Subject: ATI and Emergency Medicine

MG4.1.10

ATI

Lectures (15 hours)
1. The cardihoursspiratory resuscitation
2. The respiratory insufficiency
3. The shock
4. The renal acute insufficiency
5. The disturbances of the hydro-electrolytic balance
6. The disturbances of the acid-basic balance

Practical activities (26 hours)
1. The cardihoursspiratory resuscitation
2. The respiratory insufficiency
3. The shock
4. The renal acute insufficiency
5. The disturbances of the hydro-electrolytic balance
6. The disturbances of the acid-basic balance

EMERGENCY MEDICINE

Lectures (15 hours)
1. The cardihoursspiratory arrest: basic and advanced cardihoursspiratory resuscitation, post resuscitation therapy.
   a. The emergency medicine - cardihoursspiratory resuscitation relationship;
   b. The components in the chain of survival;
   c. The basic cardihoursspiratory resuscitation(BLS – Basic Life Support);
   d. The advanced cardihoursspiratory resuscitation protocols: ventricular fibrillation, pulseless ventricular tachycardia, electromechanical dissociation;
   e. The peri arrest rhythms: tachycardias and bradycardias with vital risk;
   f. The principles of post resuscitation therapy;
2. The shock states: physiopathology, classification, diagnosis, evaluation, therapy.
   a. The shok – definition epidemiology;
b. The physiopathology of the shock states. Classification;
c. Hypovolemic shock: causes, clinical picture, methods of diagnosis, the emergency therapy;
d. The traumatic shock: physiopathology, clinical context, therapy approach;

3. The shock states: physiopathology, classification, diagnosis, evaluation, therapy – part II.
a. The anaphylactic shock: physiopathology, clinical manifestations, treatment;
b. The cardiogenic shock: etiology, clinical picture, diagnosis, treatment principles;
c. The neurogenic shock: physiopathology, clinical picture, treatment;
d. The differentiated evaluation of a shock state and the principles of emergency therapy.

4. The emergency trauma intervention. Primary and secondary evaluation in prehospital and the emergency department. Trauma shockss.
a. The ABC of resuscitation in traumas. Primary evaluation;
b. The traumatised patient - secondary evaluation and emergency trauma intervention;
c. The causes which influence life prognosis in the first minutes - therapy intervention.
d. The causes which influence life prognosis in the first hours - therapeutical intervention;
e. The causes which influence life prognosis in the first days - therapeutica intervention;
f. Trauma shockss and their relationship with the traumatised patients.

5. Environment related emergencies: burns and frostbites, hypothermia, hyperthermia, drowning, diving and altitude related accidents.
a. Burns and frostbites: first aid measures;
b. The intoxication with carbon monoxide: clinical picture and emergency therapy;
c. Hypothermia: definition, hypothermia degrees, diagnosis, intervention methods (internal and external warming), complications, prognosis;

6. Environment related emergencies. Principles of the medical intervention in mass accidents and disasters
   a. Emergencies caused by heat: definition, epidemiological context, physiopathology, clinical forms (edemas, muscle cramps, dehydration, vascular cerebral accidents caused by heat), treatment, complications, prognosis;
   b. Drowning and diving related accidents: definition (drowning and near-drowning), physiopathology, clinical picture, treatment in prehospital and hospital, complications, prognosis;
   c. Accidents caused by altitude: definition, symptomatology, the lung edema caused by altitude, diagnosis, treatment;

a. The coma – definition, epidemiological data, physiopathological elements;
b. The etiological classification of comas;
c. Clinical and para clinical diagnosis. Differential diagnosis;
d. The evaluation of the unconscious patient. Coma schours and degrees;
e. The emergency therapeutical intervention for the comatose patient;
f. Intoxications – clinical context, toxidromes;
g. Intoxications – general treatment principles (antidotes, decontamination techniques, absorption decrease and elimination increase)

**Practical activities (26 hours)**

1. Basic resuscitation (Basic life support) for adult and child.
   a. Freedom of airways;
   b. Mouth to mouth and mouth to mask ventilation;
   c. External thorax compressions;
   d. Basic manoeuvres for clearing the airways;
   e. The safety lateral position;
2. The airways management.
   a. Adjuvants of the airways;
   b. The mask and balloon ventilation technique;
   c. Endotracheal intubation: indications, technique, complications;
   d. The use of the laryngeal mask and of the combitube;
   e. The cricothyroidotomy and the mini tracheostomy;
   a. Defibrillation: indications and technique; Types of defibrillators
   b. Electrical cardioversion: indications, technique, complications;
   c. External transcutaneous pacing - indications, technique;
   d. The medication for the cardihoursspiratory resuscitation;
   a. Periferic venous access: indications, technique, complications;
   b. Periferic venous catheters: types, indications, the technique of placing an i.v. catheter;
   c. Fluids used in resuscitation: classification, indications, precautions, complications;
   d. The catheterization of the central veins: indications, technique, complications;
5. Cardihoursspiratory and advanced cerebral resuscitation.
   a. The resuscitation protocol for the ventricular fibrillation and the pulseless ventricular tachycardia;
b. The asystole resuscitation protocol;
c. The pulseless electrical activity resuscitation protocol
d. The medication for the cardio respiratory arrest.

