

5-year DMD program Course description

Anesthesiology and Resuscitation

Anesthesia is given for surgery and painful diagnostic procedures. Anesthesiology also deals with pain management. Intensive care or intensive therapy covers all aspects of treatment of a patient in serious condition with life threatening illness. While studying the subject students learn about general and regional anesthesia for different types of procedures, preparing patient for anesthesia, post-operative care, and rudiments of intensive therapy. Problems of acute and chronic pain management are presented as well. Resuscitation is taught especially during Advanced Life Support in-hospital settings.

Biochemistry

Enzymes. Nucleic acids and their biosynthesis. Proteins and their synthesis. Bioenergetics. Krebs cycle and respiratory chain. Metabolism of carbohydrates. Metabolism of lipids. Metabolism of amino acids. Synthesis purines and pyrimidines. Body fluids. Hormones. Integration of cellular metabolism. Tissue biochemistry.

Biophysics

Thermodynamics of biological systems:

Thermodynamics of living organisms, elements of theory of information.

Biophysics of the cell - macromolecules, cell membranes, - intracellular signalling. Biophysics of blood circulation. Effects of electromagnetic fields on living organisms. Elements of mechanics and energy of movement.

Elements of bioelectrochemistry.

Clinical Pharmacology

Basis of pharmacokinetics and pharmacodynamics with regard to interactions of drugs used in dentistry. Rules of pharmacotherapy in dentistry. Methods of interpretation of clinical trials' results – Evidence Based Dentistry (EBD). Pharmacotherapy of acute life-threatening clinical conditions (circulatory arrest, acute coronary syndromes, critical blood pressure increase, status asthmaticus, anaphylactic shock, diabetic comas, cerebral stroke, convulsive states).

Antibiotic therapy in dentist's practice. Perioperative antibiotic prophylaxis. Management of viral, bacterial and fungal infections within the oral cavity. Clinical pharmacology of non-steroidal anti-inflammatory drugs (NSAD). Pharmacotherapy of pain in dentistry. Pharmacotherapy of haemorrhagic diatheses. Patients on anticoagulant therapy in dentistry. Patient with diabetes mellitus in dentist's practice.

Clinical Psychology

The overall purposes of the psychology course:

1. Baseline knowledge on the doctor-patient relationship.
2. Emphasis on the part of psychological factors in formation and the course of somatic diseases.
3. Psychological and neuropsychiatric problems in patients with substance abuse. Psychoactive substances: alcohol, nicotine. The specificity of contact with patient after psychoactive substance used.
4. The methods of recognition of the most important psychological problems during the course of somatic illnesses.
5. Psychological problems in the palliative care; specificity of the emotional and intellectual contact with these patients. The standard methods of giving information (especially bad news) to the patients and families.

Conservative Dentistry

Caries epidemiology, caries prophylaxis, signs and symptoms, diagnosis and treatment of simple caries, planning of complex and conservative treatment, methods of carious lesion detection, preparation and resoration of carious and non-carious cavities with different materials, methods of pain control in conservative dentistry, elimination of dentine sensivity. Gerostomatology – characteristics of dental care for the elderly.

Conservative Dentistry – Combined Exercises

Establishment of the comprehensive therapeutic management in dentistry.
Consolidation of principles of human performance-centered ergonomics and work with auxiliary personnel.
Management of the patient in relation to general dental procedures. Discussion of the problems resulting from the performed course of treatment.

Conservative Dentistry and Endodontics (Endodontics)

Endodontics is that branch of dentistry that deals with diagnosis and treatment of oral conditions which arise as a result of pathosis of dental pulp. It is related to the biology of the normal pulp and supporting structures, etiology, diagnosis, prevention and treatment of diseases and injuries of pulp and periradicular tissues.

Conservative Dentistry and Endodontics (Conservative Dentistry)

Contemporary concepts on endodontics. Hard dental tissues caries and its effect on the pulp. Principles of endodontic management considering anatomical and topographical anomalies of pulp cavities. Periapical tissue diseases. Diagnosis and treatment. Contemporary methods of root canal instrumentation. Contemporary methods of root canal obturation. Problems of contemporary dental prevention in adults. Diagnosis and treatment of endo-perio changes. Dental examination of the patient and treatment planning. Pain control in conservative dentistry.

