

# HUMAN IMMUNODIFICIENCY VIRUS

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Therapeutics

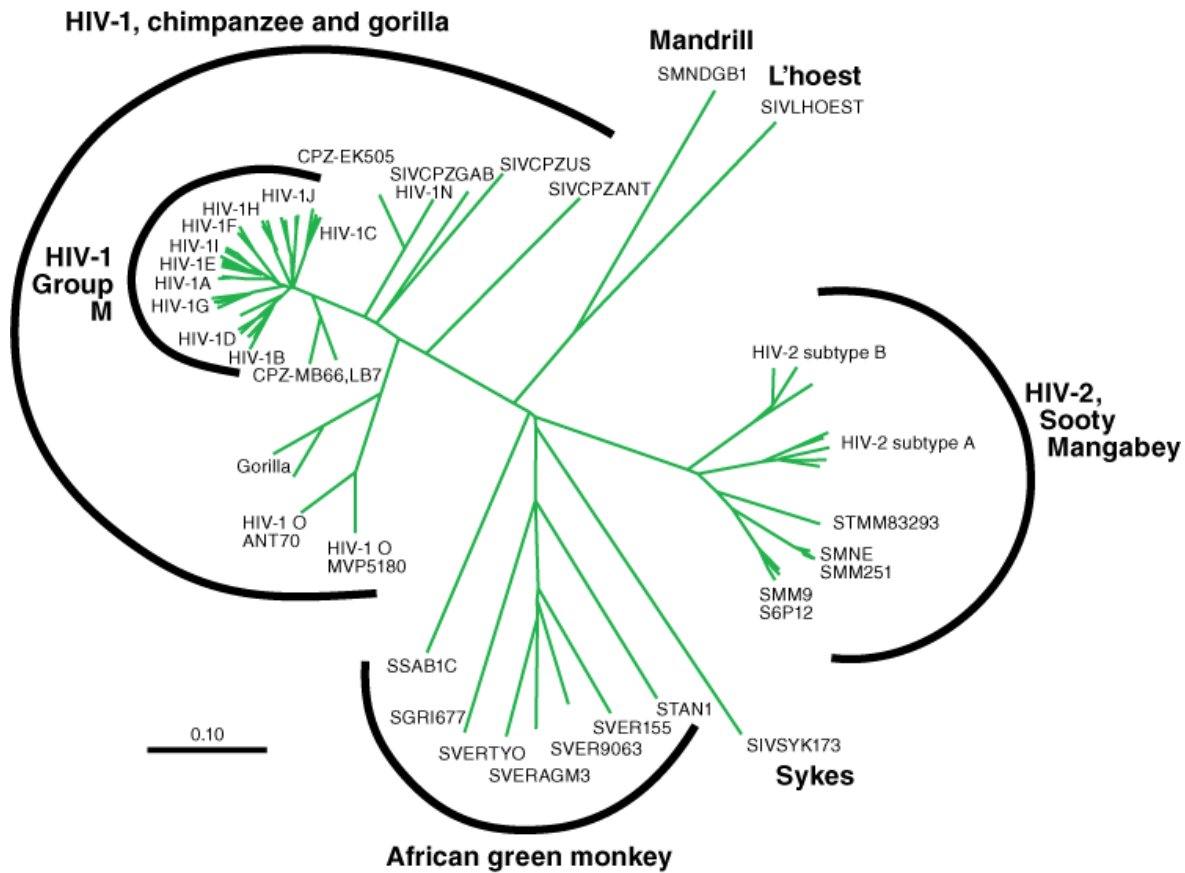
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# Specific Learning Objectives

By the end of this lecture the student should be able to:

