Term	Topic content
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.
Etiology	Syphilis is caused by Treponema pallidum (Treponema pallidum), belonging to the class of Spirochaetales, family of Treponemaceae, genus of Treponema. It received its name because of a very poor ability to paint. Treponema pallidum has the form of a thin spiral of width of 0.2 jim and a length of 5-15 urn. Its 8- 12 curls are placed at the same distance from each other. They are very mobile and constantly carry out sliding (forward and backward), rotational, pendulum and contractile (wavy) movements. The small number of surface antigens (protein, polysaccharide, lipid) in Treponema pallidum determines its weak immunogenicity and helps to quite successfully counteract antibodies and lymphocytes of the human body. As facultative anaerobes Treponema pallidum finds the optimal conditions for its location and development in the lymphatic system. Treponema pallidum is unstable to drying and high temperature (at 55 °C it dies after 15-20 min.). The optimum temperature for its existence is +37 °C.
Epidemiology	Syphilitic infection occurs only in humans. According to the WHO estimates (eng - WHO) about 15 million people in the world are infected with syphilis each year. Today, the disease is considered by experts as well as a co-factor contributing to HIV - infection. Sources of infection. The source of infection is the sick person, especially with infectious (active) manifestations of primary and secondary syphilis. Ways of infection. There are three main ways of infection with syphilis: *sexual* - in case of genital, anal and oral contacts; *professional* - during surgery, instrumental examination; *transfusion way* - in the case of a direct penetration of Treponema pallidum in the blood, particularly during blood transfusions, medical manipulations (cutting, an injection during surgery). *transplacental*-from sick pregnant woman to the fetus through the placenta. ImmunityTrue (sterile) or artificial immunity in case of syphilis in human does not exist, as there is no natural immunity. After infection only unsterile (infectious) immunity gradually develops, which is caused by an allergic

	changes in the body as a result of the disease-causing agent in it. When recovering infectious immunity disappears. *Reinfection* - is recurrent disease of syphilis in human who had previously been sick with it, and did not fully recover from it, that manifested itself as the absence of any clinical symptoms, and persistent negative reaction of such person in all serological tests.
General course of syphilis and its classification	Syphilis infection is characterized by the cyclical type of clinical course which is manifested by a certain sequence of occurrence of the external symptoms, the change of periods of active and latent clinical course. In the clinical course of syphilis infection the following periods and forms are defined: *1. Incubation period*- from the moment of infection to appearance of the hard chancre. *2. Primary period (syphilis Iprimarid)* - stage of the disease from the moment of appearance of hard chancre to the development of secondary syphilides. It consists of: *seronegative (syphilis I seronegativa)* syphilis with persistently negative serological reactions in the presence of clinical symptoms; *seropositive (syphilis I seropositiva)* syphilis with positive serological reactions in the presence of clinical symptoms; *latent (suphilis I latens)* syphilis, which is characterized by the absence of specific clinical manifestations in patients. *3. Secondary period (syphilis II secundaria)* stage of the disease, which is characterized by polymorphic rash (papules, macules, pustules) on the skin and mucous membranes and their determined staging, namely • *secondary recent syphilis (syphilis II recens)* - period, characterized by numerous polymorphic eruptions on the skin and mucous membranes, polyadenitis, the presence of residual symptoms of the hard chancre and strongly positive serological reactions; *secondary recurrent syphilis (syphilis II recediva)* period of secondary syphilis characterized by a small polymorphic grouped rash; *secondary latent syphilis (syphilis II latens)* - period of the disease, which is clinically latent and manifested only by positive serological reactions.

	Third syphilis (syphilis HI tertiaria) - stage, characterized by the damage of internal organs and nervous system. *Latent syphilis (syphilis latens).* The latent syphilis includes such cases of syphilis infection, in which serological reactions are positive, but there are no clinical signs. The following variants are possible: *premature latent syphilis* (syphilis latens praecox), when less than two years passed from the moment of infection, *tardive latent syphilis* (syphilis latens tarba), when two years and more passed from the moment of infection, *unspecified latent syphilis* (syphilis ignorata), when the period of infection can not be specified. *Congenital syphilis (syphilis congenita)* occurs when infection with Treponema pallidum is caused by ill mother in the period of intrauterine growth. It iscustomary to distinguish the following types: *premature congenital syphilis (syphilis congenita praecox)* - syphilis of fetus and of children up to two years; *tardive congenital syphilis (syphilis congenita tarda)* in children older than two years; a *latent congenital syphilis (syphilis congenita latens),* in case of which the clinical manifestations are absent, and laboratory parameters of cerebrospinal fluid are normal. *Syphilis of nervous system (neurosyphilis).*
General principles of diagnostics	Diagnostics of syphilis is based on: the presence of specific clinical manifestations on the skin and mucous membranes; the history data sexual contacts; the positive results of laboratory tests. If the rash elements that are not accompanied by subjective sensations are present on the skin, genitals and mucous membranes, one should think that it may be manifestations of syphilitic lesions. It is desirable to establish a patient's sexual contacts over the past few months. Spectrum of laboratory methods for diagnosis of syphilis is composed of the direct tests that detect causative agent of syphilis, or its DNA or of the large number of indirect mainly serological methods of studies.