Dental Radiology

The aim of this course is to familiarize the dental-program students with algorithms of radiological examinations in pathological states of the facial part of the skeleton. Radiological changes of the facial part of the skeleton in systemic diseases. New radiological techniques used for diagnosing the facial part of the skeleton. Physical basis of radiology: formation, absorption and properties of X-ray radiation. Films, cassettes and intensifying screens. Film processing and fixing in the conventional darkroom. Principles of taking intraoral radiographs. Radiological anatomy of teeth and tissues. Assistance while taking radiographs. Principles of taking extraoral radiographs in dentistry. Part I – radiographs of the mandible and the sinuses. Radiological anatomy of the facial skeleton in the homologous and plain films. Assistance while taking radiographs. Part II- pantomographs, temporo-mandibular joint. Artefacts produced on taking X-rays. Computer tomography, isotopic examinations, USG, thermography.

The course is to familiarize dental students with radiological appearance of different pathological states of the facial part of the skeleton in classic xray (plain films), pantomographs and new radiological modalities (MR, CT, US) used for diagnosing the facial part of the skeleton. The radiological signs and symptoms of different dental and maxillofacial diseases will be discussed.

The course is to familiarize dental students with practical performing of different dental, pantomographic, sinonasal, and cephalometric radiograms. The classes are supervised by radiographers who teach dental students how to properly perform a radiogram and also familiarize them with the techniques of film processing and fixing in the conventional darkroom. After this course dental student should be able to correctly perform and develop a dental or pantomographic radiogram by him/herself to obtain a diagnostic image.

The course is to familiarize dental students with the general use of contemporary diagnostic imaging modalities as; CT, MR and US as well as X-ray examinations. The main goal for clinicians and radiologists is to choose the most efficient diagnostic method to make correct diagnosis in a short time and gather maximum information about pathology. Dental Students should know diagnostic imaging modalities, the general rules how to apply different imaging techniques to get the diagnosis of the specific pathology and what are the risks for the patients and medical personnel while the x-rays are being applied.

Dermatology and Venereology

The teaching program comprises two main sections, i.e. skin diseases and sexually transmitted diseases. The section of cutaneous diseases includes clinical pictures, diagnosis and treatment of the following dermatoses: infectious skin diseases (bacterial, viral, fungal and parasitic), psoriasis and lichen ruber, allergic skin diseases, dermatoses of pregnancy, autoimmune conditions, including blistering dermatoses and connective tissue diseases, skin malignancies and paraneoplastic syndromes, acne and seborrheic dermatosis. Current trends in esthetic dermatology, dermatological surgery and psychodermatology are presented. The section syphilis, gonorrhoea and non-gonococcal urethritis, as well as acquired immunodeficiency syndrome (AIDS).

Emergency and Disaster Medicine

Lectures: General principles of first aid in emergencies: first aid in injuries, bleedings, dressing of bleeding injures, fractures, burns; bites, drowning; immobilization of victim after accident; poisoning, electrification; recovery position; anaphylactic shock. Exercises: practical exercises (working on training manikins) in: dressing of bleeding injuries, fractures, burns, bites, drowning, immobilization of victim after accident, poisoning, electrification, recovery position, anaphylactic shock, first aid in shocking, Heimlick maneuver.

First aid in wounds. Arrest of external haemorrhage. Conduct in burns. The risk of infection during rescue interventions. Law and ethics issues connected with first aid interventions in emergency states. Psychological and psychopathological problems of victims and rescuers in sudden accidents and catastrophes. Panic phenomenon and crowd reaction.

Ergonomics

Acquirement of theory and practical skills to perform basic dental procedures. Application of basic ergonomic principles while working with dental team. Theoretical knowledge and implementation of practical abilities to treat patients in the supine position using the four-hand work system. Basic dental procedures. Premedication of patients, methods of pain control in dentistry. Dryness of operation field. Dental equipment (instruments, devices) of the dental office.

First Medical Aid

Cardiopulmonary resuscitation - Basic Life Support following Resuscitation Guidelines 2005: definitions, symptoms of clinical death, recognition of cardiac arrest, checking consciousness, Airway opening, checking breathing, seeking for signs of circulation, rescue breathings, mouth-to-mouth ventilation, mouth-to-nose ventilation, chest compressions, rescue chain, special situations in resuscitation: drowning, injury of the face, injury of the chest and abdomen, resuscitation of pregnant women, resuscitation of neonate, small children: mouth-to-mouth and nose ventilation. Automatic defibrillation: definitions, types of automatic defibrillators, safety of external devices. Defibrillation, procedure of automated external defibrillation. BLS resuscitation in hospital conditions: the equipment used in resuscitation; ventilation with a face mask and devices for alternative airway management, chest compressions.

