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# KNOW THE DIFFERENCE BECAUSE IT MATTERS

## Distinguishing between infusion and hypersensitivity reactions<sup>1</sup>

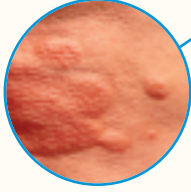
### **Biologics: Expanding treatment options**

Advances in biotechnology have led to the development of promising treatment options in oncology, rheumatology, and neurology. However, because of the size and bioactivity profile of biologic therapeutics, they must be infused.<sup>2</sup> With infused drugs, infusion and hypersensitivity reactions can occur.<sup>1</sup> To make sure that appropriate patients can have the benefit of biologic therapeutics, infusion providers and other healthcare professionals must be able to infuse these agents safely. It is helpful to know the difference between infusion reactions and hypersensitivity reactions.<sup>2</sup>

### **The importance of knowing the difference**

**Hypersensitivity reactions** are a subset of infusion reactions that require different action steps.<sup>1,3</sup> A serious hypersensitivity reaction could be risky for a patient. On the other hand, if an infusion reaction is mistaken for a hypersensitivity reaction, patients may be unnecessarily denied a beneficial treatment. Both types of reactions generally occur within minutes to several hours of the start of the infusion, but can happen at any time.

**Turn this card over for a helpful chart.**

	Infusion reaction	Hypersensitivity reaction
<b>Definition</b>	An <b>infusion reaction</b> is any adverse event occurring after the start of the infusion <sup>4</sup>	<b>Hypersensitivity reactions</b> , or “allergic reactions,” are immune reactions that may be localized or systemic and may be severe (e.g., anaphylaxis)
<b>Cause</b>	Drug, infusion solution, equipment, infusion method (e.g., speed of infusion). <sup>1</sup> Reactions can also be anxiety related <sup>5</sup>	Drug, infusion solution, or equipment. Different classes of drugs tend to cause different kinds of hypersensitivity reactions. Hypersensitivity reactions generally occur within the first few infusions
<b>Symptoms</b>	Nonspecific, and may include:  Headache Dizziness Nausea Fatigue Facial flushing <sup>2</sup>	Symptoms to watch for are:   <p>Urticaria (hives) <b>and/or</b> Changes in airway, breathing, or circulation and other signs of anaphylaxis or anaphylactoid reactions<sup>1,4</sup></p>
<b>Drug may not need to be discontinued*</b>		<b>Discontinue using the drug<sup>6*</sup></b>
<b>Pre-infusion steps</b>	<ol style="list-style-type: none"> <li>1. Check infusion instructions for the drug (e.g., premedication protocols, rate of infusion, etc.)<sup>6</sup></li> <li>2. Check patient’s vital signs<sup>6</sup></li> <li>3. Check that emergency protocol is in place<sup>6</sup></li> <li>4. Know the infusion center emergency protocol and make sure emergency supplies are available<sup>6</sup></li> </ol>	
<b>During infusion</b>	<ol style="list-style-type: none"> <li>1. Ask patient how he or she is feeling</li> <li>2. Check IV infusion site for redness, warmth, pain, swelling, or leakage<sup>1</sup></li> <li>3. Ask the patient if he or she is experiencing itching or discomfort. Skin reactions, like hives, may indicate a hypersensitivity reaction</li> </ol>	<p>→ If you suspect that the patient may be experiencing a hypersensitivity reaction, stop the infusion, but maintain IV access for treatment. Check vital signs and notify the physician. Follow the emergency protocol<sup>6</sup></p>
<b>Post-infusion</b>	<p>Monitor for an appropriate time post-infusion</p> <p>Document observations and intervention</p> <p>Instruct the patient to notify the physician if he or she experiences hypersensitivity reaction symptoms, even after leaving the infusion center. The patient may need treatment<sup>6</sup></p>	

**\*The decision to discontinue drug should be individualized based on nature and severity of the adverse event.**

**Other resources:**

Infusion Nurses Society. *Policies and Procedures for Infusion Nursing*. 3rd ed. Norwood, MA: Infusion Nurses Society; 2006.

Joint Council of Allergy, Asthma, and Immunology. The diagnosis and management of anaphylaxis: an updated practice parameter. *Allergy Clin Immunol*. 2005;115(suppl 2):S483-S523.

**References:** **1.** O’Leary S, Beavin J, Bishop C, Capolino L, Greinel E, Hudson E. Practical guidelines for administering natalizumab: a nursing perspective. *Int J MS Care*. 2007;9:1-8. **2.** Rossman HS, Lawson S. Setting up a neurology-based infusion center: rationale and guidelines. *Appl Neurol*. 2006;1. [http://www.appneurology.com/print.jhtml?articleID=159400260&url\\_prefix=](http://www.appneurology.com/print.jhtml?articleID=159400260&url_prefix=). Accessed December 14, 2007. **3.** Lenz H-J. Management and preparedness for infusion and hypersensitivity reactions. *The Oncologist*. 2007;12:601-609. <http://theoncologist.alphamedpress.org/cgi/reprint/12/5/601.pdf>. Accessed December 14, 2007. **4.** Cancer therapy evaluation program, common terminology criteria for adverse events v3.0 (CTCAE), DCTD, NCI, NIH, DHHS March 31, 2003. Publish date: August 9, 2006. <http://ctep.cancer.gov>. Accessed January 4, 2008. **5.** Kemp SF. Anaphylaxis and serum sickness. In: Rakek RE, Bope ET, eds. *Conn’s Current Therapy 2007*. Philadelphia, PA: Saunders Elsevier; 2007:887-891. **6.** Infusion Nurses Society. *Policies and Procedures for Infusion Nursing*. 3rd ed. Norwood, MA: Infusion Nurses Society; 2006.