6. Disturbances of the peri resuscitation rhythm.
   a. Tachyarrhythmia: emergency treatment algorithm;
   b. Bradyarrhythmias: emergency treatment algorithm;

   a. Blood vessel active medication used in emergencies: indication, precautions, doses, administration;
   b. The using technique of i.v. pumps and of injectomats – practical exercises;
   c. Life-sign non-invasive monitoring – diagnosis and therapy importance;
   d. Invasive monitoring (PVC, invasive TA, arterial blood gases) – technique and practical importance;

8. Resuscitation in special situations:
   a. Resuscitation particularities for the pregnant woman;
   b. Resuscitation particularities for drowning, hypothermia and electrocution;
   c. Resuscitation particularities for anaphylaxis and bronchial asthma;
   d. Resuscitation particularities for acute coronary syndromes;
   e. Resuscitation in the case of the hydro electrolytic disturbances.

   a. Required emergency maneuvers for the comatose patient: respiratory prosthesis, insertion of catheters and probes for monitoring;
   b. Nursing care problems of the comatose respiratory prosthesis patient;
   c. Gastric probes: types, indications, counter-indications, technique, complications;
   d. Urinary probes: types, indications, counter-indications, technique, complications, alternative techniques;
   e. Usage indications and technique of the tracheal suction catheter and the secretion aspirator.

10. The emergency behaviour for a superior digestive hemorrhage. Using the Blackmohours-Sengstaken tube.
   a. Volemic therapy (used solutions, blood transfusion, determining bloodtypes, compatibility tests, determining Rh types);
   b. Non-surgical hemostasis methods used in emergencies;
c. Indications, usage technique and complications of the Blackmohours-Sengstaken tube;

   a. Decontamination techniques;
   b. Gastric lavage: indications, technical counter-indications, complications;
   c. Other techniques for reducing toxic absorption;
   d. Methods used for increasing toxic elimination: osmotic diuresis, hemodialysis, hemofiltering;

   a. The technique of emergency wound care;
   b. First aid in the case of burns and frostbites;
   c. The making of various types of bandages and dressings;
   d. Wound anti-tetanus profilaxy.

13. Primary and secondary evaluation of the traumatised patient.
   a. Primary evaluation of the trauma. Resuscitation of the traumatised patient;
   b. Cervical neck: indications, technique;
   c. Emergency airway management;
   d. Pneumothorax puncture. Emergency pleural draining: indications and technique;
   e. Emergency hemostasis methods.

14. Primary and secondary evaluation of the traumatised patient –II.
   a. Secondary evaluation of the traumatised patient;
   b. Emergency sedation, analgesia of the traumatised patient;
   c. Emergency peritoneal lavage: indications, technique, interpretation;
   d. Transportation and immobilization means of the traumatised patient: the rigid stretcher, the scoop stretcher.
   e. Types of splints for temporary immobilisation.

15. Intervention principles in the emergency medicine for the traumatised and non-traumatised patients – revision.
Subject: Clinical Biochemistry

MG4.1.10
CLINICAL BIOCHEMISTRY

Lectures (6 hours)
2. Biochemical changes in diabetes mellitus.
3. Biochemical changes in hepatic diseases and renal diseases.

Practical activities (9 hours)
1. The investigation of biochemical changes in cardiovascular disorders.
2. The investigation of biochemical changes in diabetes mellitus.
3. The investigation of biochemical changes in hepatic diseases.
4. The investigation of biochemical changes in renal diseases.
CURRICULUM OF GENERAL SURGERY SUBJECTS
FOR THE IV-th YEAR- ENGLISH LANGUAGE

1.  SURGICAL PATHOLOGY OF THE ESOPHAGUS: - 4 hours
Motility disorders: diffuse esophageal spasm, achalasia of cardia(definition, etiology, clinical aspects, evaluation, diagnosis, differential diagnosis, complications, treatment)
Esophageal diverticula: definition, etiology, clinical aspects, evaluation, diagnosis, differential diagnosis, complications, treatment

2.  SURGICAL DISEASES OF MEDIASTINUM - 2 hours

3.  ABDOMINAL TRAUMA - 3 hours
Contusions, Wounds, Polstraumatisms with abdominal predominance

4.  SURGICAL PATHOLOGY OF THE STOMACH AND DUODENUM - 4 hours
Complications of gastro duodenal ulcer
Upper digestive bleeding;
Perforated gastro-duodenal ulcer;
Pyloric stenosis; mediogastric stenosis;
Tumors of the stomach:
Benign gastric tumors: pathology, clinical signs, evaluation, diagnosis, differential diagnosis, complications, principles of surgical treatment;
Gastric cancer: pathology, premalignant disorders, clinical findings, evaluation, diagnosis, differential diagnosis, complications, principles of surgical treatment;

5.  SURGICAL PATHOLOGY OF THE SMALL BOWEL AND MESENTERY:
4 hours
Meckel's diverticulum: clinical findings, evaluation, diagnosis, differential diagnosis, surgical treatment
Ileo-cecal tuberculosis (clinical findings, evaluation, diagnosis, complications, treatment).
Crohn's disease: clinical findings, evaluation, diagnosis, complications, treatment;
Benign tumors of the small bowel: classification, clinical findings, evaluation, diagnosis, treatment.
Malignant tumors of the small bowel: classification, clinical findings, evaluation, diagnosis, treatment.

