

**Practical Training “Dermatology & Venereology”
for students of
the FORTH YEAR (all Medical Faculties) faculties**

We have a major commitment to teaching and mentoring medical students in the field of dermatology and venereology. The course Dermatology & Venereology is given to all fourth year students during the academic year. The course consists of a series of lectures and group practical sessions which include a clinical conference where students are able to examine patients.

Upon completion of the course students should be able to:

- 1) Use correct terminology to describe and classify the appearance of skin lesions;
- 2) Recognize the appearance of common dermatoses including skin infections and infestations, eczema, dermatitis, papulo-squamous diseases, bullous disorders, and venereal diseases
- 3) Recognize common skin signs of systemic diseases;
- 4) Know basic principles for treatment and management of common skin diseases.

Learning Module 1.

Introduction to Dermatology.

Structure and functions of the skin, hair and nails. Dermatopathology. Approach to the diagnosis of dermatological disease. Types and characteristic of lesions.

TO KNOW:

- The anatomy of skin, its appendages and tunica mucosa of mouth;
- Histological structure of skin, its appendages and tunica mucosa of mouth;
- The nature of functional properties of skin, their age and sex characteristics;
- The function of cells, tissues, organs and physiological systems in health and in various disease states;
- Histopathological changes in the skin and its appendages and tunica mucosa of mouth in health or in various pathological conditions.

TO BE ABLE TO:

- Distinguish between the structure of different layers of epidermis, dermis, subcutaneous fat and tunica mucosa of mouth;
- Distinguish between the histological structures of skin appendages;
- Recognize different types of histopathological skin changes.

Learning Module 2.

Infestations. Bacterial skin infections.

Infestations: pediculosis, scabies, demodicosis. Streptococcal skin infection. Staphylococcal skin infection.

Infestations – skin diseases caused by human and animal parasites. There are two groups of ectoparasite infections, these are diseases caused by the penetration of the parasites into the skin (scabies, demodicosis), and diseases caused by parasites bites (lice infestation) and insect stings.

TRAINING AND EDUCATIONAL PURPOSES

- To determine the ways and possible conditions of ectoparasites infection of the patients
- To explain general course and clinics of scabies
- To determine the clinical varieties of pediculosis
- To generalize the clinics of typical demodicosis manifestations
- To generalize the principles of therapy and prevention of skin infestation

Scabies is a parasitic contagious skin infestation caused by the itch mite *Sarcoptes scabiei*.

TO KNOW:

- etiological, pathogenetic and epidemiological features of scabies;
- clinical forms of scabies and peculiarities of disease course;
- diagnostic criteria of skin manifestation during scabies and its complications;
- notion of acarophobia and its manifestations which may arise due to post-scabies itch development;
- methods and principles of treatment, prophylaxis and clinical examination of scabies patients.

TO BE ABLE TO:

- correctly collect anamnesis of scabies patients;
- run laboratory diagnostics (traditional, express-diagnostics, by alkaline skin preparation method) in order to detect itch mite;
- make a differential diagnosis in comparison with dermatoses which have similar clinical presentation picture;
- prescribe rational treatment for scabies patient and to correctly prescribe medicines for eternal therapy taking into account the patient's age;
- recommend the necessary preventive measures of scabies.

Bacterial skin infections

Bacterial skin infections or pyodermae are a group of diseases, caused by microorganisms inducing purulent inflammation of skin.

TRAINING AND EDUCATIONAL PURPOSES

- To determine the ways and possible conditions of infection by pyogenic flora
- To generalize classification and general characteristics of pyogenic lesions of skin and mucous membranes
- To explain the role of different factors promoting its development
- To determine the general course and clinic of pyoderma
- To distinguish peculiarities of pyogenic lesions of mucous membranes

To distinguish characteristic clinical peculiarities of staphyloiderma
To classify typical manifestations of streptoderma
To define the principles of therapy and prophylaxis of pyogenic lesions

TO KNOW:

modern views on etiology and pathogenesis of different clinical types of pyoderma;
factors promoting developments and progression of pyoderma;
principle of classification of impetiginous lesions of skin and its appendages;
symptomatology of the main clinical types of pyoderma;
the main approaches to the general and local treatment of pyoderma;
the peculiarities of preventive measures of impetiginous lesions of the skin and its appendages.