Tertiary period of syphilis	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. Tertiary syphilis develops in 5-15 years after infection. General features of clinical manifestations of tertiary period of syphilis: manifestations of tertiary syphilis have undulating clinical character, and holding for several months, spontaneously regress, followed by a period of relative calm. In the presence of clinical symptoms active tertiary syphilis is diagnosed, in the absence thereof- latent tertiary syphilis. Term of existence of tertiary syphilides - months and years. Manifestations of tertiary syphilis bear infectious and allergic nature. Intensity of specific immunity in the tertiary period is gradually reduced. All the elements of the rash do not have Treponema Pallidum due to which tertiary syphilides are noncontagious. Subjective acute inflammatory feelings are missing. Changes in the skin, mucous membranes and internal organs, bones and joints, nervous, cardiovascular, endocrine systems, bear organic destructive nature. A small number of tertiary syphilides on the skin and mucous membranes: nodules are numbered in tens; gumma - single, tertiary roseola ofFournier is very rare. Rash has monomorphic nature. Asymmetric arrangement of rash. Inflammation of tertiary syphilides with the formation of infectious granulomas, which are situated in the vital organs, break their structure and function, bear productive nature. Development and regression of tertiary syphilides takes place slowly with the formation of ulcers, scars and ulerythema. Classical serological tests in a third of patients with tertiary syphilis are negative. The results of specific reactions (IFT, TPIT, TPHA, PCR), which are almost always positive in the tertiary period, have diagnostic value. Manifestations of tertiary syphilis respond well to regress under the influence of treatment against syphilitic infection. Clinical picture. Manifestations of tertiary syphilis are observed on the skin, mucous membranes, the internal organs, the locomotor system. Tertiary affections of skin are manifested by two morphological elements of rash: dermal nodules (nodular syphilide) and hypodermal nodules (gumma) - gummatous syphilide that differ only in the size and depth of affection, because in both cases anatomopathologically this is an infectious granuloma. The so-called late, or tertiary, roseola ofFournier is vary rare.

	Nodular syphilide (superficial gumma, tertiary papule, syphilis tuberculosa). Morphological element of the rash is a nodule in the form of sharply outlined dense infiltrate up to 0.5-0.8 cm in diameter, embedded in the dermis. The nodules are located in limited areas of skin scattered or grouped. Nodular syphilide has elevated hemispherical surface of brownish-red or bluish-red color. First, it is smooth, and eventually it is covered with scaly crusts. Evolution of syphilitic nodules is carried out in two ways: the nodule may dissolve and disappear, leaving a pigmented scar atrophy; and in other cases, there is a decomposition of the tissues of the nodule and the formation of sharply demarcated round painless ulcer. Further due to the presence of healthy skin between the individual small scars, the so-called star-shaped scar is formed on the place of ulcer. There are such clinical varieties of nodular syphilide: aggregated, serpiginous (creeping), dwarf, diffuse (''platform''). Aggregated nodular syphilide (syphilis tuberculosa aggregata) is characterized by the focused placement of nodules which do not merge with each other. Serpiginous (creeping) nodular syphilide (syphilis tuberculosa serpiginosa) is characterized by the merge of the individual nodules with the formation of specific infiltrate. The ulceration and scarring of old elements is realized along with the appearance of new nodes. Dwarf nodular syphilide (syphilis tuberculosa nana, tertiary papule) - small nodules with a size of a millet or hemp seed, which are located in separate groups in a small area. Nodular syphilide in ''platform' (diffuse nodular syphilide, syphilis tuberculosa en nappe seu diffusa) is formed by the close adjoining of the individual nodules to one another and looks like a bottle-shaped infiltrate of 5-10 cm. Differential diagnostics of nodular syphilide. It should be carried out with tuberculous lupus, which differs by a soft consistency of nodules (positive symptom of ''probe''), and a symptom of ''apple jelly'' during diascopy). In case of tuberculoid leprosy nodules are arranged in a ring. Basalioma is usually single, often located on the face skin, has a clear edge. The ulcer, which is not tending to scarring, unlike syphilide, is formed in the core of the focus. Gummatous syphilide (syphilis gummosa, gumma subcutanea, syphilis nodosa profunda, syphilitic gumma). Gummas are presented by the clearly separated dense painless nodules that in the process of evolution ulcerate to form star-shaped scar or in the rare cases are absorbed, leaving a scar atrophy.