Forensic Medicine

Medicolegal investigative systems, timing of death, deaths due to natural causes, blunt trauma wounds, blunt trauma injuries of the trunk and extremities, trauma to the skull and brain – craniocerebral injuries, wounds caused by pointed and sharp-edged weapons, gunshot wounds, asphyxia, deaths caused by motor vehicle accidents, airplane crashes, fire deaths, deaths by drowning, the effects of heat and cold, rape, emboli, ethyl alcohol toxicology, carbon monoxide poisoning, DNA technology in forensic sciences.

Functions of the Oromandibular System

Centric and excentric occlusion. Retruded contact position of the mandible and maximal incusation. Physiological and pathological slide of the mandible. Central and excentric position of the mandible. Characteristic features of temporomandibular joints and their examination. Dysfunction and displacement of the disk. Clinical examination of the masticatory and adjacent muscles. Occlusal and non-occlusal parafunctions. Adjustment of central occlusion. Methods of tooth grinding. Headaches as a sign of the oromandibular dysfunction. Additional methods of oromandibular dysfunction treatment. Physiotherapy and pharmacology. Orthodontic and prosthodontic treatment.

General Chemistry

Lectures: Broensted-Lowry concept of acids and bases. Ionisation constants (K_a and K_b).

Properties of acid basic water solutions, the hydrogen ion exponent(pH). Strong and weak acids bases. Buffers. Examples of acid-base reactions applying in dental practice; acid etch enamel conditioning, dental cements that are result of acid-base reaction.

Zinc phosphate cement, polycarboxylate cement, zinc oxide and eugenol (ZOE) cements and filling materials, silicate cements and filling materials, glass ionomer cements and filling materials. The effects of chemical(bases, acids,salts) and physical agents on the stability of dental cements and filling materials. Solubility, factors influencing solubility. Solubility equilibria, solubilityconstant.Common ion effect.

Organic chemistry: hydrocarbons, alcohols, phenols and thiols, ethers, aldehydes and ketones Carboxylic acids and their derivatives, carbohydrates, amines, amini acids, peptides, proteins.

Main chemical components of enamel and dentine.Hydroxylapatite, reaction with fluoride anions, reaction with acids. Collagen as the most fundamental protein of dentine. Structure of collage, peptide bond, I,II , III and IV-order structures of collagen, basic information about biosynthesis of collagen. The role of vitamin C during collagen biosynthesis.

Laboratory training : Qualitative inorganic analysis.

1. Identification of cations.

2. Identification of anions. 3-Identification of salts. Acidimetry and alkalimetry: Preparation of 0.1 hydrochloric acid. Determination of NaOH and CH₃COOH. Miscellaneous volumetric determinations: of sodium bicarbonate, determination of sodium chloride. Determination of oxalates of potassium dichromate, colorimetric determinations of iron ions (Fe³⁺) and chromatography of aminoacids.

General Surgery and Oncology (General Surgery)

Principal symptoms and signs in surgical diseases of the digestive system (abdominal pain, vomiting, disturbances of the passage of faeces and gas, bleeding into the lumen of the alimentary tract, peritoneal symptoms). Acute diseases of the abdominal cavity.

Diseases of the arterial and venous systems. Diseases of the alimentary tract. Types and management of shock. Injuries - symptoms and signs, diagnosis, principles of management (head, thorax, abdomen and extremities injuries). Biliary system and pancreas diseases. Acute appendicitis, early symptoms. Diseases of the stomach and duodenum. Acute and chronic arterial ischaemia. Surgical diseases of the veins, diagnostic investigations.

Neoplasm (head and neck) – essential problem. Postoperative management of patients. Principles of resuscitation. The methods used in the diagnosis of surgical diseases of the digestive system (general principles of the physical examination, accessory investigations, ultrasound scanning, computed tomography, magnetic resonance imaging, endoscopic examination). The lectures deal with the problem of general surgery.

General Surgery and Oncology (Oncology)

The main purpose of the course is to learn about the common cancer types. During the course of studies the following topics are realized:

1. Common cancer types (breast, lung, colon and rectal, cervical cancer, melanoma, leukemia)
2. Cancer prevention, genetics, causes and risk factors. Smoking and cancer
3. Screening and testing
4. Cancer treatment. Types of treatment, drug information and development

General Surgery and Oncology

The aim of Propedeutics of Surgery is to instruct the students in basic knowledge and practical skills necessary for further classes in general surgery, pediatric surgery and other surgical specialities. The teaching process is based on the seminars and clinical training. The personal and individual educational program in English, carried out in 3-5 groups are the background of these education. The course is assessed with a colloquium.

Gerostomatology

Characteristics of dental care for the elderly: prophylaxis of parodontopathy, caries and non-carious cavities. Saliva secretion disorders. Oral health, psychology of aging, socioeconomic problems, oral mucosa pathology, effective communication, dental management, and special problems in long-term care settings.

