

Mastery Series: Inflammation

1. List the 4 cardinal symptoms of inflammation.
2. Describe what causes each symptom.
3. Describe why each symptom could be helpful in moderate amounts.
4. What chemical causes leaky capillaries?
5. Which types of WBCs are well-known for releasing histamine?
6. What are 3 stimulants for WBCs to release histamine?
7. What is a pyrogen and how does it work?

Mastery Series ANSWERS: Inflammation

1. List the 4 cardinal symptoms of inflammation. **RED, HOT, SWOLLEN, and PAINFUL**
2. Describe what causes each symptom.
Dilated blood vessels and leaky capillaries allow more blood into the area, and more fluid into the tissue. Pain is caused by two things: mechanical pressure on touch receptors in the swollen area; and chemicals given off by damaged cells, WBCs, and/or a pathogen.
3. Describe why each symptom could be helpful in moderate amounts.
Increased blood flow brings more WBCs and healing nutrients; higher temperature increases metabolism for rapid healing; swelling and pain inhibit movement of the injured/infected area
4. What chemical causes leaky capillaries? **histamine**
5. Which types of WBCs are well-known for releasing histamine? **Basophils and mast cells**
6. What are 3 stimulants for WBCs to release histamine?
Encountering damaged cells
Encountering pathogens
Chemicals from other WBCs
7. What is a pyrogen (look it up) and how does it work? **“fire-starter”; chemical released by WBCs or pathogens that stimulates the hypothalamus to “turn up the thermostat” of the body. Fever can help slow down bacterial spread, so in moderation may help neutralize the threat.**