	Gummas appear gradually as a separate dense and painless nodule with intact skin over it. Then, the skin over it gradually becomes dark red. Gumma breaks the hole with the release of the small amount of adhesive tenacious ropiness liquid of dirty yellow color, resembling acacia gum (hence the name - gumma). Further, a dense compact mass, called gummy stem, is formed. Then, gummy ulcer with vertical edges is formed. Some time later, star-shaped scar is formed. Differential diagnostics of gummatous syphilide. One shall differentiate syphilitic gumma primarily with tuberculous gumma (strumoderma), the nodule of which is from the beginning a more gentle than syphilitic, and breaks in several holes. Ulcers in this case have a soft undermining. In case of Bazin s disease the nodes are usually multiple, localized symmetrically on the skin of the posterior-lateral surface of lower legs and hips. Cancerous ulcer differ from gummy by solid iliac roll, often twisted edges, the bottom of the ulcer is nodulated, bleeds easily. In case of lipomas nodules are multiple, subcutaneous, softer. Fournie's tertiary erythema (syphilitic tertiary roseola, erithema tertarium tardivum, roseola tardiva), - very rare clinical manifestation of tertiary syphilis. It is characterized by asymmetric ring- and arch-shaped large macular elements of 5 to 15 cm in diameter with a wide red border. Differential diagnostics of Fourniers tertiary erythema. It shall be differentiated from microsporia or ringworm of body. Manifestations of tertiary syphilis in mucous membranes. They occur relatively frequently and have their own characteristics: most often found in the mucous membrane of the mouth, nose, throat, pharynx, tonsils, larynx; the predominant place of localization in the oral cavity are areas of hard and soft palate, palatine velum and kion; mucous membrane of the mouth may be the only place of clinical manifestations of tertiary syphilis, among the clinical forms of which - gummas,gummy infiltration and nodular syphilide. Tertiary syphilides on mucous membranes have bright colors and puffiness. Formation of gummas on the oral mucosa does not differ from their formation on the skin. Gummatous process ends with ulceration with a deep and significant destruction of not only the soft tissues, but bones. Nodular syphilide in the mucous membrane of a mouth is less common than gummatous. The nodules, as well as gummas, can be localized in any place, but more often in the mucosa of the lips, alveolar bones and palate. The nodules may be isolated or may be in the form of infiltrative focus with sharp jagged outlines. They are tightly elastic, red-brown in color, have a relatively

	fast flow, are treated with scar formation. Differential diagnostics of tertiary syphilis of mucous membranes. One shall differentiate manifestations of tertiary syphilis of mucous membranes first of all from tuberculosis, cancerous ulcer and leprosy. The decisive criterion in the diagnostics of tertiary syphilis is the result of the specific serological tests (IFT, TPIT, TPHA, PCR) in blood and cerebrospinal fluid, pathomorphological study of biopsy material and trial treatment. Affection of internal organs and systems in case of tertiary syphilis (syphilis visceralis). In case of tertiary syphilis limited nodules and gummatous infiltrates may be observed in all internal organs, and there may be a variety of degenerative processes and metabolic disorders. Most often the cardiovascular system (90-94% of cases) is affected, rarely - liver (4.6%) and other organs - lungs, kidneys, stomach, intestines, testicles (1-2%). Affection of cardiovascular system (cardiovascular syphilis) makes up almost 90% of all cases of late visceral syphilis. It often affects the aorta (syphilitic mesaortitis, aortic insufficiency, aneurysm, affection of coronaria entrances), rarely myocardium (syphilitic myocarditis). Affection of liver in case of tertiary syphilis may have the following clinical forms: chronic epithelial hepatitis, chronic interstitial hepatitis; focal gummatous hepatitis, miliary gummatous or diffuse infiltrative hepatitis. Syphilitic affections of the stomachy lungs9 kidneys and other internal organs is accompanied by symptoms of disorders of the above-mentioned organs. Affection of the visual organ. Affection of the visual organ occurs against a background of both a secondary and tertiary syphilis; inflammation and pupillary disorders dominate in case of eyes affection; difficulties in diagnostics occur due to the lack of alertness of physicians regarding latent forms of syphilis and its association with other infections. By the time of the development of tertiary syphilis, eye symptoms are mainly associated with the damage of the nervous system, but the development of tarsitis,chorioretinitis and gummatous affection of various parts of the visual organ are typical for this stage. Parenchymatous syphilitic keratitis is characterized by unilateral nature of the process, a relatively benign and is easily subjected to antisyphilitic therapy. Deep pustule-shaped syphilitic keratitis is characterized by persistent prolonged course and resistance to the specific therapy. Gummatous keratitis develops in

