

MEDICAL UNIVERSITY - PLOVDIV
MEDICAL FACULTY
SECOND DEPARTMENT OF INTERNAL MEDICINE
WITH SECTION OF OCCUPATIONAL DISEASES

SYLLABUS
IN
OCCUPATIONAL DISEASES AND TOXICOLOGY

Approved by the Department Council - Protocol №49/25.05.2022

Confirmed by the Faculty Council - Protocol №6/15.06.2022

OCCUPATIONAL DISEASES AND TOXICOLOGY

Syllabus

Discipline	Final exam/ semester	Auditorium classes				ECTS non-auditorium classes	ECTS total	Academic hours in years and semesters
		Total	Lectures	Practices	ECTS			III year
Occupational diseases and toxicology	VI	45	15	30	1.5	0.5	2.0	VI
								1/2

DISCIPLINE: OCCUPATIONAL DISEASES AND TOXICOLOGY

TYPE OF DISCIPLINE ACCORDING TO THE UNIFORM STATE REQUIREMENTS:

Obligatory

LEVEL OF QUALIFICATION: Master /M/

FORMS OF TRAINING: Lectures, exercises, self-preparation.

YEAR OF TRAINING: III year

DURATION OF TRAINING: One semester

ACADEMIC HOURS: 15 hours lectures, 30 hours practical exercises

EDUCATIONAL AIDS/ TECHNICAL EQUIPMENT APPLIED IN THE TRAINING:

Multimedia products; audio-visual materials; authentic materials, posters, disease stories, projects, tables, diagrams, and other non-verbal visuals, consistent with the objectives of the lectures and exercises; discussions; demonstration of clinical cases and diagnostic methods and devices; clinical data and paraclinical studies for diagnosis and interpretation; therapeutic agents and schematics of nosological units; normative documents on occupational diseases related to the disclosure of a procedure for the recognition of the occupational origin of a disease, criteria for occupational diagnosis of diseases, list of occupational diseases, etc.; practical situational tasks; reference materials for developing students' skills for individual work; thematic referrals; preventive programs.

FORMS OF EVALUATION: Current assessment, tests, elaboration of an essay.

EVALUATION CRITERIA: An average grade for each semester is formed.

ASPECTS OF EVALUATION CRITERIA: Participation in discussions, solving of tests, elaboration of an essay.

SEMESTER EXAM: Yes / Incoming Test, Written and Oral Exam.

STATE EXAM: No.

LECTURER: Habilitated lecturers from the Department of Occupational Diseases and Toxicology.

DEPARTMENT: SECOND DEPARTMENT OF INTERNAL MEDICINE

ANNOTATION

The course "Occupational Diseases and Toxicology" enables: to acquire knowledge about the etiological risk factors of the working environment and the labor process (physical, chemical, biomechanical, biological, dust, fibers, aerosols, gases, smoke and vapors) pharmaceuticals, technical fluids, toxic gases, plant and animal poisons, drugs) and the circumstances in which they may arise; awareness of the pathophysiological mechanisms that determine occupational diseases and household intoxications; knowledge of typical clinical manifestations of the impact of occupational risk factors and xenobiotics on the human body; acquisition of diagnostics and treatment skills, poison recognition methods and first-aid poisoning, specializing in specific detoxication and antidote healing techniques; knowledge of the criteria for occupational diagnosis of diseases, disclosure of a procedure for the regulation of occupational disease; awareness of the expertise of occupational diseases; preventive measures.

BASIC AIMS OF THE DISCIPLINE

- Acquiring and learning of knowledge and skills for diagnosis and adequate behavior in patients with suspected occupational disease or acute poisoning with xenobiotics:
 - absorption of the peculiarities of occupational and toxicological history and physical status;
 - objectification of occupational risks: interpretation of the production characteristic, protocols for the investigation of the working environment and other documents on occupational exposure;
- Formation of a working diagnosis and differential diagnosis;
 - appointment of basic and specific studies;
 - Clinical evaluation - interpretation of laboratory and instrumental data, development of specific and non-specific complexes of syndromes, differential diagnosis, and acquisition of skills for a correct therapeutic approach;
- behavior in first medical aid, early specialized care, treatment;
- acquainting with the normative documents related to occupational diseases and skills to manage them;
- knowledge of the differences between occupational disease, occupational accidents and work-related diseases;
- knowledge of the principles for the diagnosis of occupational diseases and the criteria for assessing the occupational origin of the diseases;
- knowledge of the principles of occupational disease expertise;
- preparation of documentation with specificity for toxicology and occupational diseases;
- application of all modern forms, methods and means for primary (prevention of the occurrence of occupational disease), secondary (early detection of occupational disease) and tertiary (elimination of long-term effects of occupational disease and improvement of patient prognosis) prevention as a collection of medical and non-medical events to achieve better health and quality of life through isolation of risk factors (prevention of premorbidity), disease prevention reducing their consequences.

EXPECTED RESULTS

After completing the training, students must:

- be familiar with the normative documents related to occupational diseases and skills to manage them;
- have mastered knowledge of the most common occupational diseases, occupational accidents and work-related illnesses and behavior;

- have acquired professional knowledge of acute and chronic chemical trauma and mode of action in such pathology;
- have knowledge of the principles of prevention and expertise of these disabilities.

