

Internal Medicine – Core

1. Multiple myeloma- demonstration of patients- standard management, microscopic/ laboratory evaluation
2. Haematological laboratory- cell counters, cytogenetics, molecular biology
3. Haematopoietic system- patophysiology. Methods of evaluation in everyday practice. Reactive changes in the granulocytic, monocytic and lymphocytic systems.
4. Multiple myeloma and plasma cell dyscrasias- diagnosis and treatment.
5. Anemias- classification, diagnosis and treatment- part i.
6. Anemias- classification, diagnosis and treatment- part ii.
7. Anaemias- demonstration of patients and microscopic/ laboratory evaluation.
8. Microscopic examination of normal blood and bone marrow smears (cytomorphology, cytochemistry), reactive changes, cml.
9. Principles of oncohematological treatment. Bone marrow and blood cells transplantation: autologous, allogeneic from siblings and from unrelated donors.
10. Coagulopathies. Vascular and platelets bleeding disorders
11. Patients after bmt, principles of bmt and post-transplant care. Cell separators.
12. Patients with hemorrhagic diathesis and hemophilia. Laboratory hemostasis evaluation
13. Hodgkin and non hodgkin lymphomas.
14. Chronic lymphocytic leukemia and related disorders- demonstration of patients and microscopic evaluation.
15. Chronic myelogenous leukaemia and myeloproliferative disorders: polycythemia vera, myelofibrosis, essential thrombocythemia, cmml-chronic myelomonocytic leukemia.
16. Patients with leukemia- demonstration.
17. Microscopic examination of leukemic blood and bone marrow smears.
18. Haematological laboratory- flow cytometry immunophenotyping of acute leukemias, isolation of haematopoietic cells, cryopreservation
19. Acute leukemias- patophysiology, diagnostics and classification.
20. Acute myeloblastic leukemia. Myelodysplastic syndromes.
21. Non hodgkin lymphomas and hodgkin's disease- demonstration of patients.

Surgery – Core

Introduction to surgery: surgical accesses, methods of drainage, surgical tools, low-invasive surgery, principles of wound healing, surgical oncology, preoperative and postoperative care in surgery, treatment of surgical infections and nutrition in surgery.

Pathogenesis, symptomatology, diagnostics and treatment of digestive tract, endocrine glands and breast diseases.

Pathogenesis, symptomatology, diagnostics and treatment of neoplastic diseases and organs insufficiency that require organ transplantation.

OB/GYN – Core

Normal pregnancy, abortion, genetic disorders and screening, amniocentesis, CVS, polyhydramnion and oligohydramnion, third trimester and postpartum hemorrhage, placenta previa, accrete, percreta, gestational diabetes mellitus, pregnancy induced hypertension, preeclampsia, eclampsia, HELLP syndrome, DIC, normal and pathologic puerperium, resuscitation of newborn, first days of a newborn, congenital abnormalities, congenital abnormalities of genital tract, pediatric & adolescent gynecology, family planning, hormonal contraception, polycystic ovary syndrome, hirsutism, menstrual disturbances at fertile age, menopausal hormonal therapy, gestational throphoblastic disease, infertility & sterility, ovulation diagnostics, assisted reproductive techniques, breast diseases, endometriosis, uterine fibroids, colposcopy, human papiloma virus, Papanicolaou test classification, Bethesda classification, cervical intraepithelial neoplasia, premalignant and malignant disorders of the cervix, benign ovarian tumors, ovarian cancer, endometrial hyperplasia and carcinoma, benign and malignant disorders of the vulva and vagina, sexually transmitted diseases,

Pediatrics – Core

Introduction to pediatric practice

Drug Therapy in Children: Metabolism of drugs with regard to dissimilarities of the child's organism.

Therapeutic drug monitoring. Dosage. Abnormal reactions to drugs administration

Pediatric history - Basic principles and components.

Pediatric physical examination. Measurements (weight, height, temperatures etc.). Usage: Apgar score, growth/weight chart, Tanner score.

Development: Growth and Development of children. Guidelines for developmental assessment.

Pediatric Hematology and Oncology: Anaemias, Leukemia, Cancer in childhood

Pediatric Allergy: Mechanism and investigations in allergy. Some of typical allergy disorders in childhood. (eczema/dermatitis, allergic rhinitis, urticaria), Childhood asthma.

Pediatric Gastroenterology: Principles and practice of feeding infants. Breast feeding. Feeding problems.

Nutritional disorders (maldigestion, malabsorption, intolerance). Vomiting and diarrhoea in neonates and infants. Gastrointestinal infections. Management of dehydration. Evaluation of fluid loss. Practice of fluid and electrolyte therapy.

Parental nutrition

Pediatric Nephrology: Common nephrological disorders. (Urinary tract disorders. Nephrotic syndrome.).

Glomerulonephritis. Acute and chronic renal failure

Pediatric Endocrinology (introduction): Growth disorders. Thyroid dysfunction. Adrenal dysfunction.

Obesity in childhood. Precocious puberty. Delay puberty.

Diabetes mellitus type 1 and type 2 in childhood: (Etiology, Diagnosis, Treatment, Diabetic Ketoacidosis, Hypoglycaemia and chronic complication)

Hypoglycaemia

Pediatric Otolaryngology (otitis media, abscessus retropharyngealis).