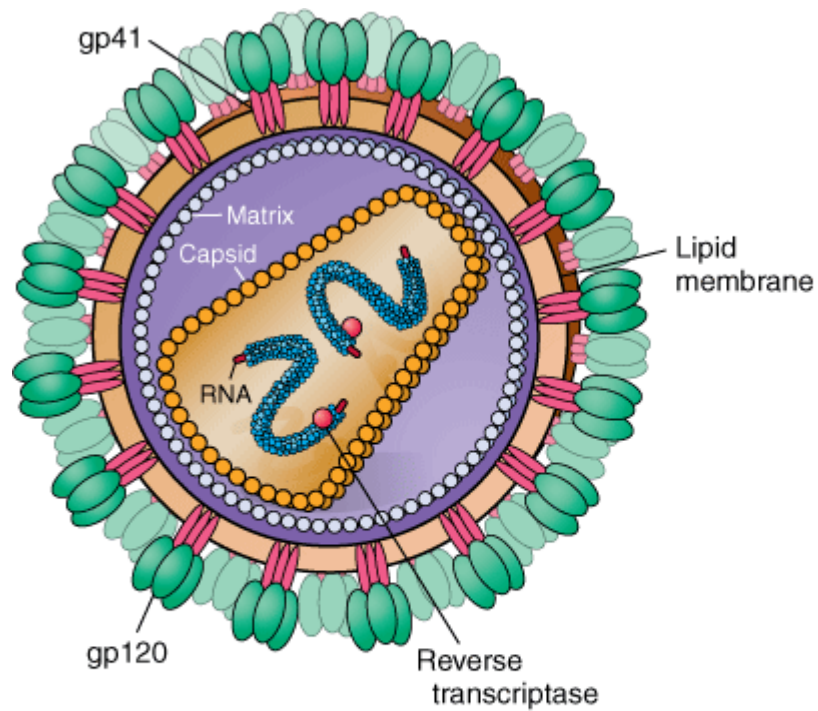
- Describe Transmission & Pathogenesis of HIV
- Clinical Symptoms of HIV
- Principles of Treatment- HAART, OI Therapy
- HIV Prevention Strategies

# Taxonomy



Source: Fauci AS, Kasper DL, Braunwald E, Hauser SL, Longo DL, Jameson JL, Loscalzo J: *Harrison's Principles of Internal Medicine*, 17th Edition: <http://www.accessmedicine.com>  
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# Morphology



**B**

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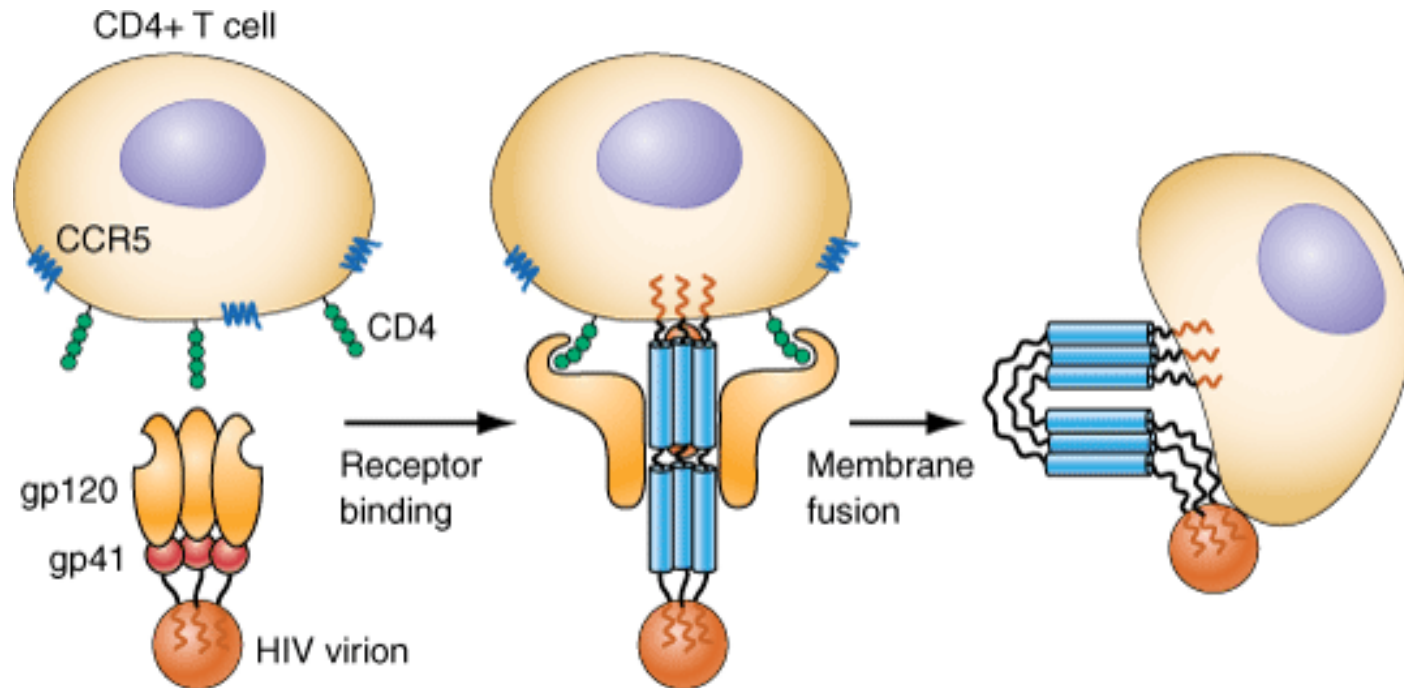
# Modes of Transmission?