Gross Anatomy

The general educational aim of the course is to provide understanding of the structure of the normal living body. The main emphasis throughout the course is placed on the functional and clinical aspects of anatomy, especially regarding head and neck anatomy (II semester), based on the knowledge of the structure.

The subject of the course was assumed to be the first step on the way of further medical studies of physiology, pathomorphology, pathophysiology, surgery, internal medicine and neurology.

The course consists of lectures, classes and seminars. The classes are performed in dissection rooms, anatomical museum, computer and radiology rooms.

The main method of student learning is a supervised self-directed examination of dissected specimen.

As the result of the course the student will acquire wide knowledge of the human body, concentrated on the details of head and neck anatomy.

Histology, Cytology and Embryology

The processes of spermatogenesis and oogenesis; the development of the three germ layers and derivatives, exploring the conservation of the genome concept as demonstrated in development; the development of the organ systems; common causes

and treatments of male/ female infertility; chromosomal and gene aberrations and the major chromosomal abnormalities affecting fetal/neonate viability; the field of teratology, indicating drugs, conditions, viruses and other causative agents that act as teratogens; the development of common congenital malformations and possibility of interventions that promote maternal-fetal health.

History of Medicine

Medicine in Nazi and Soviet concentration camps. Developments of dentistry from antiquity to present days. The sources of historical knowledge – reconstruction of history process. Medicine of ancient countries: Egypt, China, India, Greece, Rome focused on the methods of tooth treatment. Medicine in Christian West-European countries and the Arabian Caliphate. Dental care procedures in the Middle Ages. The European beginning of modern medicine - Renaissance and XVII century. The Enlightenment in Europe - development of medicine and dentistry.

The main medicine achievements in the 19th century and in the first half of the 20th century. Polish medicine since the 16th c. to the 17th c. Polish medicine during annexation and in the times of II Polish Republic.

Development of dental erudition in Poland in the 19th and the 20th centuries.

History of Philosophy

Lectures. It is focused on the main philosophical questions such as nature of being and existence of God, mind and cognition, values and meaning of life. The course aims at: (a) giving students the basic knowledge of some vital philosophical controversies and discussions, (b) stimulating their analytical skills and reasoning abilities, (c) enhancing their intellectual sensibility and awareness of the constitutive ideas of western culture.

Internal Medicine

Lectures: Propedeutics of diseases. Cardinal manifestations of disease. Etiology, pathogenesis and symptomatology of circulatory disorders. Disorders of vascular system. Haematology. Exercises:

Training in history taking. Training in physical examination. Presentation of typical signs and symptoms. Reading and interpreting ECG. Presentation of patients.

Implantology

Students familiarize themselves with the history and development of dental implants and relevant terminology and implant characteristics. Also brief overview of basic planning and procedure for implant therapy will be given.

Infectious Diseases

The essential method is demonstration of patients with various infectious diseases. When available, students will examine the mouth and teeth of the patients. Visible lesions will be discussed. Students need the phonendoscopes and medical torches for the exercise.

Ethics in Dentistry

The interface between law, medicine and ethics is a subject of great contemporary interest and relevance. New developments in medical practice and research are constantly in the headlines, and the advancements in knowledge that this represents create new challenges, on an almost weekly basis, that lawyers, judges, medical professionals and the public find themselves struggling to address. The aim of this module is to explore the critical relationship between the law, and the practice of medicine, in order to set the groundwork for discussions in the more detailed modules. In doing so, it will focus on the varied approaches to, and multi-layered interrelationships between, ethics, medicine and law, including basic ethical principles and key (legal) concepts relating to, among others, personhood, autonomy, human rights, sanctity of life, and quality of life.

Library Training

Training syllabus: Librarianship, bibliography and scientific information: academic libraries in Łódź: organizational structure of university library, information about reading rooms, circulating rooms, information services, presentation of special bibliographies and library catalogues: types of collections (books, journals, special collection and information media - CDs, audio cassettes, video recordings Euro Trans Med teletransmission) ERL-Medline database and Internet.

Management and Economics in Dentistry

Basic knowledge of economics in dentistry.

Material Science

The aim of the classes: acquisition of the theoretical knowledge of composition, structure, physical, chemical and biological properties, advantages, disadvantages and appliance of basic and auxiliary dental materials (temporary restorative materials, liners, amalgams, composites, glassionomer cements, resin - modified glassionomer cements, compomers, luting cements, impression materials, plasters, laboratory wax, isolation materials, acrylic resins, ceramic materials, investment materials, metals and metal alloys, abrasive and polishing materials). Students also acquire ability to work with dental materials used in restorative dentistry and prosthodontics in clinical (phantom conditions) and technical standard procedures.