Pediatric Pulmonology: Upper respiratory tract diseases (pharyngitis, epiglottitis, laryngitis, malformations). Lower respiratory tract diseases (infections, cystic fibrosis, foreign body).

Pediatric Cardiology: Physical examination (heart rates, auscultation of the heart, cyanosis, murmur, blood pressure). The electrocardiogram. Congenital heart disease. Arrhythmias. Rheumatic heart disease

Pediatric Neurology: Psychomotor development of infant and older children. Neurological examination:

on neonatal, infant, children. Neuroinfections: Meningitis (bacterial, serosa), Encephalitis, Myelitis, Guillan-Bare syndrome, Latent infections (including prion diseases). Developmental anomalies of nervous system: Nervous tube anomalies, Disturbation of dorsal induction, Neuronal migration diseases,

Prevention of congenital anomalies of nervous system

Pediatric Psychology: Psychology as a science. Psychological development. Practical aspects of psychology in pediatrics. Adolescence. Eating disorders (obesity, anorexia nervosa, bulimia). Child abuse and neglect. Interpersonal workshop (exercises developing verbal and non-verbal communication, self-consciousness, skills of cooperation, creative problem solving, creative imagination)

Rheumatic diseases of childhood: JRA - juvenile rheumatoid arthritis, Dermatomyositis, Scleroderma, SLE - systemic lupus erythematosus

Infectious Disease: Herpes virus diseases: (CMV, EBV, VZV, HSV), Pertussis, Diphtheria, Tetanus, Tuberculosis. Lues, Measles. Rubella. Erythema infectiosum. Parasitic and fungal infection, Scarletina.

Kawasaki disease. Viral hepatitis

Immunization protocols. Practice of vaccination.

Pediatric Surgery Prenatal diagnosis of congenital malformations. Craniocerebral trauma in children

Clinical Genetics

Discussion and consultation of the semester's work

Psychiatry – Core

History of psychiatry. Signs and symptoms of mental disorders Psychiatric syndromes. Rare psychiatric syndromes. Classification in psychiatry. Nosological systems. The schizophrenic disorders. Addictions. Therapy of alcohol addiction. Affective disorders. Obsessive – compulsive disorder (OCD). Psychiatric emergencies. Suicide and violence. The suicidal attempt. Dissociative disorders. Somatoform disorders. Hypochondria. Anxiety disorders. Dementias. Epidemiology, symptoms and classification. Organic mental syndromes and disorders. Psychiatric symptoms of AIDS. Appetite disorders. Sleep disorders. Headaches. Mental state examination. The psychiatric interview. Family, social and medical history. Psychiatric rating scales. Biological therapy in psychiatry. General issues. Antipsychotic treatment. Antidepressive treatment. Antiparkinsonian drugs. Nootropic drugs. Benzodiazepines. Family therapy. Psychological tests. Clinical rating scales. Personality disorders. Psychotherapy: definitions and general overview. Human sexuality – physiology and pathology. Psychotherapy: definitions and general overview. Psychotherapeutic relationship. The process of psychotherapy. Sexual dysfunction treatment. Progress in psychiatry as a science.

(Department and Clinic of Psychiatry and Psychotherapy, Medical University of Silesia)

Child psychiatry.

(Child and Adolescent Psychiatry Ward in Sosnowiec-Klimontów)

After care system in psychiatry.

(Psychiatric Ward in Ruda Śląska Goduła, Social House in Chorzów Batory)

Internal Medicine Sub-I – Dermatology

Structure and function of the skin. Skin layers (epidermis, dermis, subcutis) Vascular systems; Innervation; Skin pigments; Epithelial appendages. Introduction, primary lesions. Secondary lesions. Distinction of secondary from primary lesions.

Dermatologic anamnesis. Patient examination. Patient admission. Evaluation of tests scores.

External treatment, prescriptions. Soaks, baths, solutions. Powders, shake lotions, pastes. Ointments. creams. Photoprotection.

Dermatologic diagnosis. Skin tests (exposure tests, patch test, prick test, intradermal test) Lab tests (bacteriology, virology, mycology and venereal diseases incl. Sy serology, autoimmunity, photodermatology, porphyrias).

Histology.

Bacterial infections. Impetigo. Folliculitis. Erysipelas. Erythrasma. Erysipeloid. Lyme disease.

Tuberculosis cutis and tuberculoid skin diseases.

Viral dermatoses. Warts. Mollusca contagiosa. Herpes. Zoster. Variola.

Parasitic dermatoses. Scabies. Diseases caused by lice.

Dermatomycoses. Tinea versicolor. Microsporosis. Tinea pedis. Inguinal tinea. Tinea capitis and barbae.

Candida infections. Mycosis of the nails.

Papulosquamous dermatoses. Psoriasis. Lichen planus. Pityriasis rosea.

Classification of allergic reactions. Antibody - mediated diseases (Acute urticaria, chronic urticaria, angioedema). Diseases mediated by cellular immune reactions (Eczema, granulomatous diseases).

Vasculitis, erythema multiforme. Postthrombotic syndrome.