- Homosexual & heterosexual sexual contact
- Blood and blood products
- Mother to child- Intrauterine, intrapartum, breast milk

# Why CD4+ T Helper Cells?

- CD4+ lymphocytes ( T helper cells) is the primary cellular receptor for HIV.
- Quantitative and qualitative deficiency of HIV infected CD4 + lymphocytes
- The hallmark- profound immunodeficiency

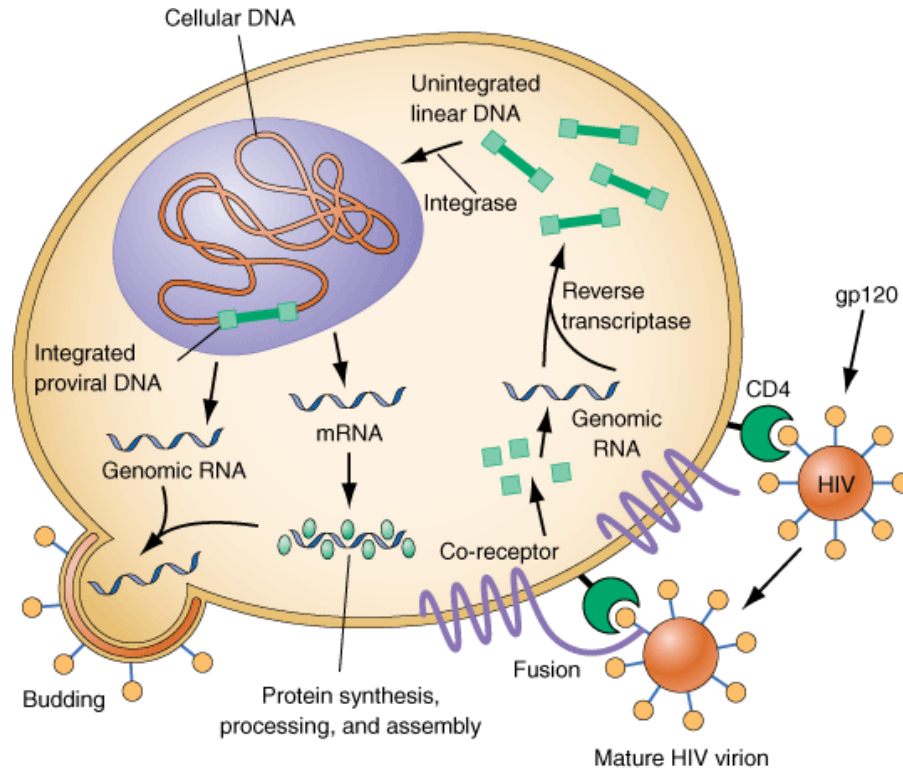
# Binding & Fusion



Source: Fauci AS, Kasper DL, Braunwald E, Hauser SL, Longo DL, Jameson JL, Loscalzo J: *Harrison's Principles of Internal Medicine*, 17th Edition: <http://www.accessmedicine.com>

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# Replication Cycle



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## Adults and children estimated to be living with HIV | 2012