6. **INTESTINAL OBSTRUCTION  -  4 hours**
Intestinal obstruction: etiology, classification, physiology, clinical findings, evaluation, diagnosis, differential diagnosis, complications, treatment;
Obstruction of the colon: etiology, classification, physiology, clinical findings, evaluation, diagnosis, differential diagnosis, complications, treatment;

7. **SURGICAL PATHOLOGY OF THE APPENDIX  -  2 hours**
Acute appendicitis: etiology, pathology, clinical findings, evaluation;
Chronic appendicitis: pathology, clinical findings, evaluation, diagnosis, differential diagnosis, treatment.
Tumors of the appendix: classification, clinical findings, diagnosis, treatment.

8. **SURGICAL PATHOLOGY OF THE COLON.  -  4 hours**
Congenital disorders: mega - dolico colon of the adult (etiology, pathology, clinical findings, evaluation, diagnosis, treatment);
Inflammatory diseases of the colon: ulcerative colitis, colonic diverticular disease (classification, clinical findings, evaluation, diagnosis, treatment);
Benign tumors of the colon: pathological classification, clinical findings, evaluation, diagnosis, treatment.
Malignant tumors of the colon: pathological classification, clinical findings, evaluation, diagnosis, differential diagnosis, principles of treatment;
9. **SURGICAL PATHOLOGY OF THE RECTUM AND THE ANAL CANAL.**

4 hours

10. **SURGICAL PATHOLOGY OF THE LIVER. – 4 hours**
Tumors of the liver: benign and malignant (classification, clinical findings, pathology, evaluation, diagnosis, complications, treatment).
Liver trauma.

11. **SURGICAL PATHOLOGY OF THE BILIARY TRACT. – 4 hours**
Normal anatomy, congenital abnormalities, physiopathology of stone formation.
Gallbladder lithiasis: acute cholecystitis, chronic cholecystitis (etiology, clinical findings, evaluation, diagnosis, differential diagnosis, complications, treatment).
Bacterial cholangitis: etiology, classification, clinical findings, evaluation, diagnosis, complications, treatment.
Malignant tumors of the bile ducts: pathology, classification, clinical findings, evaluation, diagnosis, treatment.
Jaundice: etiology, classification, phisiopathology, clinical findings, evaluation, diagnosis, differential diagnosis, complications, treatment;

12. SURGICAL PATHOLOGY OF THE PANCREAS - 4 hours
Chronic pancreatitis: etiology, phisiopathology, clinical findings, evaluation, diagnosis, differential diagnosis, complications, treatment.
Tumors of the Vater's ampulla: etiology, classification, pathology, clinical findings, evaluation, diagnosis, complications, treatment;
Tumors of the endocrine pancreas.

13. SURGICAL PATHOLOGY OF THE SPLEEN. - 3 hours
Splenic abscesses: etiology, clinical findings, evaluation, diagnosis, complications, treatment.
Splenic torsion: etiology, clinical findings, evaluation, diagnosis, treatment;
Splenic trauma: etiology, classification, clinical findings, evaluation, diagnosis, treatment;
Hypersplenism: etiology, clinical findings, evaluation, diagnosis, complications, treatment;
Portal hypertension: etiology, classification, clinical findings, evaluation, diagnosis, complications, treatment;
Splenic tumors: classification, clinical findings, evaluation, diagnosis, treatment;
Indications of splenectomy.

14. SURGICAL PATHOLOGY OF THE PERITONEUM. - 2 hours
Acute peritonitis:
- localized: etiology, clinical findings, evaluation, diagnosis, differential diagnosis, complications, treatment;
- diffuse (generalized): etiology, clinical findings, evaluation, diagnosis, differential diagnosis, complications, treatment;
Chronic peritonitis: etiology, classification, clinical findings, evaluation, diagnosis, differential diagnosis, complications, treatment;

15. SURGICAL PATHOLOGY OF ADRENAL GLANDS, NEUROENDOCRINE TUMORS, M.E.N. SYNDROME. - 2 hours
16. SURGICAL PATHOLOGY OF MESENTERY, AND RETROPERITONEUM
   2 hours

17. ACUTE GASTROINTESTINAL HEMORRHAGE SURGICAL MANAGEMENT OF PORTAL HYPERTENSION   - 2 hours

18. SURGICAL ACUTE ABDOMEN   - 2 hours

19. BARIATRIC SURGERY   2 hours

20. Acute and chronic vascular diseases of abdominal viscus.  2 hours

The clinical Practice in General Surgery (126 hours) :
Surgical Clinical Evaluation of the patient
Normal laboratory values for paraclinical examinations
Principles of Surgical Treatment
Clinical case presentation: history taking, phisical examination, clinical diagnosis, paraclinical exams, positive diagnosis, differential diagnosis, evolution, treatment;

BIBLIOGHAPHY
SCHWARTZ – Principles of Surgery
SABISTON - Textbook of Surgery
Greenfield, Mulholland – SURGERY Scientific principles and practice.