Photoallergic diseases. Phototoxic diseases. Radiodermatitis.

Autoimmune disorders. Bullous dermatoses (Pemphigus group, pemphigoid, Herpes gestationis, Dermatitis herpetiformis, EBA, LABD) Connective tissue disorders (LE, scleroderma, dermatomyositis).

Skin tumors. Benign skin tumors. Praecanceroses. Carcinomas (Basal cell carcinoma, squamous cell carcinoma).

Malignant lymphomas. Pigmentary disorders. Naevi. Malignant melanoma.

Seborrhoeic dermatoses. Acne. Rosacea. Rosacea - like dermatitis. Seborrhoeic dermatitis.

Diseases affecting the nails and the hair. Nail structure and growth. Nail examination, abnormal development, discoloration, deformities. Hair and hair growth. Alopecia androgenetica. Alopecia in deficiency states. Toxic alopecia. Alopecia areata. Alopecia associated with atrophy and cicatrization.

Venereal diseases. Gonorrhea. NGU. Syphilis.

AIDS and Kaposi-sarcoma.

The skin and internal disease. Itching.

Genodermatoses. Ichtyosis. Keratoma. Bullous diseases.

Internal Medicine Sub-I – General Medicine

1. Urinary tract infections . Diagnosis and treatment of urolithiasis.
2. Nephrotic syndrome (diagnostics, treatment).
3. Complications of diabetes - prevention, treatment of diabetes. Treatment of acute metabolic disturbances in diabetes
4. Problems of iatrogenic complications, clinical problems in older patients
5. The treatment of patients with chronic renal failure. Cardiac problems in patients with chronic renal failure
6. *Treatment of hypertension and its complications. Differential diagnosis of hypertension.*
7. Clinical problems associated with chronic heart failure

Internal Medicine Sub-I – General Medicine

Pathologies of the cardiovascular diseases, pulmonary diseases, gastroenterology diseases, nephrology diseases, hematology diseases, autoimmune diseases, musculoskeletal diseases, metabolic disorders, endocrine disorders,

Internal Medicine Sub-I – Infectious Diseases

Bacteremia and sepsis. HIV/AIDS epidemiology, diagnosis and definitions. Chronic viral hepatitis — etiology, epidemiology, clinical picture, treatment. Neuroinfections — meningitis, encephalitis — causative agents, clinical picture, treatment. Cirrhosis of the liver and complications (ascites, encephalopathy, portal hypertension) — clinical picture, diagnosis, treatment.

Internal Medicine Sub-I – Neurology

1. Neurological examination
2. Neuro-muscular diseases
3. Neurodegenerative diseases
4. Epilepsy
5. Neuroinfections
6. Neurology in emergency medicine
7. Neurological complications of internal diseases
8. Multiple sclerosis and other demyelinating diseases
9. Headaches, Neurovascular diseases
10. Neurotoxicology
11. EGG, EMG, EP, ENG, Ultrasound and radiological examinations in diseases of nervous system.

Internal Medicine Sub-I – Nuclear Medicine

Introduction to nuclear physics; radionuclides and radiochemicals; radiation detection and instrumentation; emission tomography (SPECT & PET);; image processing; fusion of morphological and functional images, radiation safety and dosimetry. Radionuclide studies of the following systems: endocrine, nervous, cardiovascular, respiratory, urinary, digestive and skeletal. Radioactive iodine in the therapy of benign and malignant thyroid diseases. Radionuclide methods for localization of inflammation. Radionuclide methods in the diagnosis and therapy of cancer.

Family Practice Sub-I – Basic Dentistry

- comprehensive examination in dentistry,
- dental treatment basics,
- diagnosing and treatment of caries,
- diagnosing and treatment of odontogenic infectious conditions, and management of spreading infection
- guidelines for management of precancerous lesions and malignant tumors in maxillofacial region,
- assessment of occlusion in children and adults – indications for orthodontic treatment
- developmental disorders in maxillofacial region – methods of surgical corrective treatment

Family Practice Sub-I – Family Practice

Gastroenterology:

Gastroesophageal reflux disease
Peptic ulcer disease and gastritis
Gastrointestinal motility disorders
Nutrition disorders
Gastrointestinal endocrine tumours
Nonvariceal gastrointestinal tract bleeding
Inflammatory bowel disease – clinical aspects, therapy, extraintestinal manifestations
Colorectal neoplasm
Irritable bowel syndrome (IBS)
Constipation and diarrhoea
Gastrointestinal manifestations of systemic disease
Acute and chronic pancreatitis
Gallstones
Pancreatic cancer

Hepatology:

Approach to the patient with abnormal liver tests
Chronic viral hepatitis
Liver mass lesions
Alcoholic liver disease
Portal hypertension –related bleeding
Ascites, hepatorenal syndrome and encephalopathy
Acute liver failure
Metabolic, cholestatic and autoimmune liver disease
Liver disease and pregnancy

Family Practice Sub-I – Family Practice

Surgical emergencies in orthopedics:

- compartment syndrome
- open fractures
- gunshot wounds
- musculoskeletal infections

