

# Clinical manifestation of HIV-infection

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# Incubation stage

This is the period from infection to onset of reactions of the organism in the form of clinical manifestations of acute infection and/or antibody production. The incubation period usually ranges from 2-3 weeks to 3 months, but in rare cases it may take up to a year. In this period there is an active multiplication of the virus, but the clinical manifestations of the disease, and the antibodies to HIV are not detected. The diagnosis of HIV infection at this stage is on the basis of epidemiological data and laboratory confirmed by the detection in serum of the patient of the human immunodeficiency virus, its antigens, nucleic acids of HIV.

## HIV CAN BE TRANSMITTED THROUGH...



Sexual Contact



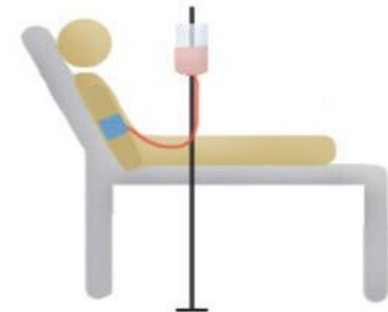
Injection Drug Use



Pregnancy, Childbirth & Breast Feeding



Occupational Exposure



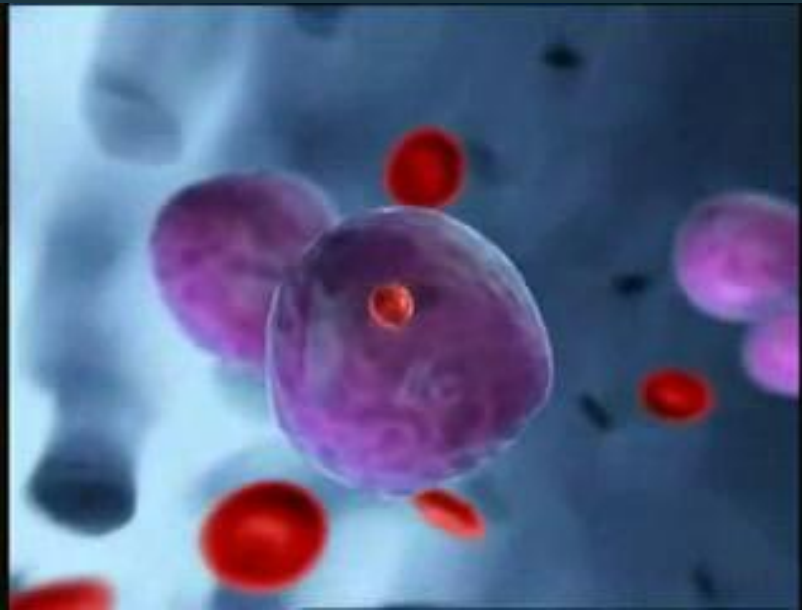
and rarely,  
Blood Transfusion/Organ Transplant

# Stage of primary manifestations

Stage of primary manifestations

This stage should be regarded as actual HIV infection. During this period of active HIV replication in the body continues.

Early stage of HIV infection can occur in several forms.



