



Failure of the Body's Defenses: AIDs**Objectives:**

1. Explain why the AIDS epidemic is of major concern for world health.
2. Describe the typical events associated with HIV infection including the length of infection and disease progression.
3. Describe the receptor and co-receptor for HIV infection and indicated which cells of the immune system have these receptors.
4. Explain the relationship between the number of CD4 T cells and the diagnosis of AIDS.
5. Describe what is going on in secondary lymphoid tissues during the period of clinical latency and the problems of vaccine development.
6. Describe the clinical problems observed in patients with AIDS and explain how improvements in vaccines, drugs, and education could help eliminate this devastating disease.

I. INTRODUCTION

About 25 years ago the first reports appeared describing homosexual patients with a remarkable acquired immune deficiency syndrome (AIDS) that was characterized by unusual infections and tumors. Since these first reports over 20 million people have died (about 3,5 million died in 2006) and nearly 40 million (2006 stats) are infected with HIV and are at high risk for AIDS. At present the vast majority of people who develop AIDS are expected die. Immunologists have failed in their attempts to eradicate the disease with vaccines and drugs do not offer a cure. The incidence and distribution of HIV in 2006 is illustrated in Fig. 12.17. Note that Sub-Saharan Africa bears the brunt of HIV infection and AIDS, with about 60% of the global total of HIV-positive people. Most of those infected will die in the next 10 years, joining nearly 20 million Africans already claimed by the epidemic and leaving behind shattered families and crippled prospects for development. Most alarming is the fact that the epidemic is just starting in the major population centers of the world and in the absence of a vaccine, better drugs, or much better education the number of deaths in the next 20 years could be astronomic.