	a form of the syphilitic gumma in the corneal stroma and is always complicated by its turbidity, iridocyclitis and decrease or loss of vision. Syphilitic neuritis of optic nerve is observed in basal meningitis, and is usually bilateral. Functions of the eye violate very early. The thorough and comprehensive examination of the patient helps diagnostics to confirm the syphilitic nature of the disease. Affection of locomotor system in case of tertiary syphilis. The affection of the bones and joints may be the only symptom of tertiary syphilis or combined with the affection of other organs. Limited gummatous nodules or diffuse gummatous infiltration usually affect those bones of the skeleton, which are covered with small muscles and are prone to injury. The bones of forearms, clavicle, beastbone, nose, skull are rarely affected. Differential diagnostics shall be carried out with chronic purulent osteomyelitis of tuberculosis of the bones. Joint diseases in case of tertiary syphilis are less common than bones affection. A characteristic feature of syphilitic affection of the joints is almost complete absence of pain and possible preservation of joints function.
Congenital syphilis	Congenital syphilis (syphilis congenita) results from transplacental infection during intrauterine growth of a fetus with the spirochete Treponema subspecies pallidum from the ill mother. Classification and clinical signs of congenital syphilis According to the accepted actual classification of WHO, the following types of syphilis are distinguished: • Early congenital syphilis (syphilis congenitalpraecox) in fetus and infants under the age of two years, the symptoms of which are following: pemphigus syphiliticus, diffuse papular skin eruption, lesions of mucous membranes, parenchymal organs, bone tissue, nervous system, eyes. • Late congenital syphilis (syphilis congenital tarda) with symptoms, by which the symptoms appear in children, older, than two years. • Latent congenital syphilis (syphilis congenital latens) - early and late is characterized with the absence of clinical manifestation and of the changes in cerebrospinal fluid. This disease is usually discovered by serologic tests. Syphilis and pregnancy The probability of intrauterine infection of fetus with Treponema Pallidum is maximal by secondary and early latent syphilis in mother and makes up 80-85

	% of syphilis cases. Unspecified or late latent syphilis in pregnant woman appears in 10 % of cases to be the cause of congenital syphilis in fetus. Least of all suffer from congenital syphilis the children, born to mothers, affected with primary syphilis – less than 1,5 % of cases of the congenital syphilis. According to the data, given by WHO experts, the pregnant women with untreated early syphilis will bear infected children in 70-100 % of cases, in 1/3 of cases - stillborns. Pregnancy outcome in infected women may be different: early or late spontaneous abortion (at 12th- 16th week), premature delivery, perinatal death; birth of infant with the symptoms of early congenital syphilis or with positive serological tests without clinical manifestation. There remains a probability to bear healthy child. Placental and umbilical cord lesions Specific placental and umbilical cord lesions precede the congenital syphilis. When the infection of placenta takes place, the late becomes hypertrophied, with areas of grayish-yellow and rosy colors - ("variegated"), crumbling, with tendency to tear very easily. Syphilis infection is characterized with the lesions in form of sclerosis of placental villi, epithelial degeneration, cell infiltration of vascular walls with their obliteration. The described histological changes occur in fetal placenta. The maternal placenta, on the contrary, remains unaltered. Typical for this kind of infection is enlarged placental mass. In comparison with normal fetal/placental mass ratio, which makes up 1:6, by syphilis infection this correlation is 1:3. Fetal syphilis The only channel for the fetus infection is transplacental transmission. In consequence of specific septicemia, the 75-80% of fetal death, caused by syphilis infection, is registered in the 4 th-5 th, but more often - in the 5th - 6th month of pregnancy. The most commonly observed clinical symptoms are following: low fetal weight, hypoplasia or total absence of subcutaneous fat, skin rugosity, by which the folds have earthy color ("senile skin"). Specific lesions in internal fetal organs (liver, spleen, lungs) are introduced with diffuse inflammatory process – globocellular infiltration and connective tissue growth. Early congenital syphilis In vast majority of infants the symptoms of the early congenital syphilis arise within first three months of life. Manifestations include: pale rugous "senile" skin, saddle nose, enlarged head because of exaggeration of the frontal eminence and venous distension; permanent rhinorrhea, which causes labored

