

Lymphatic and Immune Systems
Chapter 22 (Hot List Questions)

1. What are the key functions of the lymphatic system?
2. What are lymph nodes? Significance?
3. What are the functions of the spleen?
4. How is the function of the spleen and lymph similar? Different?
5. What is the significance of the lymphatic anchoring filaments? (Hints: edema, increase pressure within interstitial space, veins collapse)
6. What are the two key functions of a lymph node?
7. Lymphatic organs are encapsulated by connective tissue. List the four lymphatic organs?
8. What is the difference between lymphatic organs and lymphatic tissues?
9. What type of cells contributes to the formation of lymphatic tissue?
10. What is MALT?
11. What is the difference between primary and secondary lymphatic organs?
12. What is a pathogen?
13. What makes the skin and mucous membranes good barriers against pathogens?
14. What are the differences between the immune systems the “three defenses lines”?
15. Which line of defense provides specificity and memory? Significance?
16. Which lines of defense provide “non-specific resistance” to pathogens? Key components?
17. Which line of defense must be “acquired and able to adapt”? Significance?
18. Which immune responses are innate or acquired? What does this mean?
19. Which WBC increases following bacterial infections?
20. Which WBC increases following a parasitic infection?
21. What WBC is responsible for the respiratory burst? Why is this important? Can it kill you? Explain.
22. What is the difference between a basophile and mast cell? What structural change must occur in order to change a basophile into a mast cell?
23. What do mast cells release? When? Net effect? Significance?
24. How are NK cells different than T cells and B cells?
25. What is interferon?
26. What is complement?
27. How is complement activated?
28. What are the “four outcomes” associated with complement activation?
29. What is inflammation? Significance? Steps?
30. What is the danger associated with chronic inflammation?
31. What are the four “cardinal signs” of inflammation?
32. What four outcomes are associated with inflammation?
33. What is diapedesis (also referred to as emigration)?
34. What is margination?
35. What is the first WBC to arrive at the site of inflammation?
36. What is the second WBC to arrive at the site of a local inflammatory event? When?
37. What is the role of the fibroblast in inflammation?

38. What is the role of a respiratory burst at the site of a local inflammatory event?
39. Explain the role of the lymphatic system in conjunction with the events that occur at the site of inflammation?
40. What causes fever?
41. Explain why fever is considered a form of non-specific resistance.
42. What is an antigen? How are antigens used by the immune system?
43. What is the difference between self and non-self antigens?
44. What is the difference between an antigen and an epitope?
45. What are the two types of adaptive immunity?
46. Why do we need two forms of adaptive immunity?
47. What WBC is responsible for cellular immunity?
48. What WBCs is responsible for humoral immunity?
49. What are the four "types" of acquired immunity? How do these types of immunity differ from each other?
50. Where are B and T cells "born"?
51. Where are B and T cells "educated"? What does this mean?
52. When and where are B and T cells deployed?
53. When and where do B and T cells become naive immunocompetent cells? Significance?
54. What is clonal selection? When and how does this occur?
55. What are major histocompatibility complex proteins? Type I vs Type II?
56. What cells have MHCP-I?
57. What cells have MHCP-II?
58. What is antigen processing?
59. What cells are antigen processing cells?
60. What cell is only responsible for antigen processing? What are the other functions performed by the other APC?
61. Where are dendritic cells located within the cutaneous membrane? Other locations? Function?
62. Why are helper T cells so important in the immunity response?
63. What are cytokines?
64. What is the function of interleukin I and interleukin II?
65. How are helper T cells activated?
66. How are cytotoxic T cells activated?
67. What is the only WBC that can "kill" a specific pathogen?
68. What is the only WBC that can "kill" a cancerous cell or cell infected with a virus in a non-specific way? (hint: immune surveillance)
69. What is the significance of memory cells?
70. When are memory cells created?
71. What type of cells can create memory cells?
72. What are the three R's? Significance of each "R"?
73. What is the difference between a B cell and a plasma cell?
74. What is the antibody function? (use the phase I use in class!)
75. How many different classes of antibodies do plasma cells make?
76. What is the difference between an allergic reaction and anaphylactic shock?
77. What is an autoimmune disease?

78. What is hypersensitivity? Four types?