**Total: 35.3 million** [32.2 million – 38.8 million]

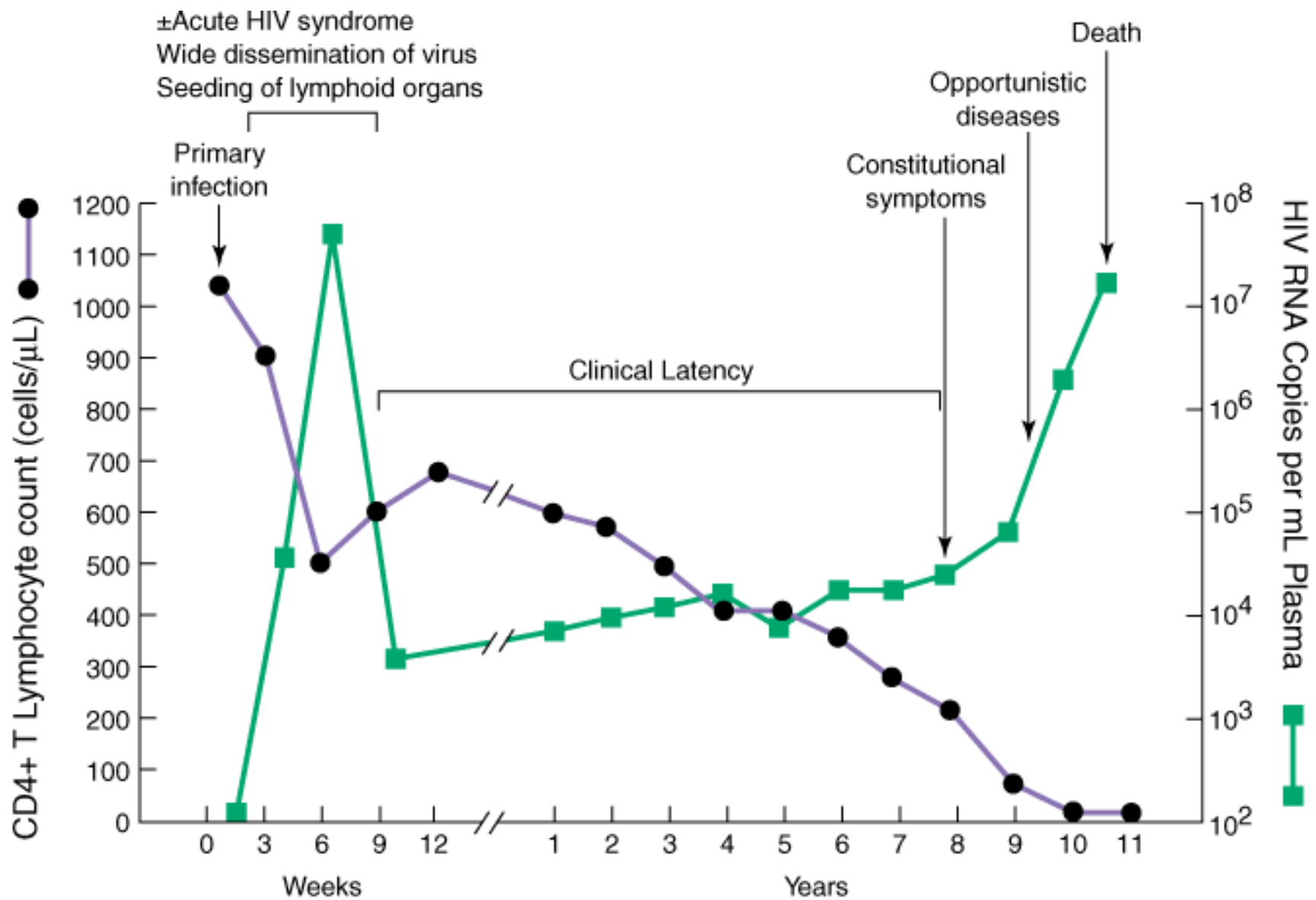
# **HIV DIAGNOSIS**

# Who Should be Screened?

# Lab Work-up for a HIV infected Patient

- HIV Antibody Test- Rapid vs Elisa
- CD4 T cell count
- TBC
- U/E/C, Urinalysis
- LFTs
- PDT ( if warranted)

**MANIFESTATION**



Source: Fauci AS, Kasper DL, Braunwald E, Hauser SL, Longo DL, Jameson JL, Loscalzo J: *Harrison's Principles of Internal Medicine*, 17th Edition: <http://www.accessmedicine.com>

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# Clinical Spectrum of HIV

- Acute Seroconversion- 3-6 weeks after infection. Flu-like symptoms
- Clinical latency- Asymptomatic (WHO Stage 1)
- Symptomatic (WHO Stage 2-4)