Maxillofacial Surgery and Oncology

This course will cover the areas of maxillofacial traumatology, head and neck oncology and revision of basic applied head and neck anatomy and physiology. The aim of this course is to familiarize students with signs and symptoms of hard and soft tissue injuries and neoplasms, taking medical history and clinical examination and to provide efficient knowledge to make a provisional diagnosis, understanding etiology, assessing risk factors, epidemiology. Basic principles of ablative and reconstructive surgery in patients with neoplasms within the head and neck region are presented. Students will also familiarize themselves with some surgical tools and procedures. Classes are directed toward providing the student with theoretical and fundamental practical knowledge in making diagnosis, treatment planning and follow-up.

Medical Biology

Abiotal and biotal factors of atmosphere, lithosphere and hydrosphere in etiopathogenesis of human diseases. Growth of population in various environmental conditions; biocenotical interactions. Regulation systems, the human as an ultrastable system of regulation; homeostasis. Dominant and recessive monogenic traits; selected syndromes. Heredity of selected blood groups in humans. Sex determination in humans; hereditary of sex-linked traits. Genomic mutations in humans. Chromosomal aberrations in humans: examples of syndromes. Polygenic qualitative and quantitative traits. Genetic basis of transplantation. Population genetics: Hardy-Weinberg equilibrium. Limitations of Hardy-Weinberg equilibrium.

Medical Genetics

History of genetics. Branches of human genetics. Genetic factors in human pathology. Diagnosis of genetically determined diseases. Chromosome aberration. Modern laboratory diagnostics. Prenatal diagnostics of developmental anomaly and genetically determined diseases. Sex determination and its disorders. Genetically determined metabolism diseases; prenatal and postnatal diagnostics of metabolism diseases; using biochemical methods and molecular diagnostics. Genetic factors in aetiology of cancer diseases, oncological cytogenetics. Culture of lymphocytes from peripheral blood. Application of streaks technique for work-up of cytogenetic material. Rules of computer chromosome analysis with using RK3 cytoscan. Prenatal diagnostics.

Microbiology of Oral Cavity

Classification of bacteria. Morphology and biology of bacterial cell. Mechanisms of pathogenicity of bacteria. Antibiotics and chemotherapeutics. Bacterial resistance to antibiotics. Pathogenic Gram-positive bacteria. Pathogenic Gram-negative bacteria. Classification of viruses. Morphology and replication of viruses in eucaryotic cells. Mechanisms of viral pathogenicity. Laboratory isolation and identification of bacteria. Physiological bacterial flora of human body. Hospital infections. Vaccines and antiviral drugs. Pathogenic DNA viruses. Pathogenic RNA viruses. Human immunodeficiency virus (HIV) and AIDS. Microbiology of human oral cavity. Bacteria in aetiology and pathogenesis of dental caries and periodontal diseases.

Microbiology and Immunology

Immune system - a role in health and diseases. Cytokines and a role of cytokine network in immunological mechanisms. Innate immunity - humoral mechanisms (complement system), cellular mechanisms (NK cells, neutrophils, macrophages). Mucosa-associated lymphoid tissue. Lymphocytes T and B; their role in immune reactions. Immunoglobulins. Major histocompatibility complex. Adaptive immunity - humoral and cellular mechanisms. Hypersensitivity reactions. Hypersensitivity to drugs. Immunity to fungi, bacteria, and viruses. Tumor immunology. Immunological reactions in pathomechanism of dental plaque. Oral mucosa diseases and periodontal diseases - a role of immune reactions. Immunomodulation. Immunological techniques.

Neurology

The clinical rotation in Neurology consists of lectures and ward teaching, which provide close contact with patients and various disorders of the nervous system. The course will cover most of the neurological problems, with a special emphasis on cerebrovascular diseases, demyelinating diseases, dementias and neurodegenerative diseases, movement disorders, epilepsy, headaches and other pain symptoms. Both lectures and practical classes will extensively apply to a state of the art neuroimaging techniques and other important diagnostic methods. In order to benefit most of the course the students are expected to be well familiar with neuroanatomy, neurophysiology and neuroscience.

Oral Surgery

Chosen problems of head and neck anatomy. Technics of anaesthesia n. V. and anaesthetics. Teeth extraction. Teeth retention. First-aid in emergency cases. Complications during and after tooth extraction. Face wounds. Inflammation of the jaws. Diseases of the sinus maxillaris and salivary glands. Traumatology of the jaws. Precarcinoma states. Cysts. Resection of the tooth radix. Implantology. Laserotherapy. Prevention of the viral hepatitis and AIDS.