THORACIC SURGERY – Courses(6 hours)
1. Broncho-Pulmonary Cancer  - 2 hours
2. Thoracic trauma   - 2 hours
3. Pulmonary Hydatic Cyst and Broncho-Pulmonary Abscesses - 2 hours

The clinical Practice in Thoracic Surgery
Clinical Evaluation of the patient in thoracic surgery
Clinical case presentation
The pneumothorax
The pleural cavity Drainage
The Thoracotomy
The post operative follow up of Thoracic surgery patient
CARDIAC SURGERY - Courses (5 hours)

1. The diseases of Pericardium
2. The Cardiac trauma
3. Cardiac Transplantation
4. Surgical treatment of Thoracic aorta aneurisms
5. Surgical management of congenital cardiac diseases

The clinical Practice in Cardiac Surgery (8 hours)
Subject: Internal Medicine

INTERNAL MEDICINE

Lectures (78 hours)

DISEASES OF THE RESPIRATORY APPARATUS

1. Bronchic asthma (etiopathogeny, physiopathological mechanisms, diagnosis, treatment, asthma crisis and asthma sickness treatment)
2. Chronical bronchitis. Pulmonary emphysema. Chronic obstructive bronchopneumopathy (epidemiology, nosological frame, diagnosis, intercritical management, acutisations treatment)
3. Pneumonias (etiology, patogenic mechanisms, community-acquired and nosocomial pneumonia diagnosis and treatment)
4. Pulmonary suppurations. Bronchiectasis (etiopathogeny, diagnosis, treatment)
5. Extrinsic allergic alveolites. Pulmonary fibrosis (etiopathogeny, diagnosis, treatment)
6. Pulmonary embolism (etiopathogeny, diagnosis, treatment)
7. Chronic pulmonary heart disease. Respiratory insuficiency (etiopathogeny, diagnosis, treatment)
8. Non tuberculosis pleurisy.

DISEASES OF THE CARDIO-VASCULAR APPARATUS

1. Acute articular rheumatism (etiopathogeny, diagnosis, treatment)
2. Left heart valvulopathies (diagnostic clinic şi paraclinic, tratament)
3. Infectious endocardites (etiopathogeny, diagnosis, treatment)
4. Acute and chronic pericardites (etiopathogeny, diagnosis, treatment)
5. Acute myocarditis. Myocardiopathies (restrictive, hypertrophic, dilatative, obstructive)
6. Cardiac congenital malformations (DSA, DSV, PCA, right heart valvulopathies, Fallot tetralogy)
7. Cardiac arythmias (etiopathogeny, diagnosis, treatment)
8. Atrioventricular conduction disorders
9. Sudden death. cardio-vascular resuscitation
10. Atherosclerosis (etiopathogeny, treatment)
11. Chronic ischemic heart disease(silent ischemia, stabile and instabile pectoral angina)
12. Acute myocard infarct
13. Essential artery hypertension (etiopathogeny, diagnosis, treatment)
14. Secondary artery hypertension (aortic coarctation, hypertension of endocrinological, renoparenchimatosis, reovascular cause)
15. Cardiac insufficiency (acute and chronic, the treatment of acute pulmonary edema)
16. Cardiogenic shock
17. Peripheral artery disease. Aortic dissection
11. Profound venous thrombosis

ANEMIAS
1. Iron deficiency anemia
2. Megaloblastic anemia
3. Acquired hemolytic anemias
4. Aplastic anemia

Practical activities (210 hours)
DISEASES OF THE RESPIRATORY APPARATUS
1. Exploration of the respiratory apparatus: ventilatory and respiratory tests, harvesting biological products, interpretation of the standard thorax x-ray
2. Antibiotics: classification, presentation of the main antibiotics used in the current practice, administration, adverse effects, precautions
3. Bronchodilating medication: classification, presentation of the main antibiotics used in the current practice and their administration (presentation of the spacer), side effects, precautions.
5. Mucolytic, fluidizing and expectorant medication: classification, indications, tipified prepared medication and magistral receipts, precautions, unwanted effects, the role of the thorax tapping and of kinezitherapy in the treatment of bronchiectasis and chronic supurations.
6. Oxygenotherapy: indications, administration, precautions
7. Interpretation of the x-ray results of the main respiratory conditions: pneumonia, pleuresia, pulmonary abscess, broncho-pulmonary neoplasm, pulmonary embolism, pulmonary emphysema
8. Interpretation of the ventilation tests in the main ventilation syndromes: obstructive, restrictive and mixed
9. Case presentations

DISEASES OF THE CARDIO-VASCULAR APPARATUS
1. The coronary dilation treatment: the main medicine classes, way of action, indications, representatives, administration, side effects, precautions, usual doses.
2. The antiarrhythmic treatment: diagnosis algorithms and emergency treatment in the case of a paroxysmal supraventricular tachycardia and of a quick frequency atrial fibrillation
3. The anti aggregating plaquettary and anti coagulation treatment : the main medicine classes, way of action, representatives, administration, side effects, precautions.
4. The thrombolytic treatment and the myocardial revascularization : the main medicine classes, way of action, indications, representatives, administration, side effects.
5. The cardio-respiatory resuscitation.
6. The hypolipemiant medication and the diet in dyslipidemias : indications, the main medicine classes, side effects.
7. Inhibitors of the conversion enzyme : indications, representatives, administration, side effects, precautions ; therapy protocols in hypertensive emergencies.
8. Diuretics + the hyposodic diet : the main medicine classes, way of action, indications, representatives, administration, side effects, precautions, ; therapeutical attitude in cardiac insufficiency emergencies.
10. Vessel-dilating medication : way of action, indications, representatives, administration, side effects, precautions.
11. Electrocardiography : fundamental notions, the normal aspect in the main cardio-vascular conditions : pectoral angina, myocardial infarct, ventricular and supraventricular extrasystoles, atrioventricular blocks, AHT.
12. Echography : fundamental notions, indications, typical aspects of the main cardio-vascular diseases : AHT, bacterial endocarditis, acute pericarditis, cardiac insufficiency, myocardial infarct.
13. Particularities of care and treatment or the elderly patient with a cardio-vascular disease.
14. Case presentations