TO BE ABLE TO:

correctly collect anamnesis and carry out examination of the patient with pyoderma;
run diagnostic tests and use additional examination methods, which confirm the diagnosis;
make a differential diagnostics with the diseases with the similar clinical presentation picture;
make a plan of recommendations for treatment and prophylaxis of pyoderma patients.

Learning Module 3.

Papulosquamous diseases.

Fungal infections of the skin. Candidiasis.

Psoriasis

Psoriasis (psoriasis vulgaris), (synonym are alphas, psora) is a genetically determined chronic autoimmune polysystemic disease of multifactor nature, characterized by the benign epidermal hyperproliferation, papulosquamous eruptions, staging, often severe clinical course and involvement of musculoskeletal system and internal organs in pathological process with corresponding morphological and functional changes.

TRAINING AND EDUCATIONAL PURPOSES

- To highlight the current medical judgments of psoriasis etiopathogenesis
- To identify the factors contributing to the development of the disease
- To determine classification characteristics of this dermatosis
- To determine its typical clinical manifestations
- To understand differential diagnostics of psoriasis
- To understand general principles of medical and preventive measures at this disease
- Define the principles of medical examination of psoriasis patients

TO KNOW:

- modern views on etiology and pathogenesis of psoriasis;
- risk factors of disease development and progression;
- clinical manifestation, evolution of rash, the stages of clinical course;
- diagnostic phenomena of psoriasis;
- clinical types and principles of classification of psoriasis;
- systemic signs of disease;
- features of differential diagnostics of psoriasis;
- histopathological signs of psoriasis;
- treatment algorithm and indications concerning medical-labour expert commission.

TO BE ABLE TO:

- correctly make examination and collect anamnesis of psoriasis patient;
- set clinical diagnosis and define disease severity index;
- run diagnostic tests and use additional examination methods, which confirm the diagnosis;
- make a differential diagnostics of psoriasis with the diseases with the similar clinical presentation picture;
- make a plan of recommendations for treatment and prevention of relapses for psoriasis patients.

Lichen planus

Lichen planus (lichen ruber planus) is a peculiar reaction of organism of undetectable etiology, which is manifested as monomorphic papular rash on the skin and mucous membranes. This skin disease is usually regarded as multifactorial. Endogenous and exogenous factors along with genetic anomalies can be essential in the formation and character of the course of pathological process with lichen planus.

TRAINING AND EDUCATIONAL PURPOSES

- To determine the possible conditions and triggers of appearance of lichen planus

To perform classification and define general peculiarities of various forms of lichen planus on the skin and mucous membranes

To interpret clinical picture and course of lichen planus

To generalize the principles of treatment of lichen planus

TO KNOW:

etiological, pathogenetic and epidemiological features of lichen planus;

clinical forms of lichen planus and current peculiarities of its course;

diagnostic criteria of disease manifestations on the skin and mucous membranes;

principles of preventive and curative interventions and preventive medical examination of the patients with lichen planus.

TO BE ABLE TO:

correctly collect anamnesis of patients with lichen planus;

make a differential diagnostics with dermatoses, which have similar clinical presentation;

prescribe rational treatment for a patient with lichen planus.

Fungal infections of skin and mucous membranes is a nosological concept that combines a number of diseases of skin and its appendages and human mucus membranes, which are caused by pathogenic and opportunistic fungi.

TRAINING AND EDUCATIONAL PURPOSES

To understand the relevance of mycotic skin and mucous membranes lesion; the ways and conditions of mycosis infection.

To understand basic essentials of epidemiology and pathogenesis of mycotic lesions of skin and mucous membranes.