LECTURES PROGRAM

III COURSE, VI SEMESTER

№	Theme	Hours	Date
1.	Introduction to occupational pathology - definition, classification, list of occupational diseases. Basic principles of diagnostics, treatment, expertise and medical prophylaxis. Occupational poisoning with metals - lead, mercury, cadmium, manganese, chromium, nickel, arsenic - absorption, metabolism, excretion, pathogenesis, clinical manifestations, early diagnosis, differential diagnosis, treatment. Principles of antidote therapy.	2 h.	
2.	Basics of clinical toxicology - current epidemiology, basic notions, toxic aggression, physiological and medical antitoxic protection.	2 h.	
3.	Chronic occupational intoxications with organic solvents - benzene, benzene, amino and nitro derivatives of benzene - clinic, diagnostics, exposition tests, treatment. Occupational intoxications with synthetic resins and plastics - classification, pathogenesis, clinical manifestations, treatment, expertise. Occupational intoxications with gaseous chemical compounds - chlorine, sulfur, nitrogen, fluorine and CO. Pesticide intoxications - classification, pathogenesis, clinical manifestations, treatment, prophylaxis.	2 h.	
4.	Behavior of the doctor in acute poisoning - Scheme 10. Essence. Toxicological diagnosis - Symptoms and syndromes, degree of severity.	2 h.	
5.	Pneumoconiosis - classification, etiopathogenesis. Silicosis, silicosis - asbestosis, talcosis, kaolinosis, coal pneumoconiosis - clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise. Occupational neoplasms	2 h.	
6.	Occupational diseases of the nervous system (radiculopathy, mono- and polyneuropathies, encephalopathies) and musculoskeletal (epicondylitis, tendomyosis, de Quervain's disease, tendonitis, peri-arthritis, bone-injuries). Vibration disease - classification, etiopathogenesis, clinical manifestations, treatment, expertise and prophylaxis.	2 h.	
7.	Occupational allergic diseases. Occupational bronchial asthma. Bisinosis. Hypersensitive pneumonitis. Occupational skin diseases. Etiopathogenesis, criteria for diagnosis, differential diagnosis, treatment, medical expertise.	3 h.	
8.	Occupational diseases of the hearing, vestibular and visual analyzer, upper respiratory tract. Occupational diseases due to biological factors.	1 h.	

All: 15h.

PRACTICAL EXERCISE PROGRAM ON OCCUPATIONAL DISEASES

III COURSE, VI SEMESTER

№	Theme	Hours	Date
1.	Basics of occupational pathology. Definition, classification, list of occupational diseases. Basic principles of diagnostics, treatment, expertise and medical prophylaxis.	2 h.	
2.	Occupational metal intoxications - diagnostic principles and criteria and labor-expert assessment.	2 h.	
3.	Occupational plastics disorders.	2 h.	
4.	Pneumoconioses - definition, classification. Silicosis. Silicatoses.	2 h.	
5.	Occupational allergic diseases - etiology, diagnostic criteria, treatment, expertise. Chronic occupational bronchitis - classification, etiopathogenesis, diagnosis, criteria for occupational diagnosis, treatment, expertise.	2h.	
6.	Occupational diseases of the nervous and musculoskeletal system.	2 h.	
7.	Vibration disease due to hand-arm and whole-body vibration exposure. Principles and methods of diagnosis of occupational diseases by vibration and biomechanical factors.	3 h.	

All: 15 h.

CLINICAL TOXICOLOGY PRACTICAL EXERCISE PROGRAM

III COURSE, VI SEMESTER

№	Theme	Hours	Date
1.	Outpatient and inpatient toxicological assistance in Bulgaria. Regional Toxicology Center - structure and functions. Allergic and Toxic-Allergic Shock Etiology, Pathogenesis, Clinic. Emergency pre-hospital and stationary medical care. Behavior of the physician and other medical professionals.	3 h.	
2.	Pathogenesis of poisoning. Basic methods of diagnosis and treatment. Behavior of the doctor and medical specialists in acute poisoning at the pre-hospital stage - practical lifesaving and detox procedures.	2 h.	
3.	Acute poisoning with leading cerebral depression syndrome (benzodiazepines, barbiturates and neuroleptics) - diagnosis, first-aid and practically life-saving behavior of the physician. Major healing measures at the station. Closest differential diagnostics options.	2 h.	
4.	Acute poisoning with drugs affecting the cardiovascular system (antihypertensive, digitalis glucosides, diuretics) - diagnosis, first medical care and life-saving behavior of the physician. Major healing measures at the station.	2 h.	
5.	Acute poisoning with biocides (organophosphates, carbamates and pyrethroids). Acute poisoning with technical preparations - acids, bases, antifreeze - diagnosis, first medical care and life-saving behavior of the physician. Major healing measures at the station.	2 h.	
6.	Poisoning with biological poisons - snake poison, arthropods, mushrooms. Diagnosis, peculiarities of the clinical picture of phaloid mushroom intoxication, emergency pre-hospital medical care, treatment at the station.	2 h.	
7.	Acute poisoning with drugs (heroin, amphetamines) and alcohol (ethyl, methyl). Life-saving practical pre-hospital and stationary medical care.	2h.	

All: 15 ч.