ANEMIAS

1. The exploration of an anemic syndrome + the interpretation of the test results for the main anemia forms (iron deficiency, megaloblastic, hemolytic, acute post hemorrhage)
2. Case presentations

TOXICOLOGY

Lectures (6 hours)

Practice (15 hours)
   Tranquillisants
   Sedative and hypnotics
   Trycyclic antidepresives
   Neuroleptics
2. Acute medicamentous exogenous intoxications:
   Beta-blocking drugs
   Beta-blockings of calcium channals
   Digitalic glicoazids
   HIN
   Salicilats
3. Exogenous non-medicamentous acute intoxications:
   Organophosphorate pesticides
   Organo-clorate pesticides
   Corosive substances
4. Gastric washing technique. Acute exogenous non-medicamentous intoxications:
   Poisonous mushrooms
5. Acute exogenous non-medicamentous intoxications:
   Carbon monoxide
   Ethilic alcohol
   Methylc alcohol
   Ethylenglicole
Subject: Oncology and Hematology

MG4.2.6

ONCOLOGY

Course (12 hours)

Course 1. Cancer: definition, malignant phenotype; cancer epidemiology, risk factors.
- the place of cancer in the contemporary pathology
- cancer definitions, history, malignant phenotype, the malignant cell biology
- cancer epidemiology: incidence, prevalence, mortality
- aspects of human cancer descriptive epidemiology: gender, age, geographic distribution

Course 2. Cancer etiology and etiopathogeny: human cancerogenesis
- cancer risk factors
- human cancerogenesis – physical, chemical, viral
- the phases of cancerogenesis: initiation, promotion și progression
- local invasion and metastasizing
- the phases of the metastatic “cascade”, clinical and therapeutical significance

Course 3. Metastasizing, local invasion. Primary profilaxy, precocious detection and screening (population screening).
- metastasizing - significance: metastatic “cascade”, ways of metastasizing
- tumour angiogenesis – biological and practical importance
- primary profilaxy

Course 4. Cancer diagnoses and staging
- the principles of cancer clinical diagnosis
- imagistic diagnosis
- paraneoplastic syndromes
- tumour markers: biological and therapeutical
- cancer staging: the TNM system (objectives, principles, role, practical importance)

Course 5. The principles of cancer loco-regional treatments
- the principles of cancer surgical treatment
- the principles of cancer radiotherapy (physical bases, radiobiology, therapy planning, side effects).
- radiotherapy side effects: identification and treatment
- the place of the loco-regional treatments in the global cancer therapeutical strategy.

Course 6. The principles of cancer systemic treatments
- the principles of anti-cancer chemotherapy: action mechanisms, side effects
- hormonotherapy, biological therapies, genic cancer therapy
- global cancer therapeutical strategy: multimodal treatment

Practical activities (14 hours)

PA 1. Cancer: definitions, the place in the contemporary pathology. Descriptive epidemiology.
- the frequency and importance of cancer in the present pathology – presentation of the oncology service.
- cancer epidemiology: incidence, prevalence, mortality, the distribution according to gender, age, geographic area, profession, etc.
- Cancer Registry; the record of cancer patients. The circuit of the cancer patients; the declaration chart “ONC-1”.

- cancer risk factors, the role of smoking cancerogenesis.
• the cancerogenesis: biological stage process; physical, chemical, biological cancerogenesis.
• the chemical cancerogenesis: bronchopulmonary cancer and the ORL area (case presentation):
PA 3. Invazion and metastasizing – clinical significance, types of metastasizing
  • clinical and therapeutical significance of invazion and metastasizing.
  • types of metastasizing in the clinic.
  • clinical case presentation: mammary and ovarian cancerul.
  • “alerting” signs of cancer.
  • tumour markers: role, usefulness in screening.
  • the cancer screening technique: mammary cancerul, cervical cancer and the malignant melanoma (presentation of clinica cases).
PA 5. Cancer clinical diagnoses and staging.
  • the oncology observation chart; the physical exam technique
  • the evaluation of the physical performance status (the Karnofsky and Zubrod/OMS/ECOG scale).
  • clinical case presentation: the cancers of the digestive area: colon, gastric, rectum.
PA 6. The principles of cancer loco-regional treatments: the role of surgery and radiotherapy.
  • radiotherapy: presentation of the radiotherapy equipment; radioprotection norms.
  • side effects of radiotherapy: diagnosis, treatment.
  • case presentation: malignant lymphomas, the cancers of the uro-genital area.
  • side effects of chemotherapy: precautions, side effects.
  • hormonotherapy, cancer biological therapies: indications, results.
  • practical testing.