Outpatient care for orthopedic disorders
Successful cooperation between a GP and an orthopedic surgeon
Imaging modalities and accessory investigation in orthopedic surgery
The most common orthopedic misdiagnoses
Osteoarthritis (etiology, conservative treatment, indications for surgery)

- Total Hip Replacement
- Total Knee Replacement

The most common musculoskeletal injuries (etiology, mechanism, diagnosis, conservative treatment, indications for surgery)
The most common musculoskeletal disorders (etiology, pathogenesis, diagnosis, conservative treatment, indications for surgery)
The role of a GP in the follow-up after orthopedic surgery
First aid in injuries. Prehospital and in-patient BTLIS and ATLS procedures

- management of life-threatening injuries (tension pneumothorax, cardiac tamponade, hypovolemic shock, pelvic fractures)

Rationale for conservative management of orthopedic disorders
Rationale for surgical treatment of orthopedic disorders
Indications, contraindications, risks and limitations of orthopedic surgery
Sports injuries
Back pain
Osteoporosis and fragility fractures

Family Practice Sub-I – Emergency Medicine

Diagnosis, differentiation, monitoring and treatment of life-threatening states –coma, pulmonary oedema, shock, cardiac arrest
Ultrasonography and bronchoscopy in emergency medicine and intensive care- practical point of view

Family Practice Sub-I – Laryngology

The course contains the base of: audiophysiology and audiopathology, rhinology, inflammatory diseases of head and neck organs, head and neck neoplasms (patients examinations, laboratory assessment, operation room)

Family Practice Sub-I – Ophthalmology

Course contents:
Basic knowledge in ophthalmology.

Family Practice Sub-I – Radiology

1. Diagnostic Imaging – the basis: methods, indications, contraindications, patients preparation, complications after contrast administration.
2. Chest Imaging: usefulness of X-ray, chest CT and MRI in lung diseases. Modern diagnostic imaging of the heart and the vessels (X-ray, CT and MR) Radiological approach to mediastinal diseases.
3. Neuroradiology: imaging algorithm in patients with ischemic and haemorrhagic stroke, CNS trauma, infections and neoplasms.
4. Pediatrics radiology: imaging methods, differences in radiological symptoms in children, importance of X-ray dose control (ALARA), most common problems of pediatric radiology: trauma, infection, congenital anomalies
5. Imaging of the diseases of Musculoskeletal system: X-ray, US, CT, MRI
6. Abdominal radiology: plain X-ray, GI contrast examinations, US, CT and MRI. Radiological differential diagnosis of the diseases of GI, liver, pancreas and spleen.
7. Genitourinary radiology: US and contrast examinations.
8. DSA and non-invasive imaging of the vessels. Interventional radiology: methods and usefulness.

Pediatrics Sub-I – Neonatal Intensive Care

1. Neonatal neurology (perinatal asphyxia, intraventricular haemorrhage, periventricular leucomalacia, congenital central nervous system anomalies, neonatal seizures, meningitis, diagnosis)
2. Sudden surgical cases (congenital gastrointestinal tract anomalies, necrotising enterocolitis, perinatal traumas, urinary tract anomalies)
3. Neonatal resuscitation – labour ward, neonatal intensive care, neonatal transport
4. Selected problems in neonatology (haematology, nephrology, metabolic disorders). Selected disorders in neonatal intensive care (extreme low birth weight, incredible low birth weight, small for gestational age – hypotrophy, retinopathy of prematurity, skin changes, hypothermia, sudden infant death syndrome, syndromes of congenital abnormalities)
5. „From admission to discharge”: physical examination of newborn infant, adaptive period disorders, high risk neonates, neonatal intensive care bed
6. Discharge preparation, neurodevelopment monitoring of discharged babies
7. Respiratory neonatal problems (physiology and pathology of neonatal respiratory system, respiratory distress syndrome, meconium aspiration syndrome, broncho-pulmonary dysplasia, pneumothorax, congenital pneumonia, apnoea, respiratory support methods)
8. Cardiological problem in neonatal period – physiology and pathology of cardiovascular system in foetus and newborn, congenital heart malformations, circulatory failure, persistent ductus arteriosus, persistent pulmonary hypertension of newborn, arrhythmias, diagnostic methods, cardiac surgery qualification)
9. Congenital and acquired infections (sepsis, septic shock, diagnostic methods, current and experimental treatment options)

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Hypoglycaemia

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Kawasaki disease. Viral hepatitis

Immunization protocols. Practice of vaccination.

Pediatric Surgery Prenatal diagnosis of congenital malformations. Craniocerebral trauma in children

Clinical Genetics

Discussion and consultation of the semester's work

Pediatrics Sub-I – Pediatric Neurology

Psychomotor developmental delay
Cerebral palsy- methods of diagnostics, treatment, methods of rehabilitation
Brain abnormalities
Intracranial hypertension
Brain trauma,
Neuroinfections
Epilepsy of childhood
Non-epileptic seizures
Neurocutaneous diseases
Neuromuscular disorders- methods of diagnostics, genetics, and treatment
Headache
Metabolic disorders
Cerebrovascular disorders

Pediatrics Sub-I – Otolaryngology

Acute and chronic otitis media in children – diagnosis and treatment.
Hearing loss in children. Methods of diagnosis and treatment.
Congenital and acquired stenosis of the airway. Tracheotomy. Laryngotracheoplasty
Acute and chronic sinusitis – diagnosis and treatment. Functional endoscopic sinus surgery (FESS).
Foreign body of the airway and oesophagus. Bronchoscopy and oesophagoscopy.
Surgical treatment of disease of the oral cavity and pharynx. Adenoidectomy and tonsillectomy.
Obstructive Sleep Apnoea Syndrome in children.
Recurrent Respiratory Papillomatosis.

