# HIV/AIDS
# N101- 2022

- Human Immunodeficiency Virus: transmitted through blood and body fluids (semen, vaginal secretions)
- Targets T-Cells (CD-4)
- Integrates its RNA into the host cell DNA through reverse transcriptase – reshaping the immune system
- Acquired Immunodeficiency Syndrome: end stage of HIV
- All people with AIDS have HIV, not all people with HIV have AIDS

HIV Progression:

- Manifestations occur within 2 - 4 weeks of infection
- Flu-like symptoms: HA, fever, rash, joint pain, night sweats, sore throat, swollen glands (acute infection)
- Acute Infection: marked by rapid HIV viral load and decreased CD-4 cells
  When manifestations disappear, HIV viral load is decreasing
- Chronic Asymptomatic Infection: can be prolonged (10+years), asymptomatic
  Anti-HIV antibodies are being produced; eventually, the virus destroys CD-4 cells, the viral load increases, and the body loses its immunity

| Stage: | Stage 1: Acute HIV Infection | Stage 2: Latency (Chronic HIV infection) | Stage 3: AIDS |
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| Defining Conditions: | 2 - 4 weeks ➔ flu-like symptoms | Asymptomatic, can last 10+ years; if taking ART ➔ can be in this stage for several decades | Without tx, typically survive 3-5 yrs; several opportunistic illnesses |
| CD-4 Count: | decreasing | End of phase: starts to decrease | Drops below 200 cells/ mm |
| Viral Load: | Increasing; very contagious | Still active, but at low levels; end of phase: starts to increase (causing | High viral load, very infectious |

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| | | symptoms) | |
| Other: | Test with nucleic acid test (NAT)- antigen/antibody test | If taking ART tx and viral load is undetectable = no risk of transmitting HIV | Kaposi's sarcoma, wasting syndrome, PNA- pneumocystitis, encephalopathy, ulcers |

Risk Factors:

- Unprotected sex (oral, anal, vaginal)
- Multiple sex partners
- Perinatal exposure (pregnancy, birth, breastfeeding)
- Sharing needles or syringes
- Occupational- healthcare workers (needle stick)
- Small risk- blood transfusions (so much testing now)

*Gerontological considerations: undiagnosed- immune system; more susceptible to malnutrition and dehydration/ wasting syndrome than younger adults*

Diagnosis

- NAT (nucleic acid tests): looks for the actual virus in the blood or viral load; expensive; not routinely used
- ELISA (enzyme-linked immunosorbent assay): looks for positive results = antibody screening
- Western Blot: confirmed positive antibody test
- Viral Load: done to monitor disease progression, identify compliance with treatment, and determine HIV medication resistance

Treatment

- Antiretroviral therapy : combination of three to four medications to reduce medication resistance, adverse effects, and dosages
- PrEP (pre-exposure prophylaxis): daily medication to prevent HIV
- PEP (post-exposure prophylaxis): taking antiretroviral medication after being potentially exposed (within 72 hrs)
- Monitor: CD-4 Count (q3-6 months), Viral Load Test (q3-6 months, 2-8 weeks after starting new or changing medications)