	breathing and difficulties during sucking. The clinical symptoms of the early congenital syphilis are following: Diffuse papular infiltration of the skin (Hochsinger infiltration). Pemphigus syphiliticus. Lesions of the sense organs. Lesions in the locomotive system. Lesions in visceral organs. Lesions in nervous system. Diffuse papular infiltration of the skin (Hochsinger infiltration) appears within the first three months of life, with localization on the palms, buttocks, chin,superciliary arches, scalp. The skin surface is smooth, sparkling (varnish - like), red-purple tinted. Different skin injuries lead to the formation of rhagades, which are localized radially around the mouth and form, when healing, radial Robinson -Fournier scars. The skin infiltration on the palms is attended with maceration,rugosity, scaled desquamation. Pemphigus syphiliticus is observed in 11-12 % of cases at birth or within first days or weeks of life, and is typically placed on the skin of palms and feet. The Treponema pallidum is usually revealed in the blister fluid. The tent blisters, with serous content, are localized on the infiltrated skin areas and have inflammatory border. Pemphigus syphiliticus must be differentially diagnosed from neonatal impetigo, which usually begins with omphalitis along with fever. The groups ofblisters are placed separately, on the skin of back and chest, and very rarely on the areas of palms and feet. The above mentioned rash tends to the peripheral growth and perifocal inflammation. The skin appendages in infants can also be affected by syphilitic infection. The hair lesion is characterized with the circular and/ or diffuse hair loss. Syphilitic rhinitis observed in 25 30 % of cases of the disease at birth or within first weeks of infant's life in form of syphilitic rhinorrhoea. On the initial stage occurs the edema of nasal mucosa, which results in noisy breathing. In the sequel appear purulent discharges. While sucking, the child is often distracted to inhale deeply. After above mentioned pathological changes occur the destructive processes, leading to the damage of cartilaginous and bone tissue of the nasal septum, followed with formation of saddle nose. The voice becomes snuffling. Nasal discharge contains Treponema pallidum in quantity. The alterations of the nasal septum appear in form of osteochondritis, syphilitic gummas, diffuse globocellular infiltration of nasal septum mucosa. Lesions of the sense organs are characterized with specific eye alteration in form of conjunctivitis, chorioretinitis, iritis, optic atrophy. The ophtalmoscopy

	by chorioretinitis reveals pigmented fundus lesions and little light spot^ producing "salt and pepper fundus" The eye alterations occur in 37 - 47 % of cases of the congenital syphilis. Lesions in the locomotive system are the most frequent manifestation of syphilis infection and have the character of: • Osteochondritis (Parrot disease); • Periostal changes, such as periostal thickening, ossification periostosis, hyperostosis, osteophyte, osteosclerosis; • Destructive changes (osteoporosis, defects of joint ends of the bones, gummas); • Fractions and infractions. Characteristic features of the osteochondritis are lesions in the area between epiphyseal cartilage and diaphysis. Long tubular bones are preferentially affected (humeral, femoral, forearm and shin bones). The development of osteochondritis occurs due to the ossification disturbance, physiological cartilage resorption arrest, increased deposition of calcium salts in the cartilage, the reduction and partial disappearance of the bone trabecules followed by the formation of necrotic areas. The bone trabecules are scanty and, therefore, the separation of epiphysis from the diaphysis occurs, known as epiphysiolysis (Parrot disease). In the case of syphilitic epiphysiolysis, the clinical picture is observed similar to flaccid paralysis of the limbs, which has nothing in common with the paralysis of spinal origin, therefore, this disease was called Parrot pseudoparalysis. Clinically, in case of Parrot pseudoparalysis, the limb 1 limp lies slackly on the bed, any movement is painful. Regarding the sensorium no disorders are observed. In the case of syphilitic periostitis the limb bones, ribs and rarely flat bones are affected. The affection of the periosteum (periostitis) occurs as an independent. Other alterations of skin and mucous membranes. The skin alteration fully coincides with the lesion, caused by secondary syphilis infection. The nasal mucosa is affected by syphilitic rhinorrhea. Much rarelier the laryngeal mucosa is involved with the development of diffuse inflammatory infiltration, causing the symptoms of hoarseness, dysphonia phenomenon, as well as in the combination with osteochondritis. Gummas in the bones of infants are less likely than in older children. They are located in the metaphyses, less