LECTURES - THESES

LECTURE № 1 – 2 hours

INTRODUCTION IN OCCUPATIONAL PATHOLOGY. OCCUPATIONAL INTOXICATIONS WITH METALS

1. Definition according to Ordinance on the Procedure for Notification, Registration, Confirmation, Appealing and Reporting of Occupational Diseases
2. Classification of occupational diseases.
3. List of occupational diseases.
4. Basic principles of diagnostics, treatment, expertise.
5. Paraoccupational diseases.
6. Prophylaxis of occupational diseases and disorders.
7. Occupational intoxications with lead /chronic saturnism/, mercury /chronic mercurialism/, manganese, cadmium, chromium, nickel, arsenic:
 - absorption, metabolism, excretion,
 - Etiopathogenesis,
 - Clinical manifestations,
 - Diagnosis
 - Treatment
 - Medical expertise and prophylaxis.

LECTURE № 2 – 2 hours

FOUNDATIONS OF CLINICAL TOXICOLOGY

1. Basics of clinical toxicology - basic concepts, toxic aggression, physiological and medical antitoxic protection.

A brief history of toxicology from ancient times to the present day.

Current epidemiology.

Types of intoxications - classifications.

Basic concepts in general toxicology:

- Poison,
- poisoning,
- toxicity,

- dose,
- critical effect,
- material and functional cumulation,
- acute and chronic intoxication,
- habit,
- remote effects,
- an allergic effect,
- idiosyncrasy.

Toxic aggression:

- local toxic effects
- general toxic processes.

Disabling mechanisms and phenomena.

Natural (physiological) detoxification:

- toxicokinetics
- spontaneous mechanical detoxification
- metabolic detoxification - metabolism, excretion.

LECTURE № 3 – 2 hours

OCCUPATIONAL CHRONIC INTOXICATIONS WITH ORGANIC SOLVENTS, SYNTHETIC RESINS AND PLASTICS, GASEOUS CHEMICAL COMPOUNDS, PESTICIDES

- Occupational poisoning with organic solvents - benzene, amino and nitro derivatives of benzene:
 - Etiopathogenesis,
 - Clinical manifestations,
 - Diagnostics, exposure tests,
 - Treatment,
 - Medical expertise and prophylaxis.
 - Clinic, diagnosis, exposure tests, treatment.
- Occupational damages from acids and alkalis.
- Occupational poisoning with monomers of synthetic resins and plastics:
 - Classification of polymers,
 - Etiopathogenesis,
 - Clinical manifestations,
 - Diagnosis,
 - Treatment and medical expertise.
- Occupational injuries from irritating vapors and gases:

- 4.1. Etiopathogenesis,
- 4.2. Clinical manifestations,
- 4.3. Diagnosis,
- 4.4. Treatment,
- 4.5. Medical expertise and prophylaxis.
5. Pesticide intoxications - classification, pathogenesis, clinic, treatment, prophylaxis.
- 5.1. Classification,
- 5.2. Pathogenesis,
- 5.3. Clinical manifestations,
- 5.4. Diagnosis,
- 5.5. Treatment and medical expertise.

LECTURE № 4 - 2 hours

BEHAVIOR OF THE PHYSICIAN IN ACUTE POISONING

Acute exogenous poisoning medical protection:

- Behavior of the physician - scheme 10. Essence.

Toxicological diagnosis - symptoms and poisoning syndromes.

- Characteristics of the history, the removal of physical status, laboratory and instrumental research.
- Place of the toxico-chemical analysis in the toxicological diagnosis.
- Degree of severity - technology, criteria.

LECTURE № 5 - 2 hours

PNEUMOCONIOSES. OCCUPATIONAL NEOPLASMS

1. Classification of pneumoconiosis.
2. Silicosis - etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, medical expertise, prophylaxis.
3. Silicases - asbestosis, talcosis, kaolinosis: etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, medical expertise, prophylaxis.
4. Coal pneumoconiosis - etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, medical expertise, prophylaxis.
5. Occupational neoplasms
 - Etiopathogenesis,
 - Clinic,
 - Diagnostics,
 - Treatment,
 - Medical expertise and prevention.

LECTURE № 6 - 2 hours

OCCUPATIONAL DISEASES OF THE NERVOUS AND MUSCLE-SKELETTE SYSTEM. VIBRATION DISEASE

1. Occupational diseases of the peripheral nervous system: radiculitis, mononeuropathies, polyneuropathies - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.
2. Occupational diseases of the central nervous system: cerebrovasia, encephalopathy - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.
3. Occupational diseases of the musculoskeletal system: tendosoma, epicondylitis, tendonitis, periarthritits, arthrosis, osteoporosis - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.
4. Prophylaxis of occupational diseases of the nervous and musculo-skeletal system.
5. Vibration disease:
 - Classification,
 - Etiopathogenesis,
 - Clinical manifestations,
 - Diagnosis and differential diagnosis,
 - Treatment,
 - Medical expertise,
 - Prophylaxis.

LECTURE № 7 - 2 hours

OCCUPATIONAL ALLERGIC DISEASES. OCCUPATIONAL SKIN DISEASES

1. Classification of occupational allergic diseases.
2. Occupational allergic diseases of the lungs.
 - 2.1. Occupational bronchial asthma - etiopathogenesis, criteria for diagnosis, differential diagnosis, treatment, medical expertise.
 - 2.2. Bisinosis - Etiology, Pathogenesis, Diagnosis, Differential Diagnosis, Treatment, Medical Examination.
 - 2.3. Hypersensitivity pneumonitis - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.
3. Occupational allergic diseases of the upper respiratory tract - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.
4. Occupational allergic skin diseases: dermatitis, eczema - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.

