Standard Operating Procedures

Procedure Title: Hypersensitivity/Infusion Reaction SOP
Procedure Number: 020307
Effective/Origination Date: 2/27/25
Revision Date(s): 2/20/2025, 3/6/2026
Version: 2

Purpose: To equip Pure Infusion clinicians with a clear, step-by-step protocol for recognizing and managing infusion reactions effectively.

Maximum Reversal Medication Doses (includes premedication amounts):

- Diphenhydramine: 75mg max dose
- Pepcid: 20mg max dose
- Solumedrol: 125mg max dose
- Epinephrine: three, 0.3mg doses

Procedure:

Infusion Reaction with IV Established

Mild Infusion Reaction: Mild headache, flushing (transient), cough (mild), patchy macular and/or popular rash, itching, hives, nausea/vomiting (mild), diarrhea (mild), rhinitis/tickle in throat.

1. **Stop or slow infusion** (½ of rate)
    - Assess vital signs at least every 15 minutes x 30 minutes.
    - *If the only symptom is nasopharyngitis (e.g., w/ Vyepti), call NP for oral antihistamine orde*r.
2. If symptoms improve:
    - Reinitiate rate titration OR restart infusion at half the rate and titrate per RN discretion to maximum rate.
3. **If symptoms do not improve or if they worsen after step 1:**
    - Stop infusion (if not already stopped)
    - Hang 500cc bag of normal saline, maintaining at least TKO rate and no faster than 500ml/hr.

- Give the following medications:
    - Give 25mg Benadryl IVP over 2 minutes
    - Give 20mg Pepcid IVP over 2 minutes
    - Give Tylenol 1000mg PO x1 if patient is febrile.
    - Continue vital signs at least every 15 minutes
  - **Contact via Teams Video Call your supervising NP or MD if additional assessment/management is needed.**

4. If symptoms improve 30 minutes after step **3**:
    - Restart infusion at ½ the rate which the reaction occurred for at least 30 minutes.
    - Titrate rate every 15- 30 minutes per RN discretion to maximum rate.
5. If symptoms do not improve or if they worsen within 30 minutes of step ***3:***
    - Give 125mg Solumedrol IVP over 1 minute
    - Continue vital signs at least every 15 minutes
    - **Contact via Teams Video Call your supervising NP or MD if additional assessment/management is needed.**
6. If symptoms improve 30 minutes after step **5:**
    - Restart infusion at ½ rate at which the reaction occurred for at least 30 minutes.
    - Titrate per RN discretion to maximum rate
7. If symptoms worsen at any point after step **5:**
    - Go to moderate infusion reaction
    - Give additional medications if applicable per step **2** of Moderate IR
    - **Contact via Teams Video Call your supervising NP or MD if additional assessment/management is needed.**
    - Do not reinitiate infusion
    - Call referring provider and provide details about patient reaction.

Moderate Infusion Reaction: Increased severity of the following: patchy macular and/or popular rash, itching, nausea, diarrhea, flushing, cough. New shortness of breath, tightness in chest, flu like symptoms, fever, back

discomfort, feeling cold/hot, rigors, hypotension/hypertension < 20% from baseline, HR >110, temperature increase by one degree OR is 38C-38.9C, changes in mental status.

1. STOP INFUSION:
    - Hang 500cc NS and infuse at 500cc/hr
    - If SBP less than 90 or DBP less than 50 hang 1000cc NS and infuse at 1000ml/hr.
    - Assess vital signs at least every 10 minutes
    - If oxygen saturation is below 90%, give the patient oxygen per nasal cannula at least 2L to keep sats above 90%
    - If unable to keep oxygen saturation levels above 90% using the nasal cannula, then place a nonrebreather at 15L on the patient
2. Give the following medications:
    - Give diphenhydramine 25-50 mg IVP over 2 minutes
        - If diphenhydramine was administered in any dose as a premedication reduce dose to 25mg IVP
    - Give Pepcid 20mg IVP x 1 over 2 minutes
    - Give solumedrol 125 mg IVP x1
    - Give albuterol, 90mcg, 2 inhalations for wheezing or moderate shortness of breath.
        - Repeat every 4 hours as needed for shortness of breath or wheezing
    - Give 1000 mg tylenol PO x 1 for temperature > 38C
    - **Contact via Teams Video Call your supervising NP or MD if additional assessment/management is needed.**
3. If symptoms have resolved for 30 minutes after step **2**:
    - Restart infusion at ½ rate at which the reaction occurred for at least 30 minutes.
    - Titrate per RN discretion to maximum rate
    - Monitor closely
4. If symptoms return after step **3**:
    - Stop infusion immediately
    - Give any remaining reversal medications, if applicable
    - Do not reinitiate infusion
    - **Contact via Teams Video Call your supervising NP or MD if additional assessment/management is needed.**
    - Call provider and/or EMS if patient does not improve

- Follow severe reaction steps if symptoms worsen

Severe Infusion Reaction (anaphylaxis): Worsening of moderate symptoms. Wheezing, chest pain/heaviness, oxygen saturation < 90%, swelling of lips/tongue/face, tachycardia, dysrhythmias, stridor, hypotension - severe (SBP <80 Hg or >20% from baseline), cyanosis, respiratory distress, unconsciousness.