	frequently in the diaphysis. Chondrodysplasia (chondrodystrophy) reminds osteochondritis: by the time of birth the straightening, widening, serration and increased intensity of the calcification zone are determined. The affections of the internal organs. Most commonly the liver and the spleen are affected (75-80% of cases) in the form of hepatitis, hepatosplenomegaly, chronic pancreatitis. Oftentimes the lungs are affected (10-15% of cases) – the interstitial pneumonia occurs. Renal affection (10% of cases) manifests itself as glomerulonephritis, nephrosonephritis. Nervous system involvement is manifested in the form of the specific meningitis and meningoencephalitis. The Sisto symptom is particularly characteristic: the "idiopathic" baby cry day and night. In the analysis of the spinal fluid of these children a high cell count, positive reaction to serological tests for syphilis are found. Diagnostic criteria of early congenital syphilis. Confirming or denying the existence of the syphilitic infection in child, the doctor takes the great responsibility. To avoid possible diagnostic errors, it is necessary to use the full set of parameters. Among the parameters that may in one extent or another indicate the presence or absence of syphilis in a child are the following: • Anamnestic data of the child's parents, indicating that they had syphilis in the past. • Carefully collected obstetric history. • Syphilis (including the deep-seated syphilis) in mother. • The clinical and morphological description of the placenta. • The inspection of skin and mucosa of the child. • The results of the inspection of otolaryngologist, ophthalmologist, neuropathologist, pediatrician, radiologist. • The results of laboratory tests of mother and child (identification of the Treponema Pallidum or antigenic determinants in the amniotic fluid, placenta, rashes on the skin and mucous membranes, lymph nodes; positive serological reactions SRC (serological reactions complex), IF-test, Treponema Pallidum immobilization test, detection of the Ig M class antibodies in the serum of newborn. • Temperature reaction exacerbation in the child after the beginning of the specific antibiotic treatment.

	The final diagnosis of early congenital syphilis is established based on the detection of Treponema pallidum and positive serological reactions. Late congenital syphilis. Manifestations of the late congenital syphilis occur at the age of 2 -17 years, but sometimes they can be observed through 30 and even 50 years after the birth. They correspond to the lesions of different organs and systems in the case of acquired tertiary syphilis. In 60% of cases of late congenital syphilis the infection is hidden and is diagnosed only based on the results of serological blood tests. There can be defined the significant (absolute) and the probable signs of late congenital syphilis, as well as a variety of dystrophies, which are more common in the case of congenital syphilis, but may be present in other diseases. Significant signs of the late congenital syphilis - Hutchinson's triad (parenchymatous, keratitis, labyrinthine deafness, Hutchinson's teeth). Parenchymatous keratitis occurs at the age of 5-15 years. Its clinical manifestations - uniform milky-white corneal opacity with pericorneal vascular injection, photophobia and blepharospasm, lacrimation. The process begins on the one eye and then becomes bilateral. The symptom is observed in 50% of patients with late congenital syphilis. Labyrinthine deafness occurs at the age of 7-15 years. It develops as a result of periostitis in the osseous part of the labyrinth and affects the auditory nerve. The process is bilateral, the deafness occurs suddenly, it is preceded by the dizziness, buzzing and ringing of the ears. The labyrinth deafness is treatment-resistant, it occurs in 3 38% of cases. Hutchinson s teeth occur at the age of 6-7 years (the time of permanent teeth appearance; in children younger than six years old these teeth do not erupt, they can be identified radiographically). Its clinical manifestations – the dystrophy of permanent upper intermediate incisors of barrel-shaped or chisel- shaped form, hypoplasia of the chewing surface with a semilunar excavation on the free margin. It is observed in 15-20% of patients with late congenital syphilis. To the probable signs of late congenital syphilis refer various dystrophies, which have a lower diagnostic value and require additional confirmation. The most common include: • saber shin, characterized by the anterior bowing of tibia as a result of previous diffuse osteoperiostitis; • natiform skull that occurs as a result of the simultaneous development of the local hydrocephalus and specific osteoperiostitis of the frontal and parietal bones;