1. Occupational allergic diseases of the visual analyzer - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.
2. Prophylaxis of occupational allergic diseases.
3. Occupational skin diseases.

LECTURE № 8 – 1 hour

OCCUPATIONAL DISEASES OF HEARING. VESTIBULAR AND VISION ANALYZER AND UPPER RESPIRATORY PATHWAYS. OCCUPATIONAL DISEASES BY BIOLOGICAL FACTORS.

1. Occupational hearing impairment:
 - Etiopathogenesis,
 - Clinical manifestations,
 - Diagnosis,
 - Treatment,
 - Medical expertise,
 - Prophylaxis.
2. Occupational Vestibulopathies:
 - Etiology,
 - Clinical characteristics,
 - Diagnosis,
 - Treatment and prophylaxis.
3. Occupational eye diseases.
4. Occupational diseases of the upper respiratory tract:
 - Etiology,
 - Clinical manifestations,
 - Treatment and prophylaxis.
5. Occupational diseases by biological agents - criteria for occupational diagnosis.

PRACTICAL EXERCISES - THESES

OCCUPATIONAL DISEASES

EXERCISE № 1 - 2 hours

FOUNDATIONS OF OCCUPATIONAL PATHOLOGY - INITIAL EXERCISE

1. Definition of occupational disease and occupational accident.
2. Classifications.
3. Taking occupational history and analyzing the data.

- To acquaint the students with the main normative documents in the field of occupational medicine:
 - An administrative procedure for the regulation of an occupational disease; occupational accident, differences between occupational disease and occupational accidents;
 - Specific legal consequences for the confirmation of an occupational disease; Ordinance on the Procedure for Notification, Registration, Confirmation, Appeal and Reporting of Occupational Diseases;
 - List of occupational diseases.
4. Criteria for diagnosis and assessment of occupational diseases.
 5. Basic principles of treatment, expertise and medical prophylaxis.

EXERCISE № 2 - 2 hours

OCCUPATIONAL INTOXICATIONS

1. To acquaint students with the most common occupational intoxications, etiology, pathogenesis, clinical picture, organotropism, specificity of toxic effects, principles and criteria in diagnostics and labor-expert assessment of patients with occupational intoxications, treatment:
 - lead poisoning;
 - mercury poisoning and organic and inorganic mercury compounds;
 - cadmium poisoning;
 - manganese poisoning;
 - poisoning with arsenic, copper, zinc, nickel and chromium (toxic effects, carcinogenic risk);
 - poisoning with organic solvents.
2. Laboratory constellations in chronic occupational poisoning.
3. Presentation and discussion of clinical cases.
4. Individual work with patients.

EXERCISE № 3 - 2 hours

OCCUPATIONAL HAZARDS IN PLASTIC INDUSTRY

1. Definition, classification.
2. The most common intoxications with plastics - specificity of toxic effects, clinical picture, diagnostics, treatment, labor-expert assessment, carcinogenic risk:
 - Ethylene
 - Styrene
 - Methyl methacrylate
 - Acrylonitrile
 - Isocyanates.
3. Vinyl chloride:
 - Peculiarities of acute and chronic toxic effects, carcinogenic risk;
 - Vinyl chloride disease - clinical picture, diagnostic criteria, treatment, labor-expert assessment.
4. Individual work with patients, discussions.

EXERCISE № 4 - 2 hours

PNEUMOCONIOSES

1. Definition, classifications.
2. Pathogenesis.
3. Silicosis - definition, etiology, pathogenesis, clinical-radiographic-morphological and ILO classification, clinical picture, special forms of silicosis, diagnostic criteria, differential diagnosis, treatment, labor-expert assessment.
Presentation and discussion of clinical cases.
Demonstration of pulmonary imaging in silicosis patients.
4. Silicatoses - definition, classification.
 - Asbestos induced occupational injuries - classification.
Clinical picture, diagnosis, differential diagnosis, treatment, and labor-expert assessment of pulmonary asbestosis.
Asbestos as a carcinogen.
 - Talcosis
5. Coal pneumoconiosis - definition, etiology, pathogenesis, forms, clinical picture, diagnosis, treatment, labor-expert assessment.
6. Individual work with patients, discussions.

EXERCISE № 5 - 2 hours

OCCUPATIONAL ALLERGIC DISEASES. OCCPATIONAL BRONCHITIS

1. Classification of occupational allergic diseases.
2. Occupational bronchial asthma:
 - Definition, etiology, pathogenesis, classification;
 - Clinical picture;
 - Basic criteria for diagnosis and evaluation of occupational etiology of asthma;
 - Treatment, labor-expert assessment;
 - Presentation and discussion of clinical cases with occupational bronchial asthma.
3. Rhinites - definition, etiology, pathogenesis, classification and forms of ARIA, clinical picture, criteria for diagnosis and evaluation occupational etiology of rhinitis, principles of treatment, pharmacotherapy, specific immunotherapy, labor-expert assessment. Presentation and discussion of clinical cases.
4. Conjunctivites.
5. Contact allergic dermatitis - definition, etiology, pathogenesis, clinical picture, diagnostic criteria, treatment and labor-expert assessment.
6. Occupational chronic bronchitis - definition, etiology, pathogenesis, classification.
Particularities in the clinical picture and the course of individual forms of occupational bronchitis.