Ophthalmology

Basic knowledge and understanding of the visual system is essential to any practicing physician. Ophthalmic signs and symptoms are present in many systemic diseases. We aim at providing students with good understanding of the basic anatomy and physiology of the visual system as well as with good history-taking and examining skills including recognition of important clinical signs and common diseases.

Having mastered the basics, you will be introduced to many interesting areas of medical and surgical Ophthalmology, remaining a subject of post-graduate teaching.

Orthodontics

Orthodontic records. Initial consultation, clinical examination and diagnostic data collection (impressions, dental casts, additional records, patient photos, radiographs). The etiology of malocclusion (local, hereditary factors, oral habits, premature loss of teeth). Functional analysis. Polish orthodontic classification of malocclusion. Introduction to early treatment of malocclusions. Treating the developing dentition. Miotherapy. Description and clinical management of selected appliances using in interceptive treatment: oral shield, chin cup, mandibular inclined plane, trainer, space maintainer. Orthodontic appliances: types, design and mechanisms of action of removable and fixed appliances. Basics of functional orthodontics (orthopedics). Biology of tooth movement. Biomechanics. Epidemiology of malocclusion. Preventive orthodontics. Assessment of treatment needs. Exercises at preschool and at school.

Management of malocclusion in the primary, mixed and early permanent dentition. Late orthodontic treatment. Principles of comprehensive care for patients with craniofacial deformities (cleft lip and palate, syndromes and other anomalies). Principles of comprehensive treatment for patients with periodontal problems. Management of the treatment. Interdisciplinary (orthodontic prosthetic) treatment planning for patient with missing teeth. Extraction in orthodontics.

Otolaryngology

Examination of the ENT patient – basic examination techniques and diagnosis of the most common otolaryngological diseases. Review of anatomy, physiology and pathophysiology of the nose, paranasal sinuses, pharynx, larynx, external, middle and inner ear. Head and Neck tumors with the special emphasis on:

- » Oral cavity and pharynx
- » Nasal cavity and paranasal sinuses
- » Larynx
- » External and middle ear.
- » Principles of the audiometric examination and vestibular test.
- » Inner ear disease: hearing loss, vertigo.
- » Basic E.N.T. producers and surgical techniques – indications and complications
- » Introduction to the out-patient E.N.T. practice
- » Otolaryngologic Emergencies

Parasitology and Mycology

Epidemiological data about parasitic and fungal diseases in the aspect of the socially significant “disease of the contemporary world”, and in relation to their role in the immunodeficiency syndromes. Parasites and fungi as part of the oral cavity ontocenosis;

the oral cavity as an entry of invasion. Clinical manifestations of fungal and protozoal infestation of the oral cavity: trichomonosis, candidosis, trichomonosis complicated by mycosis.

Pathogenicity features of parasites and fungi. General data on the evaluation of parasitic and fungal sensitivity to chemical agents, with regard to drugs (antiparasitics, antimycotics), used in the oral cavity infections. Parasites and fungi of the digestive tract, the respiratory system, the nervous system, in parenchymal organs and muscles, in blood, of the urinary and genital organs, of the skin. Sensitivity of selected parasites and fungi to drugs (determining curves of activity, estimating CL50 or MIC).

Pathomorphology of Oral Cavity

Cellular injury and death, apoptosis. Disorders of circulation. Atrophy, degenerations, necrosis. Hypertrophy and hyperplasia. Neoplasia. Inflammation and healing. Pathomorphology of the heart and blood vessels, respiratory system, alimentary tract, pancreas and liver, kidneys and urinary tract, male and female reproductive system, nervous system, endocrine system, hemopoietic system, skin, oral pathology.

Pathophysiology

Mechanisms of diseases. Health and disease. The effect of exogenous factors on organism. Mechanism of fever. Inflammation, wound healing and repair. Pathophysiology of acid-base balance and body water regulations. Disorders of metabolism of carbohydrates: diabetes. Disorders of metabolism of lipids and atherosclerosis. Pathophysiology of circulation and heart failure. Pathophysiology of kidneys. Alterations in gastrointestinal and hepatobiliary system. Alterations in endocrine system. Disorders of respiratory function. Pathophysiology of blood. Pathophysiology of pain. Biogenic Amines in Parkinson's disease.