1. STOP INFUSION:
    - Discontinue any medication suspected of causing reaction
    - Give 1000ml NS wide open using new administration set
    - Place patient in recumbent position, if tolerated
    - Maintain airway
    - VS every 5 minutes, place continuous pulse ox.
    - Administer 10L per non-rebreather mask to keep sats above 90%
    1. Give Epinephrine 0.3mg IM immediately, may repeat every 5 to 15 minutes as needed
    2. Call 911
    3. **Give the following medications:**
        - Give Benadryl 50mg IV push
            - Maximum dose 75 mg - including premeds and all reversal meds
        - Give Pepcid 20mg, IV push
            - Maximum dose 20 mg – including premeds and all reversal meds
        - Give Solumedrol 125mg IV push
            - Maximum dose 125 mg - including premedications and all reversal meds
        - Give albuterol, 90mcg, 2 inhalations for wheezing or moderate shortness of breath.
            - Repeat every 4 hours as needed for shortness of breath or wheezing
    4. All patients who receive epinephrine must have EMS called for evaluation and be transferred to the emergency department (ED) for monitoring. Do not attempt to recover patients in the clinic or discharge them home. If a patient refuses ED transport, they must sign an Against Medical Advice (AMA) form before leaving.
    5. **Contact via Teams Video Call your supervising NP or MD**

6. If patient becomes unconscious, perform basic life support until EMS arrives.
7. Call the prescriber at the earliest opportunity post reaction.

Infusion Reaction in Patients Without IV Access

Mild Infusion Reaction: Mild headache, flushing (transient), cough (mild), patchy macular and/or popular rash, itching, hives, nausea/vomiting (mild), diarrhea (mild), rhinitis/tickle in throat.

If no IV established (injection patient):

- **ONE mild symptom** is present, and vital signs are stable:
- Give Diphenhydramine 25mg IM x1.
- **MORE THAN ONE mild symptom** is present, and vital signs are stable:
- Give Diphenhydramine 50mg IM x1.
- Monitor vital signs every 15 minutes.
- If symptoms worsen or do not improve, establish IV access and follow the Moderate Infusion Reaction protocol.
- Contact Supervising NP or MD

Moderate Infusion Reaction: Increased severity of the following: patchy macular and/or popular rash, itching, nausea, diarrhea, flushing, cough. New shortness of breath, tightness in chest, flu like symptoms, fever, back discomfort, feeling cold/hot, rigors, hypotension/hypertension < 20% from baseline, HR >110, temperature increase by one degree OR is 38C-38.9C, changes in mental status.

If no IV established (injection patient):

- Place IV and follow Moderate Infusion Reaction protocol
- If **IV access is delayed/difficult:**
- Give Diphenhydramine 50mg IM x1.
- Give Solumedrol 125mg IM x1.
- Continue Moderate Infusion Reaction protocol when IV is placed
- Contact Supervising NP or MD

Severe Infusion Reaction (anaphylaxis): Worsening of moderate symptoms. Wheezing, chest pain/heaviness, oxygen saturation < 90%, swelling of lips/tongue/face, tachycardia, dysrhythmias, stridor, hypotension - severe (SBP <80 Hg or >20% from baseline), cyanosis, respiratory distress, unconsciousness.

If no IV established (injection patient):

- Give Epinephrine 0.3mg IM immediately.
- Place IV without delay.
- Follow the Severe Infusion Reaction protocol.
- Contact Supervising NP or MD

REVISION HISTORY			
Version	**Date**	**Revision Summary**	**Author**
1	2/27/25	Moved to the SOP template. Added clearer instructions that if EPI is given, EMS must be called to evaluate and transfer the patient to the ED. Added that staff should call local NP/MD if further guidance is needed during mild and moderating infusion reaction. Added that the local NP/MD should be called if severe reaction occurs.	Serenity Mirabito RN, Director of Clinical Education and Clinical Services
2	3/6/26	Added verbiage under Mild Infusion Reaction to call NP for nasopharyngitis to receive oral antihistamine. Added the new section about Infusion Reaction management without an IV	Serenity Mirabito RN, Director of Clinical Education and Clinical Services