HEMATOLOGY
Course (12 hours)
1. Hematopoiesis / global medullary insufficiency
2. Myeloproliferative syndromes (chronic granulocytic leukemia, primitive polyglobulin)
3. Acute leukemia
4. Hodgkin disease/ non hodgkin lymphomas
5. Chronic lymphatic leukemia /Multiple myeloma
6. Hemoragiparic syndromes (vasculary purpura/ thrombocytopenic purpura / coagulopathies)

Practical activities (12 hours)
Within the practical activities, developed interactively, and following the yllabus of the previous course, real and virtual clinical cases are discussed with the purpose of forming skills for clinical examination, conducting investigations for setting the positive and differential diagnosis in the mentioned pathologies. The goal will be the forming of certain skills for achieving a diagnosis approach ad a decision tree in clinical contexts (dg adenopathies, the splenomegaly, the hemoragiparic syndrome) and biological contexts (anemic syndromes, cytoses or cytopenias with the interpretation of the case results in clinical-biological context).

NUCLEAR MEDICINE
Course (2 hours)
Ground introductive notions
What is Nuclear Medicine? Particularities in relation to other medical imagistic areas.
The imagistics principle with in vivo radioisotopes.
The scintigraphy, functiona studies.
Detection in nuclear medicine: the scintigraph with the gamma camera.

Types of images in nuclear medicine: SPECT, entire body scintigraphy, image static acquisition, dynamic static acquisition.

**Nuclear Medicine in cardiology: I.v. myocardial scintigraphy:** The principle of the Radiopharmaceutical method, structure, fixing mechanism at myocardial level, Types of images, Indications of the I.v. myocardial scintigram. The principle of the tests which cause reversible ischemia: the pharmacological stress and the effort test. The scintigraphic image semiology: reversible defect, partially reversible defect, unchangeable defect. The positive and the differential diagnosis of ischemia and myocardial infarct.

**Exploration of the bone system**
Radiopharmaceuticals, structure, fixing mechanism at the bone tissue level. Indications of the bone scintigram in the malignant and benign pathology. Types of images: entire body scintigram, three phase bone scintigram. Scintigraphic image semiology: positive and the differential diagnosis, *Bone scintigraphy for the detection of bone metastasis*: types of scintigraphic lesions, the correlation of the scintigraphic image with the metastatic disease diagnosis.

**Exploration of the renal apparatus:** The radioisotopic nephrogram. The renal scintigram

**The respiratory apparatus**
The classification of the radioisotope investigations for exploring the respiratory apparatus: the i.v. scintigraphy and the ventilation scintigraphy. Radiopharmaceuticals. Types of images. The interpretation of the scintigraphic images: normal images, positive and differential diagnosis. Agreeing (match) and disagreeing (mis-match) ventilation/perfusion images.

**Nuclear oncology**
Classification of radiopharmaceutics which can be used for visualising malignant tissue in relation the fixing mechanism at the malignant cell level. Using 99mTc MIBI in nuclear oncology. Radiomarked peptides. Radio marked oligonucleotides. Radiotrasors – markers for the tumour hypoxia. The detection of the sentinel nodule.

**The positron emission tomography (PET)**
The principle of the positron emission tomography. Radiopharmaceutics, structure, fixing tissue mechanism. 18F FDG. Gamma camera PET. Detection in coincidence.

PET indications.

PET image semiology: normal image, pathological images.

**Practical activities (2 hours)**
- The analysis and the interpretation of the scintigraphic image in the context of the clinical and paraclinical data of the patient.

The bone scintigram: characteristics, clinical applications (with case presentations).

The entire body bone scintigram in the evaluation of the metastatic disease.

The three phase bone scintigram in the evaluation of the femur head necrosis.

The myocardial repose and effort scintigram in the diagnosis of ischemia myocardial infarct. Clinical cases.

The pulmonary perfusion scintigram in the diagnosis of pulmonary embolism. Clinical cases.

The thyroid scintigram: characteristics, clinical applications (with case presentations).

The renal scintigram and the nephrogram: characteristics, clinical applications (with case presentations).

The captopril test for the diagnosis of hypertension of renal cause.
The hepato-splenic scintigram with marked colloid: characteristics, clinical applications (with case presentations).
The hepatobiliary scintigram with IDA derivats: characteristics, clinical applications (with case presentations).
Subject: Orthopaedics – Traumatology

MG4.2.3 Orthopaedics – Traumatology
Course (15 hours)
1. Fractures. Generalities. (3 hours)
2. Fractures of the upper limb. (2 hours)
3. Fractures of the lower limb (2 hours)
4. Fractures of the spine and pelvis. (2 hours)
5. Articular traumatic lesions. (2 hours)
6. Bone infections. (1 hour)
7. Bone tumours. (2 hours)
8. Osteo – articulary degenerative conditions. (1 hour)