	• eyeglass (saddle or goat) nose as a result of previous syphilitic rhinitis or nasal septum gumma; • Robinson-Fournier scars - radial, localized around the mouth after absorption of the Hochsinger infiltration; • Axiphoidia - the absence of xiphoid process; • thickening of the sternal end of the clavicle; • wide set upper incisors; • high ("Olympic") forehead; • shortened little finger, • high "gothic" palate, microdontia, hypertrichosis. Diagnostic criteria of the late congenital syphilis: 1 Anamnesis: the information about the syphilis in mother, mother obstetric history. 2. The presence of the active late manifestations of syphilis in combination with significant and / or probable signs of the late congenital syphilis. 3. Laboratory (serologic) confirmation of the diagnosis (SRC, EI A, IF-test, Treponema pallidum immobilization test, PHT). 4. Cerebrospinal fluid examination. Prevention and prognosis of the congenital syphilis. The main method of prevention of the congenital syphilis is the obligatory serological screening of all pregnant women in the I, II and III trimesters. The ultrasound examination in the caseof syphilis in pregnant women allows to predict the postnatal complications. If the active or latent form of syphilis is diagnosed in a pregnant woman, the treatment with antibiotics is prescribed. One or two weeks before delivery the non-specific false positive serological reactions can be registered. In such case a pregnant woman does not undergo specific treatment and two weeks after delivery it is necessary to carry out a re-examination of the mother and a detailed examination of the child. If the diagnosis of syphilis is confirmed in mother and child, the specific treatment is prescribed to both. In such cases, the results of IgM serology have the great prognostic significance. The most informative is the IFR with IgM. The children bom to the mothers with syphilis or mothers who had syphilis in the past or have not completed a specific treatment, undergo careful

	examination. The umbilical cord blood is taken for the SRC, the placenta is weighed and examined histologically. The inspection of the skin and mucous membranes of the child, the examinations of the central nervous system, internal organs, ocular fundus, cerebrospinal fluid, X-ray of long bones are mandatory. If the placenta is large (the placenta/ fetal mass ratio makes up 1:3 or 1:4) and fragile, a thorough clinical and serological examination of the mother and the baby is carried out. Newborns, whose mothers had not been treated properly and had not received preventive antisyphilitic treatment during the pregnancy, undergo preventive treatment. Children who have received preventive treatment should be under the observation for five years. Treatment and prevention of syphilis are usually carried out in accordance with national guidelines approved treatment protocols (National Guidelines) and similar documents adopted in the country or region. It is believed that the treatment of patients with syphilis should be initiated as soon as possible after diagnosis. Syphilis refers to the so-called controlled human infections because medicine has drugs for full treatment of syphilis. However, the success of treatment depends on its usefulness and timeliness. Treatment and prevention of syphilis in Ukraine are carried out according to the "Methods of diagnostics, treatment and prevention of infections that are sexually transmitted", approved by the Ministry of Health of Ukraine. General principles of therapy The following types of treatment of patients with syphilis and their contact persons are previewed: 1 Specific antibacterial treatment is performed only for patients with a confirmed diagnosis of syphilis. 2. Preventive treatment, which is aimed at preventing syphilis among persons who had sexual or close household contact with sick contagious forms of syphilis, if not more than three months passed from the moment of contact. People who have had such contact with syphilis more than three months ago, will undergo a complete clinical and serological survey (CSR, ELISA, IFT, TPIT), and in the case of negative treatment they are not assigned treatment. 3. Preventive treatment, which is carried out in order to prevent congenital syphilis: a) pregnant women who received in the past specific therapy for syphilis, if such persons did not have negativation of serological indices of blood before pregnancy; b) infants in the case if they were born to mothers infected with syphilis

