

STUDY SHEET EXAMPLE

At PRIMED we strongly recommend students create comprehensive, organized study sheets. These should be handwritten and tailored to your individual study needs. Don't make these study sheets for diseases or conditions you feel confident in. After attending the PRIMED Course, determine which diseases you feel unsure of, and then write out a review.

The below example on HIV/AIDs is meant to illustrate what one such study sheet could look like.

Happy studying!
PRIMED

HUMAN IMMUNODEFICIENCY VIRUS (HIV)/ ACQUIRED IMMUNODEFECIENCY VIRUS (AIDS)

Disease	Assessment	Planning	Intervention	Evaluation
HIV/AIDS	<p><i>Risk factors:</i> exposure to blood and body fluids contaminated with HIV</p> <p><i>Nutritional status:</i> dietary history, nausea, vomiting, diarrhea, BUN, serum protein, albumin, transferrin</p> <p><i>Skin integrity:</i> signs of breakdown or infection, especially the oral and perianal cavities</p> <p><i>Respiratory Status:</i> cough, sputum, shortness of breath, orthopnea, chest pain, auscultate lung fields</p> <p><i>Neurologic Status:</i> level of consciousness, orientation, sensory deficits, seizure activity</p> <p><i>Fluid and Electrolyte balance:</i> skin turgor,</p>	Goals of care include: maintaining skin integrity, preventing infection and complications, improved respiratory, neurologic and nutritional status, as well as improving the level of comfort and knowledge	<p><i>Promoting Skin integrity:</i> Use non-drying soap, moisturize and apply medicated topical as prescribed; perform oral care regularly. Perianal area must be cleaned frequently; sitz baths prn</p> <p><i>Promoting Regular Bowel Habits:</i> Monitor frequency and consistency of stools as well as abdominal distress. Avoid bowel irritants (raw fruits and vegetables, spicy foods, carbonated drinks, popcorn). Encourage small frequent meals. Administer antidiarrheals,</p>	<p>Maintains respiratory function</p> <p>Experiences no infections or complications</p> <p>Maintains adequate nutritional status and skin integrity</p> <p>Maintains though process</p> <p>Maintains fluid and electrolyte balance</p> <p>Patient demonstrates understanding of disease</p>

	<p>increased thirst, decreased urine output, decrease BP may indicate dehydration</p> <p><i>Patient's knowledge level regarding HIV</i></p>		<p>antibiotics, antifungals as prescribed</p> <p><i>Preventing Infection:</i> Monitor for signs and symptoms of infection (fever, chills, sweating, cough, shortness of breath, lymphadenopathy, vomiting, diarrhea, dysuria, frequency or blood with voiding, headache, inflammation at wound sites. Monitor labs-WBC and differential, results of culture specimens</p> <p><i>Improving Airway Clearance:</i> Report cough or sputum production, encourage deep breathing and coughing, pulmonary therapy may be indicated, put patient in fowler's position to promote lung expansion. Administer oxygen as prescribed, suction prn</p>	
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HIV Key Points

- HIV is a retrovirus which leads to AIDS and causes immune suppression
- HIV is transmitted by blood and body fluids
- Antiretroviral therapy suppresses HIV viral load and reduces morbidity and mortality
- Opportunistic infections (OIs) include respiratory infections and malignancies which cause death