To classify mycotic lesions with due account for the localization of pathological process, the peculiarities of pathological manifestations, prevalence, lesion depth, the relation to the skin appendages.

To single out characteristic clinical features of mycotic lesions of skin and mucous membranes.

To generalize the principles of diagnostics, therapy and prophylaxis of mycotic lesions of skin and mucous membranes.

TO KNOW:

Modern classification of mycotic lesions of skin and mucous membranes;

The general flow and clinical manifestations of typical forms of mycotic lesions of skin and mucous membranes and possible complications;

The principles and methods of diagnostics of mycotic lesions of skin and mucous membranes;

The principles of treatment and prophylaxis of mycotic lesions of skin and mucous membranes.

TO BE ABLE TO:

Correctly collect an anamnesis of a patient with mycotic lesions of skin and mucous membranes;

Correctly conduct clinical examination of the patient with mycotic lesions of skin and mucous membranes;

Conduct differential diagnostics of typical manifestations of mycotic lesions of skin and mucous membranes with diseases that have similar clinical picture;

Assign a rational complex treatment to the patient with mycotic lesions of skin and mucous membranes;

Define and take necessary measures for the prevention of mycotic lesions of skin and mucous membranes and their complications.

Learning Module 4.
Eczema / dermatitis
Bullous disorders. Herpes.

Dermatitis and Eczema are considered diseases caused by the immune response of the body to various allergens, which is accompanied by damage to its own tissues.

TRAINING AND EDUCATIONAL GOALS

- To form the modern concept of the allergodermatoses' etiopathogenesis
- To identify ways and likely conditions of the organism sensitization
- To distinguish the factors affecting the course of allergodermatoses
- To generalize the characteristics of the allergodermatoses' clinical course
- To establish the general principles of differential diagnosis of allergodermatoses
- To determine a rational treatment strategy of patients with allergic skin diseases

DERMATITIS

Dermatitis is considered an inflammatory lesion of skin caused by a direct effect of various exogenous factors.

IT IS REQUIRED TO KNOW:

- etiopathogenic characteristics of dermatitis;
- features of classification and clinical manifestations of dermatitis;
- meaning of 'monosensitization' and 'polysensitization';
- comparative characteristics of simple and allergic dermatitis;
- principles of treatment and prevention of dermatitis.

IT IS REQUIRED TO BE ABLE TO:

- properly collect patient history on dermatitis;
- make a diagnosis on clinical grounds;
- run diagnostic (skin) tests to confirm the diagnosis;
- make a differential diagnosis;
- assign individual pathogenetic treatment.

ECZEMA

Eczema is a chronic relapsing allergic skin disease that occurs on the background of a polyvalent sensitization of the body and manifests through the inflammatory processes in the superficial layers of skin with the appearance of polymorphic rash and intense itching.

IT IS REQUIRED TO KNOW:

- etiopathogenic characteristics of eczema and its varieties;
- features of classification and clinical manifestations of eczema;
- stages of development of eczematous process;
- differential diagnosis of this disease;

principles and features of dermatological tests helping to identify the allergens;
principles of treatment, prognosis and prevention of relapse of eczema.

IT IS REQUIRED TO BE ABLE TO:

properly collect patient history on dermatitis;
make a diagnosis on clinical grounds;
run diagnostic tests to confirm the diagnosis (Brocq scraping, skin tests);
make a differential diagnosis;
assign individual pathogenetic treatment.

There are non-communicable dermatopathies which most components of hives is a bulla belongs to bullous diseases. There are following dermatosis belongs to them:

1. Pemphigus Vera (acantholytic):
 - a) pemphigus vulgaris;
 - b) pemphigus vegetans;
 - c) pemphigus foliaceus;
 - d) seborrheal pemphigus.
2. Nonacantholytic pemphigus of oral mucosa.
3. Pemphigoids
 - a) bullous pemphigoid;
 - b) cicatricial pemphigoid;
 - c) pemphigoid gestationis.
4. Dermatitis herpetiformis:
 - a) Duhring disease;
 - b) Sneddon-Wilkinson disease.
5. Genetic bullous dermatosis
 - a) Gougerot-Hialely-Hailey disease;
 - b) Group of bullous epidermolysis.