Dermatology – Elective

Bacterial infections. Impetigo. Folliculitis. Erysipelas. Erythrasma. Erysipeloid. Lyme disease.
Tuberculosis cutis and tuberculoid skin diseases.
Viral dermatoses. Warts. Mollusca contagiosa. Herpes. Zoster. Variola.
Parasitic dermatoses. Scabies. Diseases caused by lice.
Dermatomycoses. Tinea versicolor. Microsporiasis. Tinea pedis. Inguinal tinea. Tinea capitis and barbae.
Candida infections. Mycosis of the nails.
Papulosquamous dermatoses. Psoriasis. Lichen planus. Pityriasis rosea.
Antibody - mediated diseases (Acute urticaria, chronic urticaria, angioedema).
Diseases mediated by cellular immune reactions (Eczema, granulomatous diseases).
Vasculitis, erythema multiforme. Postthrombotic syndrome.
Photoallergic diseases. Phototoxic diseases. Radiodermatitis.
Autoimmune disorders. Bullous dermatoses (Pemphigus group, pemphigoid, Herpes gestationis, Dermatitis herpetiformis, EBA, LABD) Connective tissue disorders (LE, scleroderma, dermatomyositis).
Skin tumors. Benign skin tumors. Precancerous. Carcinomas (Basal cell carcinoma, squamous cell carcinoma).
Malignant lymphomas. Pigmentary disorders. Naevi. Malignant melanoma.
Seborrhoeic dermatoses. Acne. Rosacea. Rosacea - like dermatitis. Seborrhoeic dermatitis.
Diseases affecting the nails and the hair. Nail structure and growth. Nail examination, abnormal development, discoloration, deformities. Hair and hair growth. Alopecia androgenetica. Alopecia in deficiency states. Toxic alopecia. Alopecia areata. Alopecia associated with atrophy and cicatrization.
Venereal diseases. Gonorrhoea. NGU. Syphilis.
AIDS and Kaposi-sarcoma.
Genodermatoses. Ichthyosis. Keratoma. Bullous diseases.
Dermatosurgery.
Cryosurgery.
Phototherapy.
Radiotherapy.

Anesthesiology – Elective

History of anaesthesia, pharmacology of anesthetics, preoperative preparation and intraoperative management (evaluation of the patient, anesthesia systems, management of the airway, monitoring the anesthetized patient), special anesthetic considerations (coexisting diseases), recovery period (postoperative pain management, acid-base balance, fluid and electrolytes), critical care medicine, cardiopulmonary resuscitation

Emergency Medicine – Elective

Diagnosis, differentiation, monitoring and treatment of life-threatening states –coma, pulmonary oedema, shock, cardiac arrest
Ultrasonography and bronchoscopy in emergency medicine and intensive care- practical point of view

Family Practice – Elective

During exercises students will be assigned to particular stands as follows:

1. Registration desk – general organization of Family Practice, how to make an appointment, registration of patients using chip card system
2. Consultation room or participation in home visit– observation of outpatient clinic/home visit, medical history taking, head to toe examination, results of additional investigations, emergency cases – discussion
3. Spirometry, Peakflowmetry, ECG, blood pressure taking, glucometry – standards, and discussion – practical skills
4. Laboratory (lab) – blood drawing, vaccinations, injections: subcutaneous, intramuscular, intravenous, strip tests –practical skills

Internal Medicine – Elective

Causes, diagnosis and the treatment of obesity
Diagnosis and the treatment of osteoporosis.
Chronic renal failure. The quality of renal replacement therapy
Acute renal failure
Cardiac problems in patients with chronic renal failure
- incidence, diagnosis and treatment
Diagnosis and treatment of patients with anemia.
Rheumatoid arthritis, ankylosing spondylitis - diagnosis, clinical course and treatment
Rheumatic masks in internal medicine
Diagnostic difficulties in systemic connective tissue diseases
Causes, symptoms and treatment of GI hemorrhage
Comprehensive geriatric assessment
Syncope and falls in the elderly
The most common endocrine disturbances in the elderly
Musculoskeletal disorders in the elderly
Thyroid diseases - clinical picture, treatment options
Diagnosis and treatment of patients with acute coronary syndromes
Bacterial endocarditis.
Hypertension - causes, the principles of diagnosis, treatment

Internal Medicine – Elective

Rheumatoid arthritis, Systemic Lupus erythematosus, Osteoarthritis, Scleroderma, Gout, Dermatomyositis, Polymyositis, Emergencies in connective tissue diseases; diagnosing methods and disease treatment and complications

Internal Medicine – Elective

Topics: 1 Primary hypertension. 2 Secondary hypertension. 3 Kidney stone disease. 4. Interstitial Kidney diseases. 5 Nephrotic syndrome. 6 Glomerulonephritis. 7 Acute Kidney insufficiency. 8 Chronic Kidney insufficiency. 9 Haemodialysis and peritoneal dialysis. 10 Kidney transplantation.