# ***IIA - acute febrile phase, or primary (acute) HIV-infection or acute seroconversion syndrome***

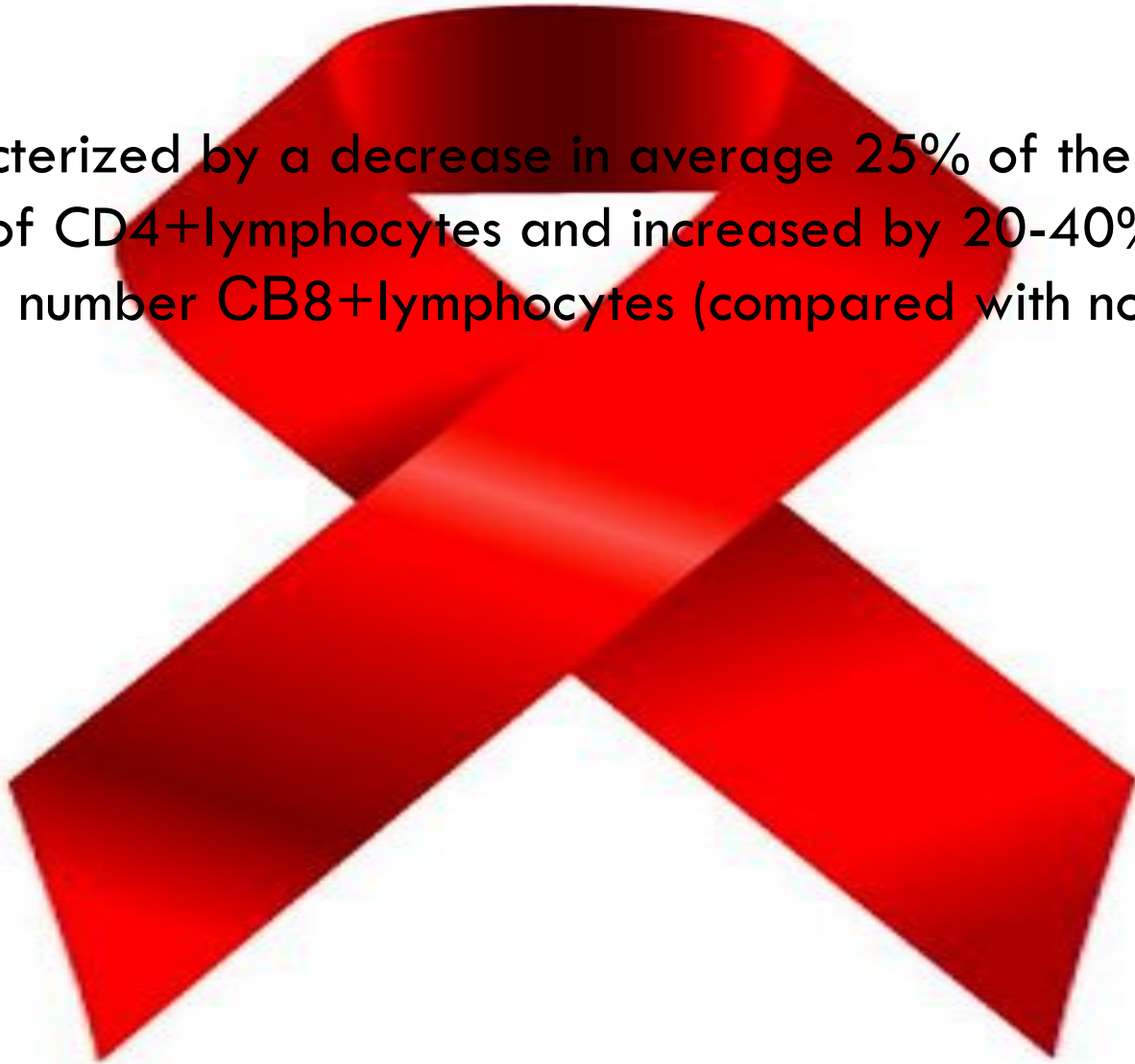
is the body's reaction to intense dissemination of HIV. Most (90%) infected after some time (from 2 weeks to 5 months) after penetration of the virus develop acute disease. The most frequently observed:

fever;  
lymphadenopathy;  
lesions of the oral cavity and throat;  
headache;  
diarrhea;  
10% of septic meningitis.



## ***II B - asymptomatic phase***

- is characterized by a decrease in average 25% of the relative content of CD4+lymphocytes and increased by 20-40% in the absolute number CB8+lymphocytes (compared with norm).





## ***IIB - persistent generalized lymphadenopathy (PGL).***

There is an increase of at least two lymph nodes in two different groups, excluding inguinal nodes in adults up to size more than 1 cm, in children more than 0.5 cm in diameter, persisting for at least three months. In stage IIB PGL is the only clinical manifestation. Lymph nodes can decrease and again increase, that is perhaps the alternation of PGL and asymptomatic phase



## III stage (secondary diseases)

is characterized by the development on the background of impaired immunity to bacterial, virus n protozoal diseases and/or neoplastic processes (lymphoma, Kaposi's sarcoma).

The majority of patients have anemia, leukopenia, elevated levels of IgG, less frequently observed an increase of IgA, lymphocytosis or lymphopenia. Progressing the reduction in the value of the index of differentiation of T-lymphocytes and a decrease in blood CD4+cells (less than 500  $\mu\text{l}^{-1}$ ): for IIIA and IIIB to 200  $\mu\text{l}^{-1}$ , in phase IIIB - less than 200  $\mu\text{l}^{-1}$ .



## ***Depending on the severity of secondary diseases distinguish 3 periods of flow.***

4A – loss of body weight does not exceed 10%, marked of infectious (bacterial, viral and fungal) destruction of epithelial tissues (skin and mucous membranes). Reduced performance.

