

Chapter 22 “Hot List Review Questions” for the Lymphatic and Immune Systems

1. What are the key functions of the lymphatic system?
2. What function does the spleen and lymph nodes have in common?
3. How is the function of the spleen and lymph nodes different?
4. What is the significance of the lymphatic anchoring filaments? (Hints: edema, increase pressure within interstitial space, veins collapse)
5. What are two key functions that occur in the lymph node?
6. Lymphatic organs are encapsulated by connective tissue. What are the four lymphatic organs?
7. What is the difference between lymphatic organs and lymphatic tissues?
8. What type of cells may be found in lymphatic tissue?
9. What is MALT? BALT?
10. What is the difference between primary and secondary lymphatic organs?
11. What is a pathogen?
12. What makes the skin and mucous membranes good barriers against pathogens?
13. What are the features associated with each of the three lines of immune defenses?
14. Which line of defense provides specificity and memory? Significance?
15. Which lines of defense provide “non-specific resistance” to pathogens? Significance?
16. Which line of defense must be “acquired”? How?
17. What is the difference between innate and acquired immunity?
18. When does innate and acquired immunity become functional?
19. Which WBC increases following bacterial infections?
20. Which WBC increases following a parasitic infection?
21. What is a respiratory burst?
22. What WBC can create a respiratory burst? Purpose of respiratory burst?
23. Can a respiratory burst kill you? Explain.
24. What is the difference between a basophile and mast cell?
25. When and where does a mast cell receive surface receptors?
26. NK cells, T cells, and B cells are all lymphocytes. How are NK cells different than T cells and B cells?
27. What is interferon? Function?
28. What is complement? Produced by? Where is it found?
29. How is complement activated?
30. What are the four “outcomes” associated with complement activation?
31. What are the four “cardinal signs” of inflammation?
32. What are the four purposes of inflammation?
33. What is diapedesis?
34. How are the terms selectins, margination, diapedesis and emigration used to describe events in the microcirculation?
35. What WBC is first to emigrate at the site of inflammation? Function?
36. What is the second WBC that follows the “first responders” during inflammation? Function?
37. What is the third cell type to arrive at the site of inflammation? Function?
38. What is the function of a respiratory burst at the site of inflammation?

39. What function does the lymphatic system perform at the site of inflammation?
40. What is the cause of fever? (hint: there are two)
41. Explain why fever is considered a form of non-specific resistance.
42. What is an antigen?
43. How does the immune system use antigens? Self VS non-self?
44. What is the difference between an antigen and an epitope?
45. Why do we need two forms of active immunity?
46. What WBCs are responsible for cellular and humoral immunity?
47. What are the four "types" of acquired immunity? Characteristics of each form?
48. Where are B and T cells "born"?
49. Where are B and T cells "educated? What does this mean?
50. When and where are B and T cells deployed?
51. When and where do B and T cells become naive immunocompetent cells?
52. What is clonal selection?
53. What are major histocompatibility complex proteins? Type I vs Type II?
54. What is antigen processing?
55. What cells are antigen processing cells?
56. Where are dendritic cells located?
57. What is the critical function of the helper T cells? (hint: three events!)
58. What are cytokines?
59. What is the function of interleukin?
60. How are helper T cells activated?
61. How are cytotoxic T cells activated?
62. What is the only WBC that can recognize specific pathogens and "kill them"?
63. What is the only WBC that "kills" cells infected with virus or cancerous cells using immune surveillance?
64. What is the significance of memory cells?
65. When are memory cells created?
66. What is the meaning of born, educated, and deployed? Explain
67. What is the meaning of recognize, react, and remember? Explain
68. What is the difference between a B cell and a plasma cell? Which cell makes antibodies?
69. What is the structure of an antibody?
70. What is the function of antibodies?
71. How many different types of antibodies do plasma cells make?
72. How many antibodies can a single cell produce each second?
73. What is the significance of this phrase: Antibodies render pathogens harmless and tag them for destruction. Explain
74. What is hypersensitivity?
75. What are the four types of hypersensitivity?
76. What is the difference between an allergic reaction and anaphylactic shock?
77. What is an autoimmune disease? Example
78. What is an immunodeficiency disease? Example