Neurology – Elective

1. Neurological examination
2. Neuro-muscular diseases
3. Neurodegenerative diseases
4. Epilepsy
5. Neuroinfections
6. Neurology in emergency medicine
7. Neurological complications of internal diseases
8. Multiple sclerosis and other demyelinating diseases
9. Headaches, Neurovascular diseases
10. Neurotoxicology
11. EGG, EMG, EP, ENG, Ultrasound and radiological examinations in diseases of nervous system.

Forensic Medicine – Elective

1. Definition of Forensic Medicine and Medical Jurisprudence.
2. Courts and their powers: Supreme Court, High Court, Sessions Court, Additional Sessions Court, Magistrate's Courts.
3. Court procedures: summons, conduct money, oath, affirmation, perjury, types of witnesses, recording of evidence, conduct of doctor in witness box.
4. Medical certification and medico-legal reports including dying declaration.
5. Death:
 - a) Definition, types; somatic, cellular and brain-death.
 - b) Sudden natural and unnatural deaths.
 - c) Suspended animation.
6. Changes after death:
 - a) Immediate changes, cooling of body, lividity, rigor mortis, cadaveric spasm, cold stiffening and heat stiffening.
 - b) Putrefaction, mummification, adipocere and maceration.
 - c) Postmortem artifacts.
7. Inquest: Inquest by police, magistrate.
8. Identification:
 - a) Definition
 - b) Identification of unknown person, dead bodies and remains of a person by age, sex, stature, dental examination, scars, moles, tattoos, dactylography, DNA typing and personal belonging including photographs.
9. Exhumation.
10. Medico-legal autopsies:
 - a) Definitions of medico-legal and clinical/pathological autopsies.
 - b) Objectives, procedures, formalities of medico-legal autopsies.
 - c) Preservation of articles of importance, during autopsy.
 - d) Preservation of body fluids & viscera in suspected poisoning.
11. Mechanical injuries or wounds:
 - a) Definition, classification of mechanical injuries; description of blunt force, sharp force and firearm injuries.
 - b) Medico-legal aspects of injuries, differences between antemortem and post-mortem injuries, estimation of age of different types of injuries, defence injuries, hesitation cuts; fabricated injuries; simple and grievous hurt, suicidal/accidental/homicidal injuries; causes of death by mechanical injuries. Identification of injuries by torture.
12. Regional injuries: Injuries to Head, Neck, Thorax, Abdomen, Pelvis, Genitalia, Vertebral column and Bones.
13. Injuries due to physical agents and their medico-legal importance; cold, heat, electricity and lightning, explosions and radioactive substances.

14. Asphyxial deaths: Definition, causes, types, post-mortem appearances and medico-legal significance of hanging, strangulation, suffocation and drowning.

15. Deaths due to starvation.

16. Sexual Offences: Virginity, rape, unnatural sexual offences; sexual perversions.

17. Criminal abortion, Medical Termination of Pregnancy.

18. Infant and childhood deaths: Viability, determination of age of foetus, live birth, still birth and dead born child, sudden infant death syndrome, child abuse, medico-legal aspects of precipitate labour.

19. Biological fluids:

a) Blood-Preservation, dispatch of samples, importance of blood group in disputed paternity, hazards of blood transfusion.

b) Seminal stains-Preservation and dispatch of samples.

MEDICAL JURISPRUDENCE

1. Rights and privileges and duties of a registered medical practitioner, Disciplinary proceedings and penal erasure.

2. Professional conduct, Etiquette and Ethics in medical practice.

3. Professional secrecy, privileged communication.

4. Medical Negligence: Civil and criminal negligence, contributory negligence, vicarious liability, prevention of medical negligence and defences in medical negligence suits.

5. Consent: Types, informed consent, age in relation to consent, consent in relation to mental illness and alcohol intoxication, emergency and consent.

6. The Pre-natal Diagnostic Techniques Act (Prohibition of sex selection).

7. Human Organ Transplant Act.

8. Certification of births, deaths, illness and fitness.

9. Euthanasia

TOXICOLOGY

1. General aspects of poisoning: Principles of general toxicology.

2. Duties of doctor in cases of poisoning, medico-legal autopsy in poisoning, preservation and dispatch of viscera for chemical analysis. Role of Forensic Science Laboratory in brief.

3. Types of poisons, diagnosis, principles of therapy and medico-legal aspects of:

a) Corrosive poisons: strong mineral acids and organic acids.

b) Metallic poisons: Lead, Arsenic, Mercury and Copper.

c) Animal poisons: Snake and scorpion bites.

d) Deliriant: Dhatura, Cannabis and Cocaine.

e) Somniferous agents: Opium Morphine and other opioids.

f) Inebriants: Methyl and ethyl alcohol.

g) Asphyxiant poisons: Carbon monoxide, Carbon dioxide, Methane and cyanides.

h) Anesthetic agents.

i) Cardiac poisons: a) Cerbera thevetia and Nerium odorum.

b) Cerbera odollam

j) Miscellaneous: Aspirin, paracetamol, barbiturates, diazepam, antihistaminics, antidepressants and kerosene oil.

k) Insecticides: Organophosphorus compounds, Carbamates and Organochloro compounds, Aluminum phosphide.

l) Drug abuse and dependence.

