow for adequate absorption of IM administered drug.		

BRONCHOSPASM – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	O2 by mask	6–10 L / min
	Treatment	**Dosing**
Mild	Beta agonist inhaler (Albuterol®)	2 puffs (90 mcg/puff) for a total of 180 mcg; can repeat up to 3 times
	Consider calling emergency response team or 911, based upon the completeness of the response	
Moderate	Consider adding epinephrine (IM)*	IM 0.01 mL/kg of 1.0 mg/mL (1:1,000) dilution (0.01 mg/kg); max 0.30 mL (0.30 mg); can repeat every 5-15 minutes up to 1 mL (1 mg) total
		or
		Epinephrine auto-injector (1.0 mg/mL (1:1,000) dilution equivalent) If < 30 kg, pediatric epinephrine auto-injector (EpiPen Jr® or equivalent) 0.15 mL equivalent (0.15 mg); If ≥ 30 kg, adult epinephrine auto-injector (EpiPen® or equivalent) 0.30 mL (0.30 mg)
	or	
	Epinephrine (IV)*	IV 0.1 mL/kg of 0.1 mg/mL (1:10,000) dilution (0.01 mg/kg); administer slowly into a running IV infusion of fluids; can repeat every 5–15 min, as needed; maximum single dose:1.0 mL (0.1 mg); can repeat up to 1 mg total dose
	Consider calling emergency response team or 911 based upon the completeness of the response	
Severe	Epinephrine (IV)*	IV 0.1 mL / kg of 0.1 mg/mL (1:10,000) dilution (0.01 mg / kg); administer slowly into a running IV infusion of fluids; can repeat every 5-15 min, as needed; maximum single dose: 1.0 mL (0.1 mg); can repeat up to 1 mg total dose
	or	
	Epinephrine (IM)*	IM 0.01 mL/kg of 1.0 mg/mL (1:1,000) dilution (0.01 mg/kg); max 0.30 mL (0.30 mg); can repeat every 5-15 minutes up to1 mL (1 mg) total
		or

	Treatment	Dosing
		Epinephrine auto-injector (1.0 mg/mL (1:1,000) dilution equivalent) If < 30 kg, pediatric epinephrine auto-injector (EpiPen Jr® or equivalent) 0.15 mL equivalent (0.15 mg); If ≥ 30 kg, adult epinephrine auto-injector (EpiPen® or equivalent) 0.30 mL (0.30 mg)
	AND Beta agonist inhaler (Albuterol®) (May work synergistically)	2 puffs (90 mcg/puff) for a total of 180 mcg; can repeat up to 3 times
	Call emergency response team or 911	

*Note: In hypotensive patients, the preferred route of epinephrine delivery is IV, as the extremities may not be perfused sufficiently to allow for adequate absorption of IM administration. Also, with respect to IM delivery of epinephrine, the EpiPen Jr® package insert does not provide dosing recommendations for children < 15 kg.
Note: It can be difficult to dose medications accurately in neonates and infants.

LARYNGEAL EDEMA – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	Pulse oximeter	
	O2 by mask	6–10 L/min
		IV 1 mL of 0.1 mg/mL (1:10,000) dilution (0.1 mg); administer slowly into a running IV infusion of fluids or use saline flush; can repeat every few minutes as needed up to 10 mL (1 mg) total
	or	
	Epinephrine (IM)	IM 0.3 mL of 1.0 mg/mL (1:1,000) dilution (0.3 mg); can repeat every 5-15 minutes up to 1 mL (1 mg) total
	or	
		Epinephrine auto-injector (EpiPen® or equivalent) (0.3 mL of 1.0 mg/mL (1:1,000) dilution, fixed [0.3mg]); can repeat every 5-15 minutes up to three times
	Consider calling emergency response team or 911 based upon the severity of the reaction and the completeness of the response	
* Note: in hypotensive patients, the preferred route of epinephrine delivery is IV, as the extremities may not be perfused sufficiently to allow for adequate absorption of IM administered drug.		

LARYNGEAL EDEMA – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	O2 by mask	6–10 L/min
		IV 0.1 mL/kg of 0.1 mg/mL (1:10,000) dilution (0.01 mg/kg); administer slowly into a running IV infusion of fluids; can repeat every 5–15 min, as needed; maximum single dose: 1.0 mL (0.1 mg); can repeat up to 1 mg total dose
		or
	Epinephrine (IM)*	IM 0.01 mL/kg of 1.0 mg/mL (1:1,000) dilution (0.01 mg/kg); max 0.30 mL (0.30 mg); can repeat every 5-15 minutes up to 1 mL (1 mg) total
		or
		Epinephrine auto-injector (1:1,000 dilution equivalent) If < 30 kg, pediatric epinephrine auto-injector (EpiPen Jr® or equivalent) 0.15 mL equivalent (0.15 mg); If ≥ 30 kg, adult epinephrine auto-injector (EpiPen® or equivalent) 0.30 mL (0.30 mg)
	Call emergency response team or 911	

*Note: In hypotensive patients, the preferred route of epinephrine delivery is IV, as the extremities may not be perfused sufficiently to allow for adequate absorption of IM administration. Also, with respect to IM delivery of epinephrine, the EpiPen Jr® package insert does not provide dosing recommendations for children < 15 kg.
Note: It can be difficult to dose medications accurately in neonates and infants.