	before delivery and did not receive a full and specific preventive treatment, in the absence of clinical and serological evidence of syphilis in such children. 4. Presumptive treatment, appointed in case of suspicion of syphilis of internal organs, nervous system, sensory organs, the locomotor system in the event that the diagnosis could not be confirmed by convincing laboratory data, and clinical picture can not exclude the development of syphilitic infection (suspicion of late forms syphilis). The specific antibiotic therapy. Essential drugs for the treatment of syphilis are penicillins divided into: a) water-soluble drugs of penicillin-benzylpenicillin sodium salt, benzylpenicillin -G; b) repository drugs of penicillin - benzatinbenzylpenicillin, bicillin-3 (benzatinbenzylpenicillin + benzylpenicillin + novocaine salt of benzylpenicillin), bicillin-5 (benzatinbenzylpenicillin + novocaine salt ofbenzylpenicillin). The antibiotics of reserve - tetracyclines, macrolides, cephalosporins are used in case of intolerance to penicillin drugs. Specific manifestation of anti-syphilitic therapy in patients with syphilis is the reaction of acute Jarisch-Herxheimer-Lukashevich. Most often, this reaction occurs in patients who started treatment of recent syphilis. The reaction occurs in the first 12 hours after initiation of therapy. The main clinical symptom include a sudden rise in body temperature to 39 ° C. The highest hyperthermia occurs 6-10 hours after the start of treatment, it lasts for 8-10 hours, and gradually disappears after 18-24 hours. Other symptoms of the reaction include the activation of clinical manifestations of syphilis, malaise, and headache. The cause of the reaction is considered to be mass destruction of Treponema pallidum under the influence of the started antibiotic therapy, which is accompanied by a considerable release of endotoxins. In the case of severe reaction of Jarisch-Herxheimer-Lukashevich penicillin therapy is not terminated, and corticosteroids are injected intramuscularly at the rate of 0.5 mg of prednisone per 1 kg of patient's weight. Treatment of patients with penicillin begins only after the diagnosis is determined based on clinical data and laboratory confirmation. Treatment should be started as soon as possible. The earlier the treatment is started, the more favorable prognosis and its effective results will be. It is necessary to

	clarify the patient's tolerability of penicillin in the past before treatment. In order to prevent possible allergic reactions, it is recommended to test the tolerance of penicillin. Treatment of children. All children under three years of age who were in contact with the patient with contagious forms of syphilis, are subject to treatment, if not more than three months passed since the last contact. Treatment of syphilis in children is carried out under the same principles as the treatment of adults, but taking into account body weight and physiological characteristics of the child's body. Methods for the treatment of children with acquired or congenital syphilis are determined by the form of the disease, the child's age and individual characteristics of the individual patient. Clinical and serological monitoring. After treatment all patients with syphilis shall be subject to mandatory clinical and serological monitoring by careful clinical examination and execution of serological tests (CSR IFT, RIT, ELISA). The frequency and volume of the serological study depend after completion of treatment on the form of syphilis, the duration of the infection and the dynamics of serological blood tests. Frequency of blood testing by the ELISA and CSR methods in patients with recent syphilis infection with a term of up to six months, makes up three months, in infected patients with the term from six months to one year - four months, in patients with infection over a period of one year - six months. It is necessary to carry out blood testing by the ELISA and CSR methods in pregnant women and children who recovered from syphilis at intervals of one to three months, depending on the clinical form and duration of infection with syphilis. Blood testing by IFT method can be conducted in all forms of syphilis every six months, for pregnant women and children - every three months. The study of blood by TPIT method is recommended after negativation of CSR and then in the range from two to six months depending on the time of infection. Duration of serological monitoring after treatment depends on the terms of infection and makes up: • for preventive treatment - 3 months; • for treatment of all forms of syphilis with the term of infection of up to 6 months - 12-18 months; • for treatment of all forms of syphilis with the term of infection from 6 to 12 months - 18-24 months;

	• for treatment of all forms of syphilis with the term of infection more than one year, as well as in cases of unknown date of infection - from 24 to 30 months. If, after the effective treatment of recent syphilis CSR remains positive for more 1.5 years for adults and more than 9 months for children without significant downward trend of titers, the patients are characterized by seroresistance. When establishing seroresistance it is necessary to exclude the presence of non-specific seroreactions in connection with certain concomitant diseases (hepatitis, tuberculosis, tumors, connective tissue, etc.). Criteria for curability of syphilis include clinical improvement and normalization of indices of serological studies. When establishing the curability of patients with syphilis they take into account infection, the quality of the treatment and its compliance with existing protocols. Great importance in this respect is given to the dynamics of serological reactions after treatment and resistant negativation of CSR. Negative results of TPIT and IFT after treatment are the criteria of its effectiveness. If TPIT and IFT remain positive, prticularly in patients with late forms of syphilis, there is no reason to assign additional courses of treatment in the absence of other symptoms of the disease. If the treatment was started later than six months after infection with syphilis liquorological study is recommended. Basic principles of prevention of syphilis. Prevention should be carried out by all medical institutions. It includes: 1Early and comprehensive identification of all patients with infections, mainly sexually transmitted: • detection of sick people among donors to prevent transfusion transmission of infection; • mandatory double serological survey of pregnant women in the first and second half of pregnancy to prevent congenital syphilis and HIV; • comprehensive and complete examination of sexual contacts of patients, • identification of sources of infection. 2. Full medical treatment of patients. 3. Full clinical and serological surveillance for convalescents. 4. Organizing and conducting educational work among the population