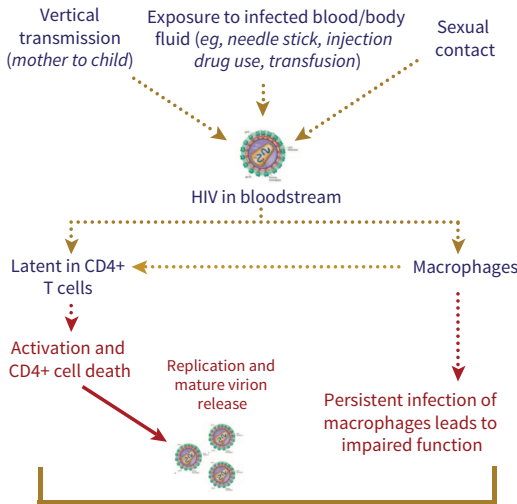




Human Immunodeficiency Virus (HIV)

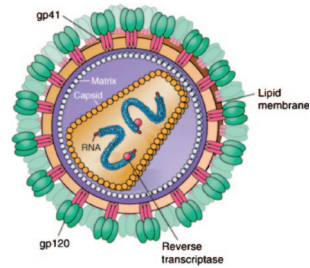
HIV is the etiologic agent of acquired human immunodeficiency syndrome or AIDS; it belongs to the family of human retroviruses (*Retroviridae*) and the subfamily of *lentiviruses*.

Pathophysiology



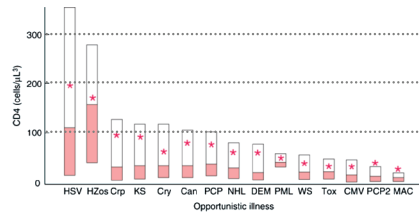
Can, candidal esophagitis; **CMV**, cytomegalovirus infection; **Crp**, cryptosporidiosis; **Cry**, cryptococcal meningitis; **DEM**, AIDS dementia complex; **HSV**, herpes simplex virus infection; **HZos**, herpes zoster; **KS**, Kaposi's sarcoma; **MAC**, *Mycobacterium avium* complex bacteremia; **NHL**, non-Hodgkin's lymphoma; **PCP**, primary *Pneumocystis jirovecii* pneumonia; **PCP2**, secondary *P. jirovecii* pneumonia; **PML**, progressive multifocal leukoencephalopathy; **Tox**, *Toxoplasma gondii* encephalitis; **WS**, wasting syndrome.

Structure of HIV



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Opportunistic Infections (OIs)



Relationship between CD4+ T-cell counts and the development of opportunistic diseases

Median (line inside the box), first quartile (bottom of the box), third quartile (top of the box), and mean (asterisk)

Diagnosis

- **Antibody detection test** or **antibody/antigen detection test, 3rd- and 4th-generation tests**, respectively
- **Confirm with HIV-1/HIV-2 antibody differentiation assay**
- **Nucleic acid detection test** should be used to acquire HIV viral load level for acute infection and disease tracking

Treatment: Combined Antiretroviral Therapy (cART)

Commonest:

Integrase strand transfer inhibitor (INSTI) + 2 Nucleo(side/tide) reverse transcriptase inhibitors (NRTIs)
 Dolutegravir
 Bictegravir
 Tenofovir disoproxil fumarate (TDF) or Tenofovir alafenamide (TAF) with Emtricitabine (FTC) or Lamivudine (3TC)

Others:

Protease inhibitor + 2 NRTIs
 Non-nucleoside reverse transcriptase inhibitors (NNRTIs) + 2 NRTIs

OI Prophylaxis

Name of drug	Infection prevented
Trimethoprim/sulfamethoxazole	<i>Pneumocystis pneumonia</i> , Toxoplasmosis
Azithromycin	<i>Mycobacterium avium</i> complex (MAC)
Immunizations	Influenza, <i>Streptococcus pneumoniae</i> , HPV, HBV, HAV

Prevention

Behavioral: Decreasing number of sexual partners, avoidance of sharing needles or other paraphernalia

Biomedical: Condom use (male or female), male circumcision, pre-exposure prophylaxis (PrEP) with oral antiretroviral drugs such as Truvada (tenofovir + emtricitabine), prompt treatment of sexually transmitted infections (STIs)