HYPOTENSION – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	Pulse oximeter	
	Treatment	**Dosing**
	O2 by mask	6–10 L/min
	Elevate legs at least 60 degrees	
	IV fluids 0.9% normal saline	1,000 mL rapidly
	or	
	Lactated Ringer's	1,000 mL rapidly
	Treatment	**Dosing**
Hypotension with bradycardia (pulse < 60 bpm) (Vasovagal reaction)		
If mild	No other treatment usually necessary	
If severe *(patient remains symptomatic despite above measures)*	In addition to above measures: Atropine (IV)	0.6–1.0 mg; administer into a running IV infusion of fluids; can repeat up to 3 mg total
	Consider calling the emergency response team or 911	
Hypotension with tachycardia (pulse > 100 bpm) (Anaphylactoid reaction)		
If hypotension persists	Epinephrine (IV)*	IV 1 mL of 0.1 mg/mL (1:10,000) dilution (0.1 mg); administer slowly into a running IV infusion of fluids; can repeat every few minutes as needed up to 10 mL (1 mg) total
	or	
	Epinephrine (IM)*	IM 0.3 mL of 1.0 mg/mL (1:1,000) dilution (0.3 mg); can repeat every 5-15 minutes up to 1 mL (1 mg) total
		or
		Epinephrine auto-injector (EpiPen® or equivalent) (0.3 mL of 1.0 mg/mL (1:1,000) dilution, fixed [0.3mg]); can repeat every 5-15 minutes up to three times
	Consider calling emergency response team or 911 based upon the severity of the reaction and the completeness of the response	
* Note: in hypotensive patients, the preferred route of epinephrine delivery is IV, as the extremities may not be perfused sufficiently to allow for adequate absorption of IM administered drug.		

HYPOTENSION – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	O2 by mask	6–10 L/min
	Elevate legs at least 60 degrees	
	Consider IV fluids: 0.9% normal saline	10–20 mL/kg;
	or	Maximum of 500–1,000 mL
	Lactated Ringer's	
Hypotension with bradycardia (min normal pulse varies for children of different ages) (Vasovagal reaction)		
If mild	No other treatment usually necessary	
If severe (patient remains symptomatic despite above measures)	In addition to above measures: Atropine (IV)	IV 0.2 mL/kg of 0.1 mg/mL solution (0.02 mg/kg); Minimum single dose = 0.1 mg Maximum single dose = 0.6–1.0 mg Maximum total dose = 1 mg for infants and children 2 mg for adolescents administer into a running IV infusion of fluids
Hypotension with tachycardia (max normal pulse varies for children of different ages) (Anaphylactoid reaction)		
If severe (hypotension persists)	Epinephrine (IV)*	IV 0.1 mL/kg of 0.1 mg/mL (1:10,000) dilution (0.01 mg/kg); administer slowly into a running IV infusion of fluids; can repeat every 5–15 min, as needed; maximum single dose: 1.0 mL (0.1 mg); can repeat up to 1 mg total dose
	or	
	Epinephrine (IM)*	IM 0.01 mg/kg of 1.0 mg/mL (1:1,000) dilution (0.01 mL/kg); max 0.30 mL (0.30 mg); can repeat every 5–15 minutes up to 1 mL (1 mg) total
		or
	Treatment	**Dosing**
		Epinephrine auto-injector (1.0 mg/mL (1:1,000) dilution equivalent) If < 30 kg, pediatric epinephrine auto-injector (EpiPen Jr® or equivalent) 0.15 mL equivalent (0.15 Mg); If ≥ 30 kg, adult epinephrine auto-injector (EpiPen® or equivalent) 0.30 mL (0.30 mg)
	Call emergency response team or 911	

*Note: In hypotensive patients, the preferred route of epinephrine delivery is IV, as the extremities may not be perfused sufficiently to allow for adequate absorption of IM administration. Also, with respect to IM delivery of epinephrine, the EpiPen Jr® package insert does not provide dosing recommendations for children < 15 kg.
Note: It can be difficult to dose medications accurately in neonates and infants.