TRAINING AND EDUCATIONAL TARGETS

Determine possible conditions and triggers for emergence of pemphigus vera and DuhringDermatitis herpetiformis disease

Examine classification and common characteristics of different forms of pemphigus vera and DuhringDermatitis herpetiformis disease

Examine common clinical course and clinical findings of pemphigus vera and DuhringDermatitis herpetiformis disease

Determine clinical findings of typical appearances of pemphigus vera and DuhringDermatitis herpetiformis disease

Determine principles of therapy for pemphigus vera and DuhringDermatitis herpetiformis disease

Learning Module 5.

Practical training on preparation of clinical case record.

Patient examination. Differential diagnosis in dermatology. Preparation of clinical case record.

Learning Module 6.

Introduction to sexually transmitted infections. Epidemiology of STIs. Classification of STI. Syphilis

General overview of STI. Classification of STI. Syphilis: *Treponema pallidum*, Clinical course of syphilis. Primary syphilis.

Sexually Transmitted Infections (STI) – highly contagious infectious diseases, especially sexually transmitted diseases affecting not only the genital organs. Currently there are more than 30 different infectious diseases, pathogens of which can be transmitted from person to person, primarily sexually. According to the WHO classification, some of the diseases indicated below in the table (scabies, hepatitis B and C, genital warts) are usually transmitted asexually, and therefore are only conditionally referred to the diseases transmitted mainly sexually.

WHO classification of sexually transmitted infections

Nosology Pathogen

Classic venereal diseases

1. Syphilis *Treponema pallidum*
2. Gonococcal infection *Neisseria gonorrhoeae*
3. Chancroid *Haemophilus Ducrey*
4. Lymphogranuloma venereum *Chlamydia trachomatis*
5. Granuloma inguinale (donovanosis) *Klebsiella granulomatis*

Other sexually transmitted infections

A. With a predominant damage of genital organs

1. Urogenital chlamydiosis *Chlamydia trachomatis*
2. Urogenital trichomoniasis *Trichomonas vaginalis*
3. Urogenital mycoplasmosis *Mycoplasma hominis*
4. Candidal vulvovaginitis
and balanitis *Candida albicans*
5. Genital herpes *Herpes simplex virus*
6. Genital warts (condylomata acuminata) *Papillomavirus hominis*
7. Genital contagiosum epitheliale *Molluscovirus hominis*
8. Bacterial vaginosis *Gardnerella vaginalis* and other pathogens
9. Urogenital shigellosis of homosexuals *Shigella* species
10. Phthiriasis (pediculosis pubis) *Phthyrus pubis*

11. Scabies *Sarcoptes scabiei*

B. With a predominant damage of other organs

1. Infection, caused by human immunodeficiency virus Human immunodeficiency virus
2. Hepatitis B, C Hepatitis B, C virus
3. Cytomegalovirus infection *Cytomegalovirus hominis*
4. Amebiasis (predominantly of homosexuals) *Entamoeba histolytica*
5. Lambliasis *Giardia (lamblia) intestinalis*

Syphilis: general information
and principles of diagnostics

Syphilis (syphilis), synonym: lues – is a chronic systemic infectious disease with a rhythmical undulating variable course, which is predominantly transmitted sexually and which affects all organs and systems of human body.

TRAINING AND EDUCATIONAL OBJECTS

Understand classification of diseases, predominantly transmitted sexually
Be oriented in history of origin and circulation of syphilitic infection in Europe and in the world
Analyze the peculiarities of epidemiology of the indicated infection
Compile information on the ways and the possible conditions of infection with syphilis
Determine the incubation period and the factors influencing its course and features
Understand the general course of syphilis and its classification

K N O W:

current understanding of the etiology and pathogenesis of syphilis;
morphological characteristics of the causative agent of syphilis - *Treponema pallidum*
ways of transmission and conditions of infections, peculiarities of immunity, reinfection, superinfecting with syphilis;
significance and clinical evaluation of serological reactions;
general course of syphilis in the human body;
main (most common) mistakes in the diagnosis of syphilis;
legal and ethical aspects of venereal pathology.