- 4B – the loss in weight of more than 10% of the total body mass, long temperature reaction, possible long-term diarrhea that do not have organic causes, can join pulmonary tuberculosis, infectious diseases recur and progress, revealed a localized Kaposi's sarcoma, hairy leukoplakia.
- 4C – stated General cachexia, secondary infection becoming generalized forms, there is candidiasis of the esophagus, respiratory tract, Pneumocystis pneumonia, extrapulmonary forms of tuberculosis, disseminated Kaposi's sarcoma, neurological disorders.





## ***In the terminal stage***

- ***of HIV infection are secondary diseases that have developed in a patient irreversible, interventions lose their effectiveness, the lethal outcome occurs after a few months.***



# ***Stage of HIV infection in adults and adolescents, based on the classification***

## ***The World Health Organization***

- ***Clinical stage I***
  1. Asymptomatic.
  2. Persistent generalized lymphadenopathy.  
Scale 1 physical state: asymptomatic, normal activity.
- ***Clinical stage II***
  3. Loss in weight: loss <10 percent of body weight.
  4. Minor cutaneous-mucous manifestations (seborrheic dermatitis, prurigo, fungal infection of the nails, recurrent ulcerative lesions of the mouth, cheilitis corners of the mouth).
  5. Herpes zoster within the last 5 years.
  6. Repeated infections of the upper respiratory tract (e.g. bacterial sinusitis).





- Clinical stage III

7. Weight loss: loss of >10 percent of body weight.

8. Unexplained chronic diarrhoea, > 1 month.

9. Unexplained prolonged fever (intermittent or constant) >1 month.

10. Candidiasis of the oral cavity.

11. Leukoplakia of the oral cavity.

12. Pulmonary tuberculosis in the past year.

13. Severe bacterial infection (e.g. pneumonia, pyomyositis).

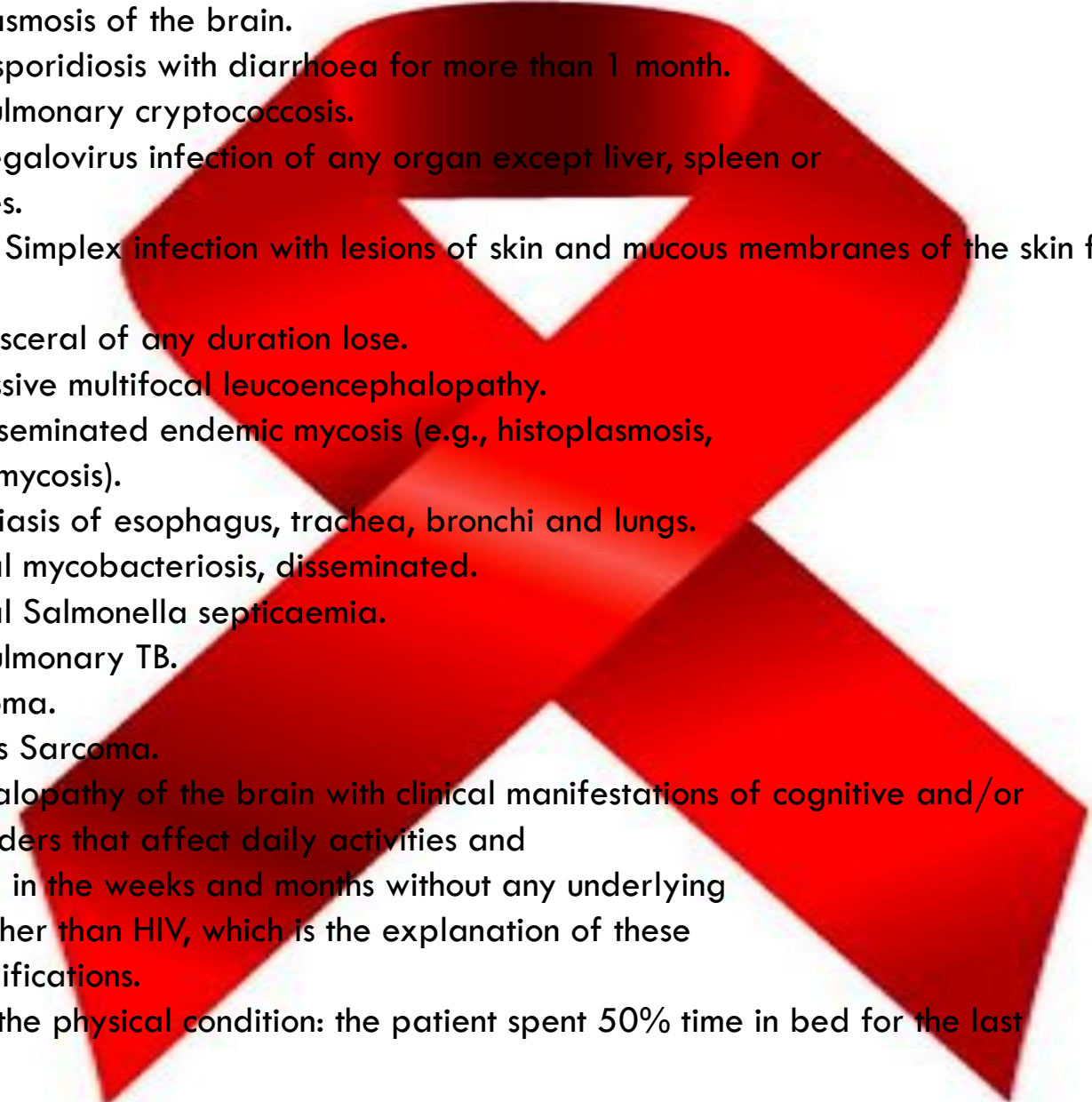
Scale 3 physical status: the patient spent 50% time in bed in the past months.