Pathomorphology

Cellular injury and death, apoptosis. Disorders of circulation. Atrophy, degenerations, necrosis. Hypertrophy and hyperplasia. Neoplasia. Inflammation and healing. Pathomorphology of the heart and blood vessels, respiratory system, alimentary tract, pancreas and liver, kidneys and urinary tract, male and female reproductive system, nervous system, endocrine system, hemopoietic system, skin, oral pathology.

Pediatric Dentistry

The course in Pediatric Dentistry is held through the 2nd, 3rd, 4th and 5th year. Subjects of the course: to gain information about dental care at a particular stage of odontogenesis; management of children in a dental clinic, examination of young patients, assessment of developmental irregularities, preventive and therapeutic procedures in dental caries, oral health promotion and education, pulp and periapical diseases, traumatic injuries of milk and permanent teeth, diseases of mucosal membranes and periodontium, method of pain and anxiety control/behaviour management, local analgesia, sedation, oral manifestations of systemic diseases.

Lectures: Current methods of assessment of biological development. Overview of development periods of childhood. Maturation of the child's organs and systems. Selected topics of preventive vaccination. Current concepts of feeding infants and children. Adolescence. Nutritional disorders. Premature infants – risk factors, disorders of health state and development. Motor activity of healthy and chronically sick child. Assessment of physical fitness and motor efficiency.

Seminars and tutorials in the ward: Assessment of the pediatric patient – the clinical interview, physical examination of child. Differences in physical examination of infant and the older child. Differences of neonatal period. Psychomotor development of infants. Selected topics of development psychology. Advantages of breast-feeding. Formula feeding. The rules of the practical anthropometry. Care of healthy child in an Outpatient Pediatric Clinic.

Pediatrics

The clinical rotation allows the student to learn the symptomatology and the treatment of most common disorders and diseases of childhood. The rotation gives the opportunity to acquire the necessary skills in taking a paediatric history, to examine children of all ages and to gain experience in selection of important clinical information. During clinical presentations student learns how to recognize and differentiate diseases. Lectures and seminars provide the student with the basic knowledge of normal physical and mental development of children, proper feeding and various diseases of childhood.

Periodontology and Oral Mucosal Diseases

Examination of the head, oral cavity, teeth and periodontium. The role of oral hygiene in prevention and treatment of dentition and periodontium. Etiopathogenesis of periodontal diseases. Clinical and radiological signs of gingival and periodontal diseases. Diagnosis of periodontopathies. Oromandibular dysfunction. Conservative and physical treatment of periodontal diseases. Surgical treatment of periodontal diseases - gingival surgery. Endodontic and periodontal syndrom - Endo-Perio. Prosthodontic

and orthodontic treatment of periodontal diseases. Planning of prevention and periodontal treatment. Causes of periodontal diseases relapse.

Physiology of oral mucosa. Primary and secondary eruptions of oral mucosa. Developmental anomalies of oral cavity. Oral diseases with keratosis or desquamation of epithelium. Oral aphthosis. Acute viral diseases. Oral vesicular diseases. Atrophic states. Disorders in saliva secretion. Stomatodynia. Preneoplastic states. Oncological prevention in dental examination. Oral examination using Wood's lamp. Oral changes in diabetes mellitus. The etiology, pathogenesis, clinical appearances, histopathology, treatment, diagnosis, and prognosis of these oral diseases are studied. The role of saliva in oral pathology. Quantitative saliva tests. During the course students perform treatment of patients under the faculty supervision and assist in periodontal surgical procedures.

Pharmacology

Principles of mechanism of drug action. Absorption, distribution and elimination of drugs and some most important toxins. Drug-induced adverse reactions and most common drug interactions. Medical formulary. Principles of therapy with antibiotics and other chemotherapeutics. Pharmacology and detailed formulary of antibiotics and sulphonamides. Antifungal, antimycobacterial and antiviral agents. Non-steroidal anti-inflammatory drugs. Drugs used in gout. Morphine-like and other opioid analgesics. Analeptics. Sedatives and sleepinducing agents. Local anaesthetics. Pharmacology of drugs used as a pretreatment for surgical procedures. Drugs blocking neuronal transmission. General anaesthetic drugs. Treatment of anaphylactic shock.

Physical Education

Gymnastics, callanetics, aerobic, stretching, volleyball, basketball, tennis, table tennis, swimming.

Physiology

Cell functions. Intercellular communication. Physiology of neurons, skeletal smooth and cardiac muscle. Synaptic transmission. Sense organs and its receptors. Cutaneous, proprioceptive and visceral sensation. Pain and its inhibition. Smell and taste. Audition and equilibrium. Vision. Reflexes. Control of the posture and movement. Neural basis of behaviour and emotions. Awakeness and sleep. Learning. Memory. Autonomic nervous system and visceral regulation. Endocrine system and hormones functions. Physiology of blood and circulation system. Cardiovascular regulatory mechanisms. Respiration. Respiratory control. Gastrointestinal system, its neural and hormonal regulation. Energy balance. Reproduction. Formation and exertion of urine. Regulation of body fluids composition and volume. Acid-base balance.

