

**SECTION 47-1 REVIEW**

# NONSPECIFIC DEFENSES

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**VOCABULARY REVIEW** Define the following terms.

1. Koch's postulates \_\_\_\_\_  
\_\_\_\_\_
2. interferon \_\_\_\_\_  
\_\_\_\_\_
3. histamine \_\_\_\_\_  
\_\_\_\_\_
4. natural killer cell \_\_\_\_\_  
\_\_\_\_\_

**MULTIPLE CHOICE** Write the correct letter in the blank.

- \_\_\_\_\_ 1. Mucus serves as a nonspecific defense to pathogens by
  - a. being secreted by the skin.
  - b. capturing pathogens.
  - c. digesting pathogens.
  - d. secreting cytokines.
- \_\_\_\_\_ 2. Which of the following statements is *false*?
  - a. Fever stimulates the body's defense mechanisms.
  - b. Fever suppresses the growth of certain bacteria.
  - c. Fever activates cellular enzymes.
  - d. Fever promotes the action of white blood cells.
- \_\_\_\_\_ 3. Macrophages
  - a. are white blood cells.
  - b. cross blood-vessel walls.
  - c. engulf and destroy large pathogens.
  - d. All of the above
- \_\_\_\_\_ 4. Natural killer cells are
  - a. specialized red blood cells.
  - b. infected cells.
  - c. phagocytes.
  - d. None of the above
- \_\_\_\_\_ 5. An inflammatory response is initiated by
  - a. release of histamines.
  - b. pathogens.
  - c. fever.
  - d. drying of mucous membranes.

**SHORT ANSWER** Answer the questions in the space provided.

1. How are neutrophils involved in the body's defense against pathogens? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. How does interferon inhibit viruses? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
3. How does the first line of defense protect the body against pathogens? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
4. **Critical Thinking** Why might taking aspirin to reduce fever slow rather than hasten your recovery from a bacterial infection? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**STRUCTURES AND FUNCTIONS** Use the table below to answer the following questions.

1. The table lists the steps that occur in the inflammatory response. Put the steps in the correct order by writing in the numbers 1–5 in the table under the column labeled “Order.”

Order	Events of inflammatory response
_____	Damaged cells secrete histamine.
_____	White blood cells attack and destroy the pathogens.
_____	Pathogens enter the body by penetrating the skin.
_____	White blood cells move to the infected area.
_____	Flow of blood to the infected area increases.

2. Why is an increase in the permeability of capillaries essential to the inflammatory response?  
 \_\_\_\_\_  
 \_\_\_\_\_
3. How would applying ice to a wounded area to reduce blood flow to the area affect the inflammatory response? \_\_\_\_\_  
 \_\_\_\_\_