8. Basic criteria for assessing the occupational nature of chronic bronchitis.
9. Differential diagnosis, treatment, occupational-expert evaluation of occupational chronic bronchitis.
10. Presentation and discussion of clinical cases.

EXERCISE № 6 - 2 hours

OCCUPATIONAL DISEASES OF THE NERVOUS AND MUSCULOSKELETAL SYSTEM.

1. Occupational diseases of the peripheral nervous system: radiculitis, mononeuropathies, polyneuropathies - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.

Upper limb autonomic polyneuropathy:

- definition;
- risk groups and factors;
- pathogenesis;
- clinical classification;
- features in the clinical picture and the course of the diseases;
- diagnostic criteria;
- treatment, labor-expert assessment;
- presentation and discussion of clinical cases.

3. Occupational diseases of the central nervous system: cerebraesthesia, encephalopathy - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.

3. Occupational diseases of the musculoskeletal system: tendomyositis, epicondylitis, periartrosis, arthrosis, osteoporosis - etiology, pathogenesis, diagnosis, differential diagnosis, treatment, medical expertise.

4. Prophylaxis of occupational diseases of the nervous and musculoskeletal system.

EXERCISE № 7 - 3 hours

VIBRATION DISEASE. PRINCIPLES AND METHODS IN THE DIAGNOSIS OF OCCUPATIONAL DISEASES DUE TO VIBRATIONS AND BIOMECHANICAL RISK FACTORS

1. Definition, risk groups and factors, clinical classification, pathogenesis.
2. Clinical picture of vibration disease by hand-arm vibration impact.
3. Clinical picture of vibration disease caused by whole-body vibration.
4. Criteria for diagnosis, differential diagnosis between the two forms of vibration disease and other diseases.
5. Treatment, labor-expert assessment.
6. Presentation and discussion of patients with vibration disease.

7. Most commonly used methods for the diagnosis of occupational diseases from vibration and overstrain of the musculoskeletal and the peripheral nervous system.

8. Imaging diagnostics - X-ray and CT, readings, informative, diagnostic value.

9. Doppler sonography, angiography of upper limbs.

10. To acquaint the students with the following methods:

- cold provocation test of the limbs;

- palesthesiometry;

- reodermometry;

- alternating dynamometry;

- capillaroscopy.

Indications, technique of performance, interpretation of results in specific patients.

CLINICAL TOXICOLOGY

EXERCISE № 1 - 3 hours

TOXICOLOGICAL ASSISTANCE IN BULGARIA. ALLERGIC AND TOXO-ALLERGIC SHOCK.

Introducing students to:

1.1. Outpatient and inpatient toxicological assistance in Bulgaria.

1.2. Composition, structure and functions of the Regional Toxicology Center.

1.3. Allergic and toxic-shock-allergic - etiology, pathogenesis, clinical manifestations.

1.4. Organization of urgent outpatient and stationary medical care for acute poisoning and allergic shock

1.5. Behavior of the physician and other medical professionals. "Scheme 10" Analysis.

EXERCISE № 2 - 2 hours

PATHOGENESIS, DIAGNOSTICS, TREATMENT, BEHAVIOR IN ACUTE INTOXICATION IN THE OUTPATIENT STAGE

2.1 Pathogenesis of poisoning - Explanation, interpretation, interpretation of toxic aggression, natural physiological protection and additional medical protection - principles, logical conclusions

2.2. Basic Methods of Diagnosis and Treatment of Poisoning - List and Explanation.

2.3. Demonstration of healing tactics, behavior chart physician team and medical specialists in acute poisoning in pre-hospital stage, illustration with medical documents and patients

2.4 Practical life-saving and detox procedures - demonstration of techniques, illustration with documents, apparatus and narrative of patients.

EXERCISE № 3 - 2 hours

ACUTE POISONING WITH DRUGS WITH PREVAILING CEREBRO-DEPRESSIVE SYNDROME (BENZODIAZEPINES, BARBITURATES AND NEUROLEPTICS)

3.1. Diagnosis - symptoms and syndromes.

3.2. First medical care and practically life-saving behavior of the physician.

3.3. Major healing measures at the station. Closest differential diagnostic options. Illustration of hospital documentation or hospitalized patients.

EXERCISE № 4 - 2 hours

ACUTE POISONING WITH DRUGS THAT IMPACT ON CARDIOVASCULAR SYSTEM (ANTIHYPERTENSIVE, DIGITALIS GLYCOSIDES, DIURETICS)

4.1 Diagnosis - symptoms and syndromes.

4.2. First medical care and practically life-saving behavior of the physician. Use of antidotes.

4.4. Major healing measures at the hospital.

4.5 Closest differential diagnostic versions. Illustration with hospital documentation or hospitalized patients.

EXERCISE № 5 - 2 hours

ACUTE POISONING WITH BIOCIDES (ORGANOPHOSPHATES, CARBAMATES AND PYRETHROIDS) AND TECHNICAL PREPARATIONS (ACIDS, BASES, ANTIFREEZE)

Acute poisoning with biocides (organophosphates, carbamates and pyrethroids) - 1 h.