Practical activities (45 hours)
1. The trauma semiology of the upper limb, lower limb, spine and pelvis. (3 hours)
2. The observation chart in traumatology (particular aspects: the examination of vascularization and innervation, clinical and radiographic measurements, helping examination methods, etc). (3 hours)
3. The radiographic diagnosis in orthopaedics – traumatology (presentation of radiographic cliches). (3 hours)
4. According the first aid in pelvis, spine, upper limb, lower limb and open fracture. (3 hours)
5. Orthopedic immobilisation: temporary, definitive (clavicle, forearm, shank). (3 hours)
6. The application of plaster bandages (plaster corset, pelvi-pedios plaster). (3 hours)
7. The application and monitorization of continuous extension. (3 hours)
8. Fractures (case presentation, clinical and radiographic signs). (3 hours)
9. The open fracture (case presentation). (3 hours)
10. The shank fracture (clinical case presentation and solving through bipolar traction). (3 hours)
11. Reduction of fractures (the distal epiphysis radius, the proximal epiphysis or humeral diaphysis, the shank, etc). (3 hours)
12. The surgical treatment of fractures. (case presentation). (3 hours)
13. Sprains, dislocations (case presentation, reduction of a shoulder, elbow, hipdislocation). (3 hours)
14. Bone infections. (case presentation). (3 hours)
15. Bone tumours. (case presentation). (3 hours)
Subject: Child rearing

MG4.1.8
CHILD REARING
Course (15 hours)
1.- The childhood periods and their particularities
2 ore
   - Growth and development
     - the laws of growth;
     - the mechanism of growth;
     - the factors which influence growth (endogenous, exogenous, pathological factors);
     - anthropometric indicators for the newborn, low weight newborn, suckling and child.
2. –Anatomo-pysiological particularities of the newborn
    2 ore
    - criteria of evaluating the maturity of the newborn;
    - the evaluation of the new-born’s state of health (the Apgar score);
    - morphofunctional particularities of the newborn;
    - the new-born’s anti-infectious defence;
    - phenomena characteristic for the newborn’s life;
    - the new-born’s care.
3. – Anatomo-pysiological particularities of the newborn and the small child (1-3 years old)
    2 ore
4. – Anatomo-pysiological particularities of the low weight newborn
    2 ore
    - the clinical picture of the premature baby;
    - the deficiency of the respiratory function;
    - the deficiency of the thermoregulation function;
    - the deficiency of the nutrition function;
    - the deficiency of the defence means;
    - the particularities of the hydroelectrolitic metabolism;
    - the cerebral deficiency;
    - the evolution of the premature baby;
    - the predisposition for certain diseases;
    - the nursing and care of the premature baby;
    - the dismature baby (classification, clinical picture, evolution, care).
5. – The nutrition of the child and of the teenager
    2 ore
    - generalities;
    - particularities of the nutrition and the metabolism of the child;
    - quantitative nutrition needs (of self maintainace, offunctioning, for thermoregulation, for growth);
    - qualitative nutrition needs and their role in the organism:
      - plastic factors (proteins and minerals);
      - energetic factors (glucids and lipids);
      - biocatalytic factors (vitamins, minerals, water).
6. – The natural feeding
    2 ore
    - the composition and the caloric value of colostum;
    - the composition and the caloric value of mature human milk;
    - the mechanism of the milk secretion;
    - factors which influence the milk secretion;
    - obstacles in the way of natural feeding;
- the nutrition of the nursing woman;
- the advantages of the natural feeding.

7. – Artificial feeding 1 oră
- the composition of the cow milk;
- the conservation of the cow milk;
- the cow milk intolerance.

8. – Diversified feeding, the feeding of the child: 1-3 years old, 4-6 years old, 7-15 years old 2 ore
- the principles of diversified feeding;
- the composition and the caloric value of food;
- the technique diversified feeding.

Practical activities (15 hours)
1. The observing chart of the suckling and the small child
   - general data and the anamnesis 2 ore
   - general examination, the exam of segments and anthropometrical data 2 ore
   - the apparatus and system examination 2 ore
   - the bath, the massage, the gymnastics, the hygiene of the room, the bed, the clothing.

3. The suckling’s and the low weight newborn’s feeding 2 ore
   - the natural and the artificial feeding:
     - the principles of the suckling’s feeding;
     - criteria for establishing the feeding ratio;
     - the technique of natural feeding;
     - the technique of artificial feeding.
   - mixed and diversified feeding:
     - methods of mixed feeding;
     - examples of diets for certain ages with the calculation of the caloric value and the maximal nutritive principles of the food used in the first year of life and for the child between 1-3 years old.

4. Dietetic prepared food for the suckling (the preparation technique, indications, composition) 2 ore
Subject: Child rearing