HYPERTENSIVE CRISES – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	Monitor vitals	
	Pulse oximeter	
	O2 by mask	6–10 L/min
	Labetalol (IV)	20 mg IV; administer slowly, over 2 min; can double the dose every 10 min (e.g., 40 mg 10 min later, then 80 mg 10 min after that)
	or (if labetalol not available)	
	Nitroglycerin tablet (SL)	0.4 mg tablet; can repeat every 5–10 min
	and	
	Furosemide (Lasix®) (IV)	20–40 mg IV; administer slowly over 2 min
	Call emergency response team or 911	

UNRESPONSIVE & PULSELESS – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
	Activate emergency response team (call 911)	
	Start CPR	
	Get defibrillator or automated electronic defibrillator (AED); apply as soon as available; shock as indicated	
Note: Please also see BLS and ACLS (PALS) booklets published by the American Heart Association	Epinephrine (between 2 min cycles)	0.1 mL/kg of 0.1 mg/mL (1:10,000) dilution (0.01 mg/kg); administer quickly with flush or IV fluids; max dose of 10 mL (1 mg)

PULMONARY EDEMA – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
	Preserve IV access	
	Monitor vitals	
	O2 by mask	6–10 L/min
	Pulse oximeter	
	Elevate head of bed, if possible	
	Furosemide (Lasix®)	20–40 mg IV; administer slowly over 2 min
	Call emergency response team or 911	

PULMONARY EDEMA – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
	Preserve IV access	
	Monitor vitals	
	O2 by mask	6–10 L/min
	Elevate head of bed	
	Furosemide (Lasix®) (IV)	IV 0.5–1.0 mg/kg; over 2 min; maximum = 40 mg
	Call emergency response team or 911	

SEIZURES/CONVULSIONS – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
	Observe and protect the patient	
	Turn patient on side to avoid aspiration	
	Suction airway, as needed	
	Preserve IV access	
	Monitor vitals	
	Pulse oximeter	
	O2 by mask	6–10 L/min
If unremitting	Call emergency response team or 911	
	Treatment	**Dosing**
	Lorazepam (IV)	IV 2–4 mg IV; administer slowly to maximum dose of 4 mg

SEIZURES/CONVULSIONS – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
	Observe and protect the patient	
	Turn patient on side to avoid aspiration	
	Suction airway, as needed	
	Preserve IV access	
	Monitor vitals	
	O2 by mask	6–10 L/min
If unremitting	Call emergency response team or 911	

HYPOGLYCEMIA – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
	Preserve IV access	
	O2 by mask	6–10 L/min
If patient is able to swallow safely	Oral glucose	Two sugar packets or 15 g of glucose tablet/gel or ½ cup (4 oz) of fruit juice
If patient is unable to swallow safely and IV access available	Dextrose 50% (IV)	D50W 1 ampule (25 grams) IV administer over 2 min
	D5W or D5NS (IV) as adjunct therapy	Administer at a rate of 100 mL/hour
If no IV access is available	Glucagon (IM)	IM 1 mg

HYPOGLYCEMIA – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
All forms	Preserve IV access	
	O2 by mask	6–10 L / min
If patient is able to swallow safely	Observe	
Administer oral glucose		2 sugar packets or 15 g of glucose tablet or gel or ½ cup (4 oz) of fruit juice
If patient is unable to swallow safely		
And IV access is available	Dextrose 50% (IV)	IV D25 2 mL/ kg; IV injection over 2 min
And IV access is not available	Glucagon (IM/SQ)	IM/SQ 0.5 mg if < 20 kg
		IM/SQ 1.0 mg if > 20 kg

REACTION REBOUND PREVENTION – ADULT TREATMENT ALGORITHM

	Treatment	Dosing
Note: While IV corticosteroids may help prevent a short-term recurrence of an allergic-like reaction, they are not useful in the acute treatment of any reaction. However, these may be considered for patients having severe allergic-like manifestations prior to transportation to an Emergency Department or inpatient unit.	Hydrocortisone (Solu-Cortef®) (IV)	IV 5 mg / kg; administer over 1-2 min
	or	
	Methylprednisolone (Solu-Medrol®) (IV)	IV 1 mg / kg; administer over 1-2 min

REACTION REBOUND PREVENTION – PEDIATRIC TREATMENT ALGORITHM

	Treatment	Dosing
Note: While IV corticosteroids may help prevent a short-term recurrence of an allergic-like reaction, they are not useful in the acute treatment of any reaction. However, these may be considered for patients having severe allergic-like manifestations prior to transportation to an Emergency Department of inpatient unit.	Hydrocortisone (Solu-Cortef®) (IV)	IV 5 mg/kg; administer over 1-2 min; maximum: 200 mg
	or	
	Methylprednisolone (Solu-Medrol®) (IV)	IV 1 mg/kg; administer over 1–2 min; maximum: 40 mg