B E A B L E T O:

deontological properly collect general and sexual medical history of the patient suspected of having a sexually transmitted disease;
classify the diseases, primarily transmitted sexually;
analyze the features of the epidemiology of sexually transmitted diseases;
during the treatment consider characteristics of the psychological and behavioral responses of people with sexually caused infectious pathology;
analyze information on the ways and conditions of possible infection with sexually transmitted diseases.

Learning Module 7.

Syphilis: Secondary syphilis.

Secondary period of syphilis (syphilis II secundaria) – stage of the disease, which is caused by hematogenous spread of *Treponema pallidum* from the place of primary focus throughout the body, which is characterized by polymorphic rash (spots, papules, pustules) on the skin and mucous membranes, and determined staging of the clinical course and the possible affection of the internal organs and the nervous system.

TRAINING AND EDUCATIONAL OBJECTS

Determine the features of the clinical course of secondary period of syphilitic infection

Distinguish between ways and the possible conditions of infection through the persons with active manifestations of the secondary period of syphilis

Determine the characteristic clinical features of the spotted, papular and pustular syphilides of the secondary period of the disease

Identify the features of pigmented syphilides, syphilitic alopecia and mucosal syphilides in patients with secondary period of syphilis

Generalize clinical picture of the typical manifestations of the secondary period of syphilis

K N O W:

general characteristics of the secondary period of syphilis;

features of the clinical course of the secondary period of syphilis (recent, recurrent, latent);

characteristics and variety of clinical manifestations of secondary syphilis on the skin - spots, papules, pustules, syphilitic alopecia, pigmented syphilides;

clinic picture of affection of internal organs and mucous membranes in case of secondary syphilis;

features of serological reactions in the secondary period of syphilis.

B E A B L E T O:

Deontologically reasonably take a general and sexual history in a patient with a secondary period of syphilis;

analyze the results of laboratory tests of the patient and determine the right diagnosis;

clinically examine the state of lymph nodes;

differentiate between the clinical manifestations of the secondary period of syphilis;

make a differential diagnostics of diseases that have similar clinical symptoms.

Learning Module 8.

Tertiary syphilis. Congenital syphilis.

Syphilis treatment & management.

Tertiary period of syphilis (syphilis tertiaria), or latent syphilis (syphilis tertiaria seu gummosa), – this is a serious chronic systemic infectious disease, in which case the destructive pathological changes with a violation of their functions develop in the affected organs.

TRAINING AND EDUCATIONAL OBJECTS

Distinguish features of the epidemiology of the development of tertiary period of syphilitic infection

Understand the general characteristics of clinical manifestations of the tertiary period

Identify clinical picture of typical manifestations of nodular syphilide

Identify clinical picture of typical manifestations of gummatous syphilide

Determine the characteristic clinical features of Fournier's roseola

Analyze clinical picture of affection of the mucous membranes in the tertiary period of syphilis

Determine the main clinical signs of visceral affections and lesions of the locomotor system in syphilis

Orient in the differential diagnostics of clinical manifestations of the tertiary period of syphilis

K N O W:

etiopathogenic features of tertiary syphilis;

factors contributing to the development of the tertiary period of syphilis;

methods of laboratory diagnostics of tertiary period of syphilis;

methods of test treatment as a diagnostic phenomenon and its features;

clinical picture of typical manifestations and variations of nodular syphilide;

clinical picture of manifestations and variations of gummatous syphilide;

clinical manifestations of tertiary syphilitic lesions of the mucous membranes;

principles of differential diagnostics of manifestations of tertiary period of syphilis.