Clinical stage IV

14. The syndrome of asthenia (loss of >10% body mass, plus unexplained chronic diarrhea for more than 1 month or chronic weakness and unexplained prolonged fever for more than 1 month).

15. Pneumonia caused by *Pneumocystis Carinii*.

16. Toxoplasmosis of the brain.

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- 16. Toxoplasmosis of the brain.
  - 17. Cryptosporidiosis with diarrhoea for more than 1 month.
  - 18. Extrapulmonary cryptococcosis.
  - 19. Cytomegalovirus infection of any organ except liver, spleen or lymph nodes.
  - 20. Herpes Simplex infection with lesions of skin and mucous membranes of the skin for more than 1 month, or visceral of any duration lose.
  - 21. Progressive multifocal leucoencephalopathy.
  - 22. Any disseminated endemic mycosis (e.g., histoplasmosis, coccidioidomycosis).
  - 23. Candidiasis of esophagus, trachea, bronchi and lungs.
  - 24. Atypical mycobacteriosis, disseminated.
  - 25. Atypical Salmonella septicaemia.
  - 26. Extrapulmonary TB.
  - 27. Lymphoma.
  - 28. Kaposi's Sarcoma.
  - 29. Encephalopathy of the brain with clinical manifestations of cognitive and/or motor disorders that affect daily activities and progressing in the weeks and months without any underlying diseases, other than HIV, which is the explanation of these clinical modifications.
- Scale 3 on the physical condition: the patient spent 50% time in bed for the last months.



# ANTIRETROVIRAL THERAPY

ART goals

ART is currently the major component of treatment of patients with HIV

infection - Objective ART \* increasing life expectancy and improving quality of life

HIV patients+ preventing the development of AIDS



- **Tasks ART**

- ~ clinical prevention of the development of opportunistic infections and HIV

- associated non-communicable diseases:

- ~ virological maximum and prolonged suppression of HIV replication:

- ~ immunological restoration and maintenance of immune system function:

- ~ the epidemiological decrease in the number of cases of transmission of HIV



# Indications

- ART should be appointed
  - all patients with the number of  $CD4^+ < 500 \text{ mkl-1}^*$  regardless of the stage disease.
- all patients, regardless of the number  $CD4^+$  in the presence of clinical manifestations of secondary diseases 'stage 4 and 5 especially in the development of AIDS.
- in acute HIV infection 'for life



- all patients regardless of CD4+ and stage of the disease the following situation:
- patients with active tuberculosis
- patients with concomitant chronic hepatitis B
- patients with associated chronic hepatitis C
- patients with HIV-associated nephropathy
- patients with diseases requiring long-term therapy+ depressing immunity
- on epidemiological indication:
- HIV infected partner in discordant pair
- when preparing an HIV-infected patient to the use of assisted reproductive technology





# Antiretroviral drugs

- Antiretroviral drugs targeted at vulnerable stages of the life cycle HIV and thus prevent its reproduction. In the international clinical practice allowed to use more than 30 separate and combined drugs
- - These drugs belong to six pharmacological group:
  - 0 - nucleoside reverse transcriptase inhibitors
  - 1 - non-nucleoside reverse transcriptase inhibitors
  - 2 - protease inhibitors
  - 3 - integrase inhibitors
  - 4 - inhibitors of the merger 'is the fusion
  - 5 - receptor antagonists







**THANK YOU**  
**FOR**  
your  
**ATTENTION!**  
**ANY QUESTIONS?**