Acute poisoning with technical preparations - acids, bases, antifreeze - 1 h.

5.1. Diagnosis.

5.2. First medical care and life-saving behavior of the physician. Use of antidote.

5.3. Major healing measures at the station.

5.4. Adrenal decontamination techniques. Illustration.

EXERCISE № 6 - 2 hours

POISONING WITH BIOLOGICAL TOXINS - SNAKE VENOM, ARTHROPODS, FUNGI

6.1 Current epidemiology

6.2. Phaloid mushroom intoxication - diagnosis, clinical picture, urgent pre-hospital medical care,

6.3. Hospital treatment.

6.4. Closest differential diagnostics options. Illustration with hospital documentation or hospitalized patients.

EXERCISE № 7 - 2 hours

ACUTE POISONING WITH NARCOTICS (HEROIN, AMPHETAMINE) AND ALCOHOL (ETHYL, METHYL).

7.1 Life saving practical nursing care

7.2 Hospital medical care.

ESSAYS THEMES ON OCCUPATIONAL DISEASES

1. Occupational disorders and lead intoxication.
2. Occupational intoxication with mercury.
3. Occupational manganese and cadmium intoxications.
4. Occupational Intoxications with Organic Solvents.
5. Occupational acid and base intoxications.
6. Occupational damage due to occupational physical risk factors in the working environment and the labor process.
7. Occupational allergic diseases.
8. Occupational diseases from static and dynamic physical load and microtrauma.
9. Pneumoconioses.
10. Occupational neoplasms.
11. Occupational diseases of the skin.
12. Occupational diseases of analysers.
13. Risk assessment and prognosis of occupationally induced diseases, risk profile.
14. Prophylactic programs to prevent the occurrence of occupational disabilities and work-related diseases - types, objectives, organization and control.
15. Promotion of oral health in the impact of risk factors in the working environment - aim, methods of impact on the individual, role of society.

ESSAYS THEMES ON CLINICAL TOXICOLOGY

1. Epidemiology of intoxications worldwide and in Bulgaria.
2. Bulgarian herbs with toxic potential.
3. Antidote drugs - from antiquity to modern times.
4. Poisons and poisoning in antiquity – toxo-pharmaceutical foundations.
5. Comparative characterization of the benzodiazepine toxic properties.
6. Contemporary neuroleptics - comparative pharmaco-toxicological characteristic.
7. Drug toxicity of medications regulating heart rate.
8. New Drugs - pharmacological characteristics and toxicological hazards.
9. Comparative characterization of poisoning with alcohols - ethyl, methyl, ethylene glycol.
10. The most poisonous animals and plants around the world.

QUESTIONS FOR INDIVIDUAL PREPARATION ON OCCUPATIONAL DISEASES

Theme 1

INTRODUCTION IN OCCUPATIONAL PATHOLOGY

1. What is the definition of an occupational disease according to the Ordinance on the Procedure for Notification, Registration, Confirmation, Appeal and Reporting of Occupational Diseases
2. Why is it necessary to have a specific legal framework for occupational diseases require?
3. On what principle is the List of Occupational Diseases established and what is its content?
4. What types of diseases exist according to the classification of occupational diseases?
5. What does a specific occupational disease mean?
6. What does a conditional occupational disease mean?
7. What does a paraoccupational or work-related illness mean?
8. What are the main principles of diagnosis, treatment, expertise in occupational diseases?
9. What are the main principles in the prevention of occupational diseases and dental disorders.
10. What are the main preventive measures for occupational diseases?

Theme 2

VIBRATION DISEASE

1. What is the definition of vibration disease?
2. What are the risky professions with exposure to local vibration effects?
3. What are the main pathogenetic mechanisms of local vibration damage?
4. What are the clinical manifestations of vibrational disease due to local vibrations?
5. What are the common methods for diagnosing vibrational disease by local vibration?
6. What are the main professions exposed to general vibrations in working conditions?
7. What are the main syndromes that build up the clinical picture of vibrational disease from common vibrations?
8. What diagnostic methods contribute to the proving of vibrational disease by total vibrational impact?
9. What are the criteria for the diagnosis of vibrational disease by local and / or general vibrations?
10. What Is The Treatment Of Damage By Vibration?

Theme № 3

PNEUMOCINIOSES

1. What is the definition of pneumoconiosis?
2. What are the types of pneumoconiosis?
2. What is the etiology of silicosis?
4. What are the main pathomorphic changes, clinical manifestations, and methods for demonstrating silicosis?
5. What is the definition of silicosis?
6. What are the most common types of silicosis?
7. What are the main diagnostic principles?
8. What is characteristic of coal pneumoconiosis?
9. What are the main elements of medical expertise in pneumoconiosis?
10. How is a diagnosis of silicosis, asbestosis?
11. What are the complications of pneumoconiosis?
12. What is the treatment of pneumoconiosis?
13. What is the prevention of pneumoconiosis?