# WHO Clinical Staging

- Read Staging System



# Oral Manifestation of HIV

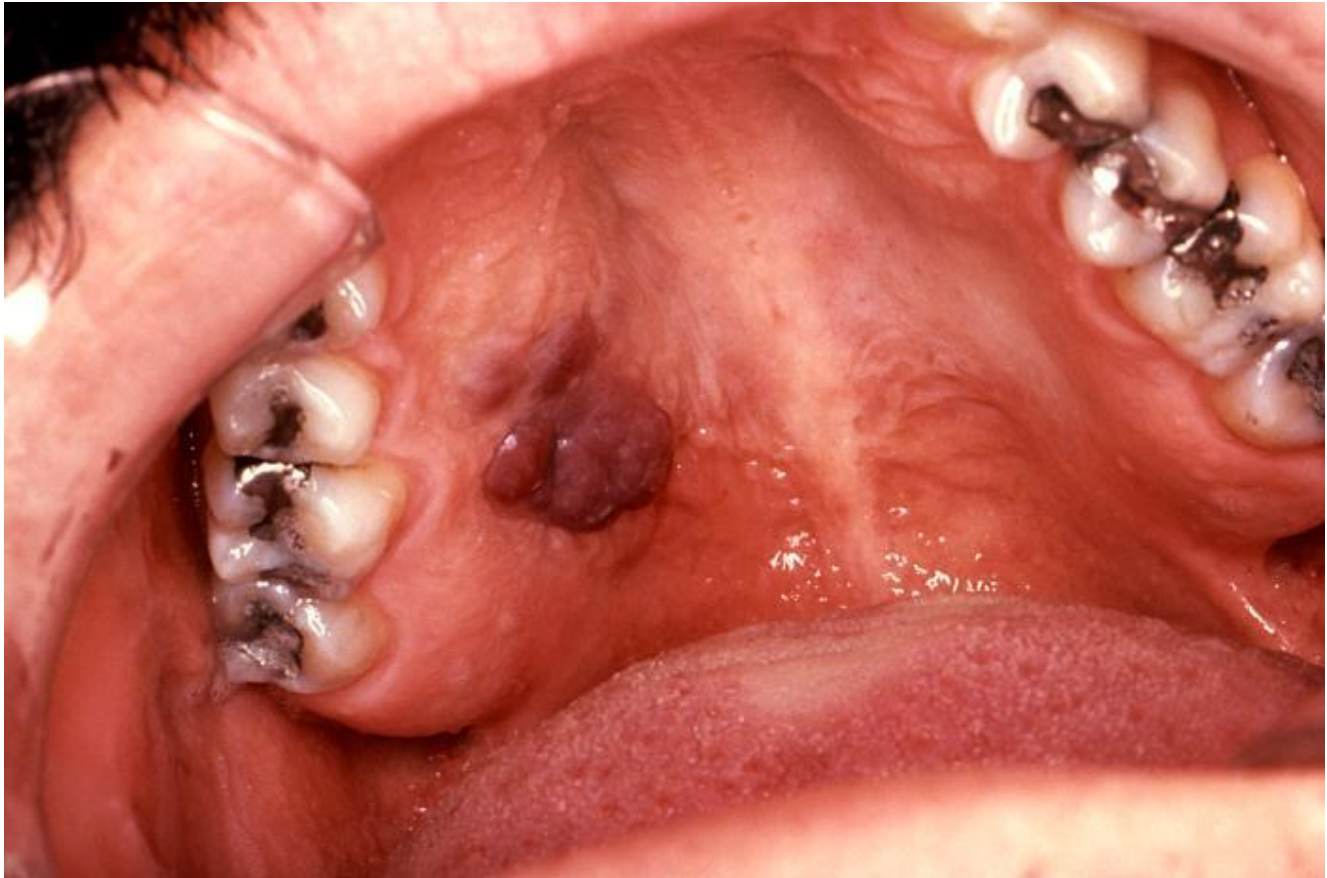
- List 10





















# **ESSENTIAL PACKAGE OF SERVICES FOR PLHIV**

# Counselling and psychosocial support

- Individual and group counselling, peer support groups, family and couples counselling, and adherence support.
- Components:
  - Mitigation of fear, anger, self-stigma and discrimination.
  - Counselling of partners
  - Disclosure
  - Treatment buddy
  - Mental illness & substance abuse
  - Adherence

# Prevention with positives (PwP)

- Provide information on how to prevent HIV transmission among PLHIV.
- Disclosure and partner testing
- Condom use
- Contraception unless pregnancy desire
- Prevention and treatment of STI.

# Cotrimoxazole Prophylaxis

- Lifelong CPT unless contraindicated.
- Prophylaxis against- toxoplasmosis, PCP, common bacterial infections, sepsis, diarrhoea and malaria.

# TB Prevention & Treatment

- Leading cause of mortality in PLHIV
- 3 Is
- Intensified case finding
- Isoniazid Preventive Therapy (IPT)
- Infection Prevention & Control

# STI Screening

- STIs often co-exist with HIV infection
- STI increase infectivity of HIV to partners
- Prompt diagnosis & treatment
- Cervical Cancer Screening- annually for women > 15 years

# Vaccination & Immunisation

- Hepatitis B vaccination
- HPV vaccination for adolescent/pre-adolescents



# Reproductive Health/ FP

- Condom use correctly & consistently
- Dual contraception unless family desire

# Nutrition

- Nutrition- both for under & over nutrition
- Safe water
- Sanitation
- Hygiene
- Mosquito nets

# Criteria for HAART Initiation

- WHO Stage 3,4
- CD4 < 500
- All pregnant and lactating mothers
- All children <10 years
- All TB/HIV co-infected
- All HBV/ HIV co-infected
- All discordant couples

# ART Drugs?

- Read Classification & examples in each class

# Post Exposure Prophylaxis

# References

- Harrison's Principle of Internal Medicine 17<sup>th</sup> edition.
- Images- Internet

**THANK YOU  
QUESTIONS ?**