B E A B L E T O:

properly take medical history, including sex;

determine the features of a specific affection of skin, mucous membranes and internal organs, locomotor system during the tertiary period of syphilis;

determine the morphological elements on the skin and mucous membranes, the dynamics of the pathological process;

determine the appropriate amount of the survey and its sequence (the use of physical, laboratory, including serological methods);

interpret the results of laboratory tests;

carry out differential diagnostics of the diseases that have a similar clinical picture.

Learning Module 9.

Gonorrhea.

Non-gonococcal urethritis and its complications.

Gonorrhea is a human contagious disease, caused by Gram-negative aerobic diplococcus *Neisseria gonorrhoeae*, which is predominantly sexually transmitted.

TRAINING AND EDUCATIONAL PURPOSES

- To distinguish main morphological peculiarities of gonococci
- To define the principles of their clinical laboratorial diagnostics
- To define the clinical classifications of gonorrheal lesions
- To explain peculiarities of various clinical symptomatology of indicated urogenous lesions
- To define the possible conditions of introduction of infection and preventive measures of gonorrhea
- To determine typical clinical complications of gonorrheal infection
- To prescribe etiotropic, pathogenetic or topical treatment for gonorrhea patients

TO KNOW:

- Etiopathogenesis and epidemiological features of gonorrhea;
- Clinical forms and the course of this disease;
- The criteria of gonorrhea diagnostics and its complications;
- The principles of medical and preventive measures and medical examination of gonorrhea patients.

TO BE ABLE TO:

- Deontologically and purposefully collect sexual history of gonorrhea patients;
- Perform a set of diagnostic measures for making etiological and topical diagnosis;
- Make a differential diagnostics with the diseases with the similar clinical presentation picture;
- Appoint appropriate treatment for gonorrhea patients;
- Recommend rational prophylactic measures of gonorrhea.

Learning Module 10.

HIV-infection and AIDS.

Dermatologic manifestation in HIV disease

Infection caused by human immunodeficiency virus (HIV) is a new contagious disease, which spreads rapidly and is characterized by the staging of the course. The final stage of the disease is Acquired Immune Deficiency Syndrome AIDS.

TRAINING AND EDUCATIONAL PURPOSES

To form the skills to purposefully and deontologically thoroughly collect medical history, to specify the duration of the incubation period, to find out the data about the alleged source of infection and subsequent sexual contacts

To assess the objective data of the clinical picture of HIV infection and to generalize their results

To demonstrate the ability to determine AIDS-defining diseases

To orient in the dermatological manifestations of AIDS (infectious dermatoses, neoplastic dermatoses, ordinary dermatoses with malignant or generalized course in AIDS)

To know the clinical classification, to determine the general course and to establish the diagnosis of HIV infection in an individual patient

To select the appropriate laboratory methods to confirm the diagnosis of HIV infection (IFA, PCR etc.)

To correctly interpret the obtained results of clinical and laboratory studies to confirm the diagnosis of HIV infection in adults and children

To make a comprehensive plan of treatment of patients with HIV infection

To carry out the prevention of HIV infection, using national, public and individual preventive measures in health facilities

TO KNOW:

The features of general course of HIV infection, its classification and variants of the course of the terminal stage of HIV infection (AIDS);

AIDS-defining diseases;

The characteristics of most frequent skin lesions in HIV/AIDS and peculiarities of their course;

The structure and life cycle of HIV, immunopathogenesis and epidemiology of HIV infection;

High risk groups of HIV infection;

Methods of laboratory diagnostics of HIV infection (IFA, PCR etc.);

Methods of laboratory diagnostics of HIV infection in children;

Methods of laboratory diagnostics of AIDS-defining diseases;

Methods of laboratory diagnostics of immune system disorders;

The principles of treatment of HIV patients;

Prophylactic HIV infection measures.

TO BE ABLE TO:

Put questions to HIV patients, clear up the complaints, collect medical history, general and sexual anamnesis, demonstrating a particular delicacy in regard to clarifying the circumstances of infection, sexual contacts etc.;

Carry out examination, palpation and vitropression in HIV-patients.