

## The Immune System: Innate Host Defenses

1. Name the two major categories of innate (nonspecific) defenses:
  - \_\_\_\_\_
  - \_\_\_\_\_
2. Surface barriers include the \_\_\_\_\_ and \_\_\_\_\_ of the respiratory, gastrointestinal and genitourinary tracts.
3. List two of the properties of skin that help it resist invasion:
  - \_\_\_\_\_
  - \_\_\_\_\_
4. The mucus membranes not only provide a barrier, but they also produce a variety of protective chemicals. For example, the stomach secretes \_\_\_\_\_ enzymes and has a very \_\_\_\_\_ pH. The respiratory and digestive tracts are lined with \_\_\_\_\_ that traps pathogens.
5. Once the surface barrier has been broken, the second line of defense, the innate internal defense system (nonspecific defense system), attempts to limit the spread of pathogens. Name the 5 components of the innate internal defense system:
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
6. A phagocyte engulfs a pathogen and brings it inside the phagocyte in a vesicle called a \_\_\_\_\_, which later fuses with a lysosome and is then called a \_\_\_\_\_.
7. Complement proteins circulate in the blood stream in an inactive state. When the protein becomes attached to foreign cells, the complement has become \_\_\_\_\_.
8. Name the four cardinal signs of inflammation:
  - \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

9. Injured cells release inflammatory chemicals, including:

- \_\_\_\_\_
- \_\_\_\_\_

10. Identify the major jobs of histamine and kinins:

- blood vessels \_\_\_\_\_ and become “leaky”
- activate \_\_\_\_\_ receptors

11. The inflammatory response accomplishes three things:

- Prevents \_\_\_\_\_
- Disposes of \_\_\_\_\_
- Sets the stage for \_\_\_\_\_

12. Bacterial components and cytokines act as \_\_\_\_\_, which cause the body’s thermostat to set its temperature higher, thus causing a \_\_\_\_\_. Where is the body’s thermostat located?

\_\_\_\_\_

13. Elevated body temperature is advantageous to our defense system because:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_