MG4.1.8
CHILD REARING
Course (15 hours)
1.- The childhood periods and their particularities
2 ore
- Growth and development
  - the laws of growth;
  - the mechanism of growth;
  - the factors which influence growth (endogenous, exogenous, pathological factors);
  - anthropometric indicators for the newborn, low weight newborn, suckling and child.
2. –Anatomo-pysiological particularities of the newborn 2 ore
- criteria of evaluating the maturity of the newborn;
- the evaluation of the new-born’s state of health (the Apgar score);
- morphofunctional particularities of the newborn;
- the new-born’s anti-infectious defence;
- phenomena characteristic for the newborn’s life;
- the new-born’s care.
3. – Anatomo-pysiological particularities of the newborn and the small child (1-3 years old) 2 ore
4. – Anatomo-pysiological particularities of the low weight newborn 2 ore
- the clinical picture of the premature baby;
- the deficiency of the respiratory function;
- the deficiency of the thermoregulation function;
- the deficiency of the nutrition function;
- the deficiency of the defence means;
- the particularities of the hydroelectrolitic metabolism;
- the cerebral deficiency;
- the evolution of the premature baby;
- the predisposition for certain diseases;
- the nursing and care of the premature baby;
- the dismature baby (classification, clinical picture, evolution, care).
5. – The nutrition of the child and of the teenager 2 ore
- generalities;
- particulariesof the nutrition and the metabolism of the child;
- quantitative nutrition needs (of self maintainace, of functioning, for thermoregulation, for growth);
- qualitative nutrition needs and their role in the organism:
  - plastic factors (proteins and minerals);
  - energetic factors (glucids and lipids);
  - biocatalytic factors (vitamins, minerals, water).
6. – The natural feeding 2 ore
- the composition and the caloric value of colostum ;
- the composition and the caloric value of mature human milk;
- the mechanism of the milk secretion;
- factors which influence the milk secretion;
- obstacles in the way of natural feeding;
7. – Artificial feeding
   - the composition of the cow milk;
   - the conservation of the cow milk;
   - the cow milk intolerance.

8. – Diversified feeding, the feeding of the child: 1-3 years old, 4-6 years old, 7-15 years old
   - the principles of diversified feeding;
   - the composition and the caloric value of food;
   - the technique diversified feeding.

Practical activities (15 hours)
1. The observatin chart of the suckling and the small child
   - general data and the anamnesis
     2 ore
   - general examination, the exam of segments and anthropometrical data
     2 ore
   - the apparatus and system examination
     2 ore

- the bath, the massage, the gymnastics, the hygiene of the room, the bed, the clothing.

3. The suckling’s and the low weight newborn’s feeding
   - *the natural and the artificial feeding*:
     2 ore
     - the principles of the suckling’s feeding;
     - criteria for establishing the feeding ratio;
     - the technique of natural feeding;
     - the technique of artificial feeding.
   - *mixed and diversified feeding*:
     2 ore
     - methods of mixed feeding;
     - examples of diets for certain ages with the calculation of the caloric value and the maximal nutritive principles of the food used in the first year of life and for the child between 1-3 years old.

- *the low weight newborn’s feeding*:
  2 ore

4. Dietetic prepared food for the suckling (the preparation technique, indications, composition)
   2 ore
Subject Radiology

MG4.1.5 Radiology

Lectures (30 hours)
1. Radio-imagistic methods
2. Radio-imagistic diagnosis of respiratory apparatus affections
3. Radio-imagistic diagnosis of mediastine affections;
4. Radio-imagistic diagnosis of cord affections;
5. Radio-imagistic diagnosis in vascular pathology;
6. Radio-imagistic diagnosis of digestive tract affections;
7. Radio-imagistic diagnosis of liver and biliary ways affections
8. Radio-imagistic diagnosis of pancreas and spline affections;
9. Radio-imagistic diagnosis of urinary system affections;
10. Radio-imagistic diagnosis of bone-articulary system

Practice (32 hours)
Identical themes with the lectures ones
MG4.2.4

Urology

Course (15 hours)

1. The urologic diagnosis: anamnesis, clinical examination, paraclinical explorations.
2. The urogenital congenital anomalies: renal, vesical, urethral; testicular ectopia
   The traumas of the urinary apparatus: renal, vesical, urethral (etiopathogeny, pathologic anatomy, clinical picture, diagnosis, treatment)
3. Non-specific infections of the male urinary and genital apparatus
   - etiopathogeny, diagnosis, treatment;
     - pyelonephrites;
     - pionefrites;
     - pionephrosis;
     - cystites;
     - acute prostatitis;
     - acute epididymitis.

   Topographic forms of lithiasis: pyelocaliceal, urethral, vesical. The renal insufficiency in urology (IRA, IRC).
   The retroperitoneal tumors: classification, symptomatology, diagnosis, treatment
7. Prostate tumors. The prostate adenoma: etiology, pathologic anatomy, physiopathology, clinical picture, diagnosis, evolution and complications, treatment
   The hydrocele. The varicocele.
   The penis pathology: tumors, the phimosis and the paraphimosis, the priapism
   Urethral strictures.

Practical activities (30 hours)

1. The clinical examination of the urogenital apparatus.
2. Usual laboratory investigations (bacteriology, pathologic anatomy, biochemistry)
3. The radiologic exploration (RS, UIV, urethrography, CT, IRM) and the echographic exploration of the urogenital apparatus.
4. Clinical case presentations (according to the cases encountered during the practice weeks)
   - renal tumour;
   - renal lithiasis, 2-3 stages(?): clinical cases, modern treatment, (LEC, NLP, endoscopic litotrition)
   - urogenital infections, 2 stages: acute and chronic pyelonephritis, pionephrosis, acute cystitis, acute prostatitis, acute epididymitis, TBC, nosocomial urologic infections:
   - prostate tumors, 2-3 stages: adenoma, cancer;
   - urothelial tumors, 2 stages: vesical, pyelourethral.
   - urogenital traumas: renal contusion, urethra rupture;
   - the endoscopic treatment: TUR-P, TUR-V, NLP, the optical urethrotomy (video demonstration or life transmission)
   - diagnosis and treatment problems in certain urological emergencies: the nephritic colic, the urinary retention, the hematuria, the calculus anuria.