Theme № 4

OCCUPATIONAL ALLERGIC DISEASES

1. Which allergic diseases can be occupationally determined?
2. What are the main clinical manifestations of bronchial asthma and what are the criteria for occupational diagnosis?
3. What is the etiology and clinical characteristic of the binosis?
4. What is the hypersensitivity pneumonitis - etiology, clinical picture, diagnosis, treatment?
5. What are the main allergic diseases of the upper respiratory tract?
6. Give examples of occupational allergic diseases to the eye analyzer.
7. Which skin diseases can be occupationally induced?
8. What are the criteria for assessing the occupational origin of occupational allergic diseases?

9. What is the treatment of occupational allergic diseases?
10. What are the measures for the prevention of occupational allergic diseases?

Theme № 5

OCCUPATIONAL DISEASES THE NERVOUS AND MUSCULOSKELETAL SYSTEMS

1. What are the major occupational diseases of the peripheral nervous system?
2. What risk factors in the working environment cause occupational diseases of the peripheral nervous system?
3. What are the basic principles for the occupational diagnosis of the musculoskeletal and peripheral nervous system due to overstrain and microtrauma?
4. What are the major etiological factors in the work environment that cause occupational disorders of the central nervous system?
5. What are the most common occupational diseases of the musculoskeletal system?
6. What are the main occupational risk factors that cause injuries to the musculoskeletal system?
7. What methods are used to diagnose occupational nervous and musculoskeletal disorders?
8. What are the main principles for the occupational diagnosis of musculoskeletal disorders?
9. What is the treatment of occupational disorders of the nervous and musculoskeletal system?
10. What are the main preventive measures to prevent the occurrence of diseases of the nervous and musculoskeletal system of an occupational nature?
11. What is secondary and tertiary prophylaxis in this pathology

Theme № 6

OCCUPATIONAL HEALTH EFFECTS DUE TO HEAVY METALS, ORGANIC SOLVENTS, ACIDS, BASES, PLASTICS, IRRITATING GASES

1. What are the main syndromes of professional lead intoxication?
2. What does biomarker of exposure mean?
3. What does biomarker mean?
4. What are the laboratory tests that contribute to the diagnosis of lead intoxication?
5. What are the main clinical syndromes in occupational mercury intoxication?
6. How is mercury intoxication diagnosed?

7. What are the main clinical manifestations of manganese and cadmium poisoning?
8. What are the characteristics of occupational poisoning with organic solvents - benzene, benzene, amino- and nitro-derivatives of benzene?
9. What are the occupational disabilities of acids and bases?
10. What causes professional poisoning with monomers of synthetic resins and plastics?
11. What are the basic principles for diagnosing occupational intoxications?
12. What are occupational injuries from irritating money and gases?
13. What are the typical clinical manifestations of carbon monoxide poisoning?

Theme № 7

OCCUPATIONAL NEOPLASMS

1. What are the main occupational risk factors that have a proven carcinogenic effect?
2. What causes occupational carcinogens?
3. How is the occupational nature of neoplastic disease proven?
4. What is the prevention of occupational neoplasms?
5. What is typical of the expertise of occupational neoplasms?

Theme № 8

OCCUPATIONAL DISEASES OF BIOLOGICAL FACTORS

1. What are the diseases of biological risk factors in the working environment?
2. What are the risky professions in which these diseases can be observed?
3. What are the main criteria for assessing the occupational nature of an infectious or parasitic disease?
4. What is the treatment of occupational diseases by biological factors?

Theme № 9

OCCUPATIONAL SKIN DISEASES

1. What are the most common occupational skin diseases?

2. What are the criteria for assessing the occupational genesis of skin diseases?
3. What is the treatment and prevention of occupational skin diseases?

QUESTIONS ON CLINICAL TOXICOLOGY FOR INDIVIDUAL WORK (by themes)

1. Toxic coma
2. Toxic pulmonary edema
3. Antidotes - classification, examples and application
4. Acute poisoning with toxic gases
5. Acute poisoning with tricyclic antidepressants (TAD)
6. Acute poisoning with carbon
7. Toxicological syndromes - according to the clinical pathway standard 293

LITERARY SOURCES FOR PREPARATION IN CLINICAL TOXICOLOGY

1. Илиев Я. Пропедевтика на клиничната токсикология ИК-ВАП, Пловдив 2012
2. Yanko Iliev. "Clinical toxicology: lectures for medical students". ИК-ВАП, Пловдив 2012
3. "Тестове по клинична токсикология за самоподготовка и обучение" п/р на Я. Илиев ИК – ВАП Пловдив 2009 г.
4. "Остри отравяния". П/р на Ст. Андонова, II-ро преработено и допълнено изд. "Райков", Пловдив 2000
5. Монов Ал., Клинична токсикология. София, Венел ООД, 1997
6. Александров Н., Практическа спешна токсикология. "Знание" ЕООД, 2000
7. "Отравяния и злополуки в детската възраст". П/р на Хр. Михов и Т. Шмилев. МИ ЕТ" Васил Петров", Пловдив, 2003
8. "Упражнения по Клинична токсикология / асистенти

Additional sources - reviewed manuals and monographs in English, French, German and Russian, subject to prior approval by the Habilitate or Assistant Leader.

POS. Data from Internet sites to be considered unverified!