Definitions/ Incidence

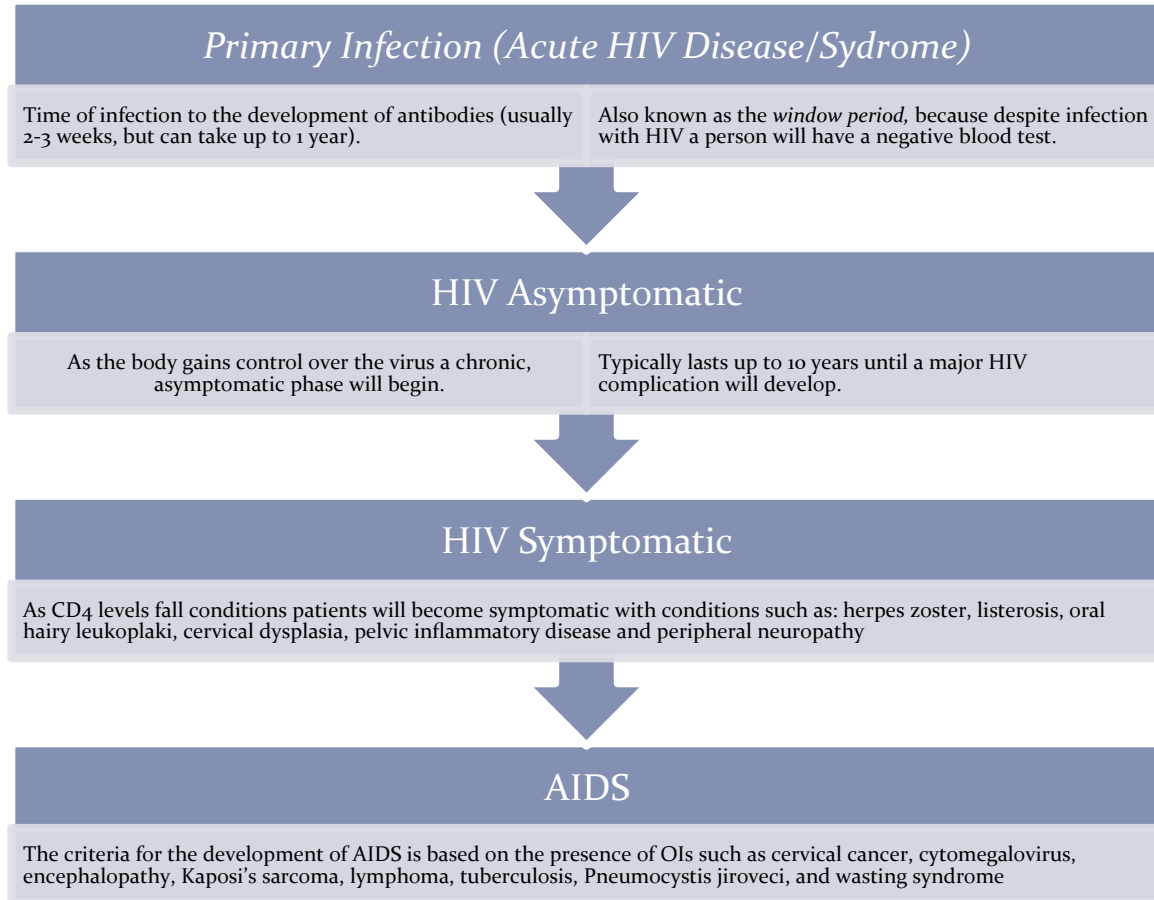
AIDS is a viral infection caused by HIV. HIV is a retrovirus (genetic information is in the form of RNA) and it attacks the immune system, specifically T helper (Th) cells rendering an individual susceptible to infections and malignancies that can be fatal.

Pathophysiology

HIV is transmitted in body fluids (blood, seminal fluid, vaginal secretion, amniotic fluid and breast milk) primarily by unprotected sex and sharing of injection paraphernalia. Other routes include blood and blood products, maternal child transmission in utero, during birth or through breast milk.

The surface receptor on HIV binds to the molecule CD4 found mostly on the surface of Th cells. The viral core enters the host cell where *reverse transcriptase* copies the genetic material from RNA in double stranded DNA using the enzyme *integrase*. Using the integrated DNA as a blueprint, the cell makes new viral RNA and proteins. HIV *protease* cleaves the new proteins, and new viral particles bud from the cell to infect and destroy other cells.

Stages of HIV Infection:



Clinical Manifestations

There are a variety of symptoms a patient experiences, which can differ based on stage. During primary infection patients may be asymptomatic to severe flulike symptoms (fever, lymphadenopathy, rash, myalgias, and headaches). As the disease progresses patient will experience OIs mentioned above. Other conditions patients experience include depression, nutritional deficits, skin breakdown, and pain.

Medical Management

As there is not curative treatment for HIV goals include suppressing viral load, preserving immune function, prevent transmission, improving morbidity and mortality. Treatment is with a combination of drugs called highly active antiretroviral therapy (HAART)-see pharmacology section below.

Diagnostic tests

HIV antibody tests

- Enzyme immunoassay (EIA)-screening
- Western Blot-used to confirm positive EIA
- Viral load-measures HIV RNA in plasma, which is used to track response to treatment

Complications

- OIs
- Impaired respiratory function
- Wasting syndrome and fluid and electrolyte imbalance
- Adverse side effects to medications

Risk Factors

- Injection drug use
- Sexual relations with infected individuals
- Individuals who received blood or blood products contaminated with HIV (especially prior to screening in 1985)
- Children born to HIV positive mothers

Prevention

- Safer Sex practices-reducing number of partners, condom use, dental dams, avoiding anal intercourse
- Do not share needles, razors, toothbrushes
- Health care workers should use standard precautions

Pharmacology

Family	Examples	Mechanisms of Action	Side Effects:
Nucleoside reverse transcriptase inhibitors (NRTIs)	Nevirapine, Delaviridine	NRTIs bind to reverse transcriptase inhibiting it from making viral DNA from HIV RNA	Lipodystrophy syndrome (redistribution of fat) Peripheral neuropathy, myopathy, cardiomyopathy Lactic acidosis Hepatic steatosis Pancreatitis Osteopenia Bone marrow suppression
Non-nucleoside reverse transcriptase inhibitors (NNRTIs)	Lamivudine, Zidovudine	These drugs structurally resemble one of the four nucleoside building blocks of DNA. When reverse transcriptase is synthesizing viral DNA it mistakenly uses the NNRTI as one of the nucleosides rendering the DNA defective	
Protease inhibitors (PIs)	Saquinavir, Nelfinavir, Ritonavir	PIs inhibit HIV protease which is needed to assemble new HIV virions	
Entry Inhibitors		Prevent initial entrance of virus into host target cell by preventing cell membrane fusion	
<ul style="list-style-type: none"> • Fusion inhibitors • Integrase inhibitors 	Enfuviritide Raltegravir		

Reference

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