Physiology of the Masticatory System

Anatomy and function of the masticatory system. Functions of the masticatory system. Occlusal conditions in the individual development. Morphology and physiology of teeth and periodontal ligaments. Salivary glands, saliva and oral mucosa. Neuromuscular masticatory system. Morphology and biomechanics of the temporo-mandibular joint. Biomechanics of the masticatory system in three-dimensional static and dynamic systems. Diagnosis of normal structure and function of the masticatory system.

Polish

The course is taught in two basic modules:

(1) introductory course for beginners; a survival language course"- the emphasis is on developing of the necessary language skills to handle the most frequent situations. Therefore, the course centers around teaching functional basics in understanding and speaking a language and does not attempt to present a systematic and comprehensive introduction to Polish grammar although some of it elements are included.

(2) academic pre-intermediate course – elements of medical Polish in both written and spoken form, basic medical terminology with focus on dental vocabulary, communication with the patient and medical personnel, asking questions, giving instructions and explaining procedures, understanding and filling in medical forms.

Preclinical Endodontics

Endodontics is a branch of dentistry that deals with diagnosis and treatment of oral conditions which arise as a result of pathosis of the dental pulp. It is related to the biology of the normal pulp and supporting structures, etiology, diagnosis, prevention and treatment of diseases and injuries of pulp and periradicular tissues.

Pregnancy Physiology

First day: menstrual cycle, fertilisation and implantation, changes in a pregnant woman organism, optimal conditions for the foetus development and the course of pregnancy. Second day: placenta and its role: protective, hormonal, nutritive, placental

transport. Third day: foetus development: normal, hypotrophy, clinical examination, USG and other. Fourth day: examinations performed during pregnancy and their interpretation and importance of management of a pregnant woman, pregnant woman's nourishment, focal infections. Fifth day: normal labour and puerperium, mature newborn.

Preclinical Periodontology

Anatomy and physiology of periodontium. Introduction to etiology, risk assessment, epidemiological considerations, and preventive care of periodontal diseases. Dental deposits: structure, formation, mechanism of action. Examination and detection of dental calculus. Examination of a gingival pocket. Types and designs of periodontal instruments, recognition. Methods of using different periodontal instruments. Elimination of dental calculus -hand and ultrasonic methods. Procedures performed on phantom anterior teeth. Hand and ultrasonic methods of dental calculus elimination. Procedures performed on phantom premolars and molars: hand and ultrasonic methods. Sharpening of periodontal instruments, methods.

Prosthetic Dentistry

Fifteen simulation exercises. During this manual course students follow the stages of clinical and laboratory work for fabrication of prosthetic appliances. (Fixed dentures) During the course the student should acquire the skills of preparing abutment crowns on the phantom model: intracoronal restorations (inlay, onlay, overlay), post and core restorations, full veneer metal crowns, all-ceramic crowns, metal-ceramic crowns, temporary crowns (protective), fixed bridges. During the classes students perform all the stages of clinical procedures for different prosthodontic appliances.

Rehabilitation

General physiotherapy. The program enables students to discuss: the basic sections of kinesitherapy and physiotherapy – sorts of treatment procedures, the influence of the procedures on the human body, indications and contraindications of kinesitherapy and physiotherapy procedures, usage of physiotherapy methods in dentistry, manners of performing procedures and safety principles while carrying out the procedures.

Social Dentistry

The subject of "Public Health Dentistry" comprises:

- » Oral health promotion.
- » Health hazards for patients and personnel resulting from hospital infections, ambulatory dental surgery.
- » Epidemiological methods of oral health status assessment.
- » Environmental health conditioning.
- » Dental hygiene of developmental age.
- » Hygiene of food and nutrition.
- » Mode of nutrition and nutritional status assessment.
- » Role of nutrition in prevention, etiopathogenesis and course of caries and other dental diseases.

Sociology

General Sociology: social life, current and scientific sociology, culture and its influence on social life, personality (concept, approaches, process of the development of personality) methods of sociological research, norms and pathology, selected aspects of social pathology; relation between medicine and sociology: object and problems of medical sociology, health and disease as social categories, models of doctor-patient relation, selected aspects of social communication, medicalization of social life, social effects of the engineering orientation in medicine and the biomedical model, models of health care organization, styles of control and management.