LITERARY SOURCES FOR PREPARATION IN OCCUPATIONAL DISEASES

1. Хигиена и професионални заболявания, П/р Вл. Бояджиев, С., МФ, 1981.
2. Остри отравяния, П/р Ст. Андонова, Пловдив, Райкови, 2002 г.
3. Професионални болести, П/р А. Савов, С., Рал и Колобър, 2003 г.
4. Професионални болести, П/р В. Костова и В. Петкова, С., Рал и Колобър, 2007.
5. Хигиена, хранене и професионални болести. П/р Б. Попов, С., 2009 г.
6. Textbook on occupational diseases. Sofia, Ralkolober, 2010.

CONSPESTUS

OCCUPATIONAL DISEASES AND TOXICOLOGY SYLLABUS

Specialty “Medicine”

III year

1. Occupational diseases – definition, classification, list of occupational diseases.
Main principles of diagnostics, treatment, expertise and medical prophylaxis.
2. Occupational disease and occupational accident. Expertise of occupational diseases – principles, registration procedures, legal outcomes.
3. Pneumoconiosis – classification, etiology, pathogenesis. Silicosis – clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.
4. Silicosis: asbestosis, talcosis, kaolinosis – etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.
5. Coal worker’s pneumoconiosis – etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.
6. Occupational chronic bronchitis – classification, etiology, pathogenesis, clinical manifestations, diagnosis, diagnostic criteria for occupational etiology, differential diagnosis, treatment, medical expertise.
7. Occupational respiratory allergic diseases. Occupational bronchial asthma. Bisinosis. Etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, diagnostic criteria for occupational etiology, treatment, medical expertise.
8. Hypersensitivity pneumonitis - etiology, pathogenesis, clinical manifestation, diagnosis, treatment, medical expertise.

9. Occupational intoxications with irritant gasses (fluorine, hydrogen fluoride, chlorine, hydrogen chloride or sulfide, ammonia, sulfur dioxide). Etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
10. Occupational intoxications with nitrogen oxides – etiology, pathogenesis, clinical manifestation, diagnosis, treatment, medical expertise.
11. Occupational intoxication with carbon monoxide - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
12. Occupational intoxications with non-organic lead compound (chronic saturnism) - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
13. Occupational intoxications with organic lead compounds (tetraethyl lead) - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
14. Occupational intoxications with non-organic mercury compounds (mercurialism) - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
15. Occupational intoxications with non-organic manganese compounds - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
16. Occupational intoxications with cadmium compounds - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
17. Occupational intoxications with arsenic compounds - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
18. Occupational intoxications with nickel, chromium and compounds - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
19. Occupational intoxications with organic solvents: petrol - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
20. Occupational intoxications with benzene and its compounds (xylene, styrene, toluene) - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
21. Occupational intoxications with nitro- and amino-benzenes - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
22. Occupational intoxications with carbon disulfide - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.

23. Occupational intoxications with monomers of synthetic resins and plastics - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
24. Acute and chronic intoxications with pesticides – classification, pathogenesis, specific toxicity, clinical manifestations of the most common intoxications (organophosphate, chlorinated pesticides, carbamates, dithiocarbamates), occupational risk, diagnostic and therapeutic algorithm.
25. Lateral and medial epicondylitis - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
26. Tendomyosis of the lower arm - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
27. De Quervain's disease - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
28. Stenosing flexor tenosynovitis (trigger finger) - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
29. Humeroscapular periarthrititis - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise.
30. Occupational bone and joint diseases - etiology, pathogenesis, clinical manifestations, occupational diagnostic criteria, treatment, medical expertise.
31. Occupational radiculopathy - etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.
32. Occupational distal autonomic neuropathy of upper limbs - etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.
33. Mononeuropathy in entrapment compression syndromes of the carpal, cubital and Guyon's canal - etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.
34. Vibration disease due to hand-arm vibration- etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.
35. Vibration disease due to whole-body vibration - etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.

36. Occupational hearing impairments - etiology, pathogenesis, clinical manifestations, diagnosis, treatment, medical expertise and prophylaxis. Health Effects of Exposure to Ultrasound and Infrasound.
37. Occupational skin diseases - etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, medical expertise.
38. Occupational neoplasms - etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, criteria for occupational diagnosis, treatment, medical expertise.
39. Occupational diseases due to biological factors - etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, criteria for occupational diagnosis, treatment, medical expertise.
40. Pathogenesis of intoxication – toxicokinetic mechanisms.
41. Treatment methods of acute intoxications – united therapeutic scheme, principles, means and methods of cleansing of the entrance of toxins, methods for blood depuration (haemodepuration).
42. Antidote detoxification.
43. Acute toxic respiratory injuries.
44. Acute barbiturate intoxications.
45. Acute intoxications with benzodiazepines.
46. Acute intoxications with antidepressants
47. Acute intoxications with narcotics.
48. Acute intoxications with atropine.
49. Acute alcohol intoxications – ethyl, methyl
50. Acute intoxications with ethylene glycol
51. Acute intoxications with tetrachlormethane
52. Acute intoxications with chinine
53. Acute intoxications with antipyretics – aspirin, paracetamol
54. Acute intoxications with cyanide compounds
55. Acute intoxications with digitalis preparations.
56. Snake poison intoxications.

57. Phaloid mushroom intoxications
58. Muscarinic and myco-atropine mushroom intoxication.
59. Acute alkaline and acidic intoxications
60. Anaphylactic shock – definition, etiology, pathogenesis, types, clinical manifestations, diagnostic and therapeutic algorithms.