Desirable to know following poisonings:

a) Inorganic non metallic poisons: Phosphorous.

b) Organic vegetable irritants: Abrus precatorious, Capsicum, Calotropis, Semicarpus anacardium, Croton.

c) Cardiac Poisons: Aconite

d) Convulsants: Strychnine

e) Paralytic agents, Curare

f) War gases and Industrial gases

Infectious Diseases – Elective

Fever. Fever of unknown origin (FUO). Bacteremia and sepsis. HIV/AIDS – epidemiology, diagnosis and definitions. Management of a patient with HIV/AIDS. Progress in therapy of HIV patients. Acute viral hepatitis – etiology, epidemiology, clinical picture, treatment. Chronic viral hepatitis – etiology, epidemiology, clinical picture, treatment. Neuroinfections – meningitis, encephalitis – causative agents, clinical picture, treatment. Lyme disease – etiology, epidemiology, clinical picture, treatment. Exanthematous infectious diseases (measles, rubella, erythema infectiosum, exanthema subitum, Kawasaki disease). Herpesvirus infections. Infectious mononucleosis and mononucleosis-like syndromes – Clinical evaluation of patients with liver diseases. Chronic viral hepatitis – etiology, epidemiology, clinical picture, treatment. Cirrhosis of the liver and complications (ascites, encephalopathy, portal hypertension)– clinical picture, diagnosis, treatment.

Neurology – Elective

Neurological examination. Symptomatology, diagnosis and treatment of acute and chronic central and peripheral nervous system diseases.

Neurosurgery – Elective

1. Clinical neuroanatomy
2. Intracranial hypertension – etiology, symptoms, diagnose, treatment
3. Craniocerebral trauma. Hematomas – epidural, subdural, intracerebral. Acute, subchronic and chronic hematomas. Etiology, symptoms, diagnose, treatment.
4. Hydrocephalus. Neurophysiology of CSF. Etiology of hydrocephalus. Types of HCP. Hakim-Adams Syndrome. Symptoms, diagnose, treatment.
5. Intracranial tumors. Etiology. Basics of molecular biology of intracranial tumors. Gliomas – types, etiology, symptoms, diagnose, treatment. Meningiomas - types, etiology, symptoms, diagnose, treatment. Metastases - types, etiology, symptoms, diagnose, treatment. Intraspinal tumors.
6. Non-traumatic spontaneous intracranial hemorrhage. Cerebral aneurysms - types, etiology, symptoms, diagnose, treatment. Arterio-venous malformations (AVM) - types, etiology, symptoms, diagnose, treatment.
7. Low Back Pain Syndrome. Lumbar disc herniation - types, etiology, symptoms, diagnose, treatment.. Failed Back Pain Surgery Syndrome - types, etiology, symptoms, diagnose, treatment.
8. Cervical disc herniation - types, etiology, symptoms, diagnose, treatment.

Neurosurgery – Elective

Getting a detailed history and neurological examination.
Suggesting appropriate investigation and treatment.
Recognizing examples of neurosurgical emergencies, and the response to them.

Ophthalmology – Elective

Course content:
Advanced knowledge in ophthalmology.

Pediatrics – Elective

Psychomotor development al delay
Cerebral palsy- methods of diagnostics, treatment, methods of rehabilitation
Epilepsy of childhood
Non-epileptic seizures
Neurocutaneous diseases
Neuromuscular disorders- methods of diagnostics, genetics, and treatment
Cerebrovascular disorders
Brain trauma, child abuse
Metabolic disorders

Pediatrics – Elective

Neonatal surgery.

Congenital malformations of the thorax, gastrointestinal tract and genitourinary tract.

Acute surgical diseases in children (eg. Appendicitis)

Emergency surgical procedures

- traumas (fractures, burns etc.)
- obstructions of the alimentary tract
- foreign bodies in the alimentary tract

Paediatric urology:

- obstructive uropathies,
- vesico-ureteral reflux
- neurogenic bladder

Minimal invasive surgery (laparoscopy, thoracoscopy, endoscopy)

Surgical oncology

Pediatrics – Elective

Increased intracranial pressure syndrome in children –

- etiology,
- signs and symptoms,
- diagnostics,
- treatment.

Hydrocephalus of childhood

- definition,
- pathophysiology,
- classification,
- diagnostics
- treatment options (shunts, endoscopic third ventriculostomy).

Traumatic brain injury in pediatric population –

- pathophysiology
- assessment
- diagnostic studies
- types of posttraumatic pathology
 - concussion
 - intracranial hematomas
 - penetrating craniocerebral injuries
 - diffuse traumatic brain injury
 - skull fractures and their complication
- guidelines for the management of traumatic brain injury in children and adolescents

Emergencies in neurosurgery

- signs and symptoms
- diagnostic studies
- management

Pediatrics – Elective

Assessment of child's condition and psychophysical development.

