

Chapter 6: When the Wall Comes Tumbling Down: AIDS
Biol 194 Seminar Questions

This is a stamped assignment to be completed *before* attending seminar. Pay attention to the following discussion questions as you read chapter 6. Write responses to each question on *separate paper* along with the page number(s) where you found that info.

1. What does SCID stand for?
2. Distinguish between *primary immune deficiencies* and *secondary immune deficiencies*.
3. What are the *two* major sources of *secondary immune deficiencies*? Give examples of each.
4. Radiation therapy and chemotherapy are the primary weapons we have to fight cancer. Why do these two anti-cancer strategies also suppress the body's immune system?
5. Why are immunosuppressant drugs given to organ transplant patients?
6. Where do scientists believe the human immunodeficiency virus, HIV, came from?
7. How big of a medical problem is AIDS in the world? In the United States? What are the numbers?
8. Opportunistic Infections (pp. 142-145): Unless you are studying to become a medical pathologist you need not dwell on the many opportunistic infections. That said, where do many of the critters come from that cause opportunistic infections in AIDS patients and why doesn't the ordinary Joe (or Jane!) Blow suffer from opportunistic infections?
9. Explain why AIDS patients have a higher incidence of tumors than non-HIV individuals, but few presently die of cancer. Why do researchers expect the death rate due to cancer to increase in the future?
10. Without damaging them, HIV infects microglial cells, phagocytic cells that protect the brain cells (neurons). There is no evidence that HIV infects neurons themselves, yet autopsies of AIDS patients show severe neuronal damage (which helps to explain AIDS dementia complex). How, then, does HIV cause damage to the brain if the virus does not infect its functional cells, neurons?
11. Where are nearly all of the infected CD4 helper T cells? Why?
12. What's happening to HIV and the immune system during the stages I - IV of HIV infection?
13. How can AIDS be prevented *and* treated?
14. What lies ahead with respect to.....
 - a. solving the problem of HIV dormancy?
 - b. a vaccine?
 - c. gene therapy?
15. What does the author, William Clark, see as the worst possible nightmare w.r.t. AIDS?