Physical examination of the child.

Nutrition of infants and healthy children. Nutritional treatment in gastrointestinal tract diseases.

Mastering the skills of proper diagnosing and differentiation of basic diseases, with a special emphasis on acute gastroenterological, oncological and nephrological cases.

Learning about proper interpreting the results of laboratory tests, radiological and pathomorphological examinations.

Participation in doctor's rounds and learning about the procedures of keeping medical records. Participation in multispecialist consultations.

Evaluation of the level of infant's hydration and establishing indications for rehydrating treatment (amount and composition of infusion fluid). Assessment of acid-base balance of ill children, especially infants.

Classes in the Laboratory of Upper and Lower Gastrointestinal Tract Endoscopy and Laboratory of Gastrointestinal Functional Examinations.

Participation in procedures performed in the treatment room, e.g.:

1. lumbar puncture
2. bone marrow biopsy
3. insertion of a needle for Vasco-port
4. insertion of ports and intravesical catheters
5. analysis of bone marrow slides

Rehabilitation – Elective

H&P (history and physical examination) in medical rehabilitation. Musculoskeletal and neurological examination. Examination of postural faults and scoliosis. Musculoskeletal and neurological imaging studies. Electrodiagnostic medicine. Analysis of gait. Functional evaluation. Quality and outcome measures for medical rehabilitation.

Psychological assessment and intervention in rehabilitation.

Impairment rating and disability determination. Limb and spinal orthotic devices. Prosthetic restoration. Gait aids. Wheelchairs and seating systems.

Therapeutic exercises. Manual medicine. Manipulations, tractions, mobilizations. Therapeutic massage. Indications and counterindications to kinesiotherapy.

Prosthetic training. Functional rehabilitation.

Physical agent modalities: heat, cold, ultrasound, microwaves, laser and other kinds of phototherapy, magnetotherapy, electrotherapy. Electrical stimulation. FES. Indications and counterindications to physical therapy.

Rehabilitation in musculoskeletal disorders. Rheumatic diseases. Management of the back pain. Low back pain and cervical pain. Management of peripheral joint degeneration. Management of endoprothetic patients. Osteoporosis. Postural faults and scoliosis. Amputee rehabilitation. Levels of amputation.

Rehabilitation in neurological disorders. Motor neuron disorders. Multiple sclerosis. Myopathic disorders. Degenerative movement disorders of the CNS. Stroke syndromes. Spinal dysraphism. Spinal cord injury.

Peripheral nerve lesions. Brachial plexopathies. Radiculopathies. Spasticity and rigidity management. Management of bladder dysfunction and neurogenic bowel.

Basics of cardiac and pulmonary rehabilitation.

Surgery – Elective

Pathogenesis, symptomatology, diagnostics and treatment of digestive tract, peripheral arteries and veins, endocrine glands and breast diseases.

Pathogenesis, symptomatology, diagnostics and treatment of neoplastic diseases and organs insufficiency that require organ transplantation.

Surgery – Electives

1. Surgical physical examination including: abdominal examination, rectal examination, breast examination, thyroid gland examination.
2. Ultrasound examination – basic skills
 - a. Abdominal examination
 - b. Thyroid gland examination
 - c. Breast examination
3. Surgical sutures – practice
 - a. Surgical tools and sutures presentation
 - b. Interrupted and continuous sutures – presentation
 - c. Making surgical knots – presentation
 - d. Local anesthesia – presentation
 - e. Summary and practice
4. GI tract disease
 - a. Esophageal surgery (cancer, diaphragmatic hernias, achalasia, endoscopic treatment of esophageal diseases)
 - b. Gastric surgery (cancer, ulcer, endoscopic treatment of gastric diseases, bariatric surgery)
 - c. Pancreatobiliary surgery
 - i. Biliary tract surgery (lithiasis, cancer,)
 - ii. Pancreatic surgery(chronic and acute pancreatitis , cancer)
 - d. Large and small bowel surgery (cancer, IBD)
 - e. Liver surgery (cancer, metastases, cirrhosis, portal hypertension, transplantation)
 - f. Hernias (paraesophageal, diaphragmatic, inguinal, abdominal hernias)

Surgery – Elective

Cardiac Surgery – II Department of Cardiac Surgery

At the end of this rotation, the resident will be able to:

- Describe and discuss cardiovascular physiology and the influence of cardiovascular disease on normal physiology.
- Know various operative approaches to the chest and understand indications for various preoperative studies of the chest and become familiar with their interpretation (chest x-rays, angiography, echocardiograms, EKGs).
- Demonstrate understanding of pathogenesis, pathophysiology, treatment, and outcome of the most frequent diseases in cardiac surgical practice (e.g., coronary artery disease, valvular heart disease, prosthetic valves, endocarditis, aortic aneurysms and dissections).
- Understand and demonstrate knowledge of basic theory and physiology of the cardiopulmonary bypass and ventricular assist devices.

Surgery – Elective

General and Vascular Surgery, including emergency and elective cases

Diagnostic and therapeutic procedure evaluation in hospital and ambulatory settings

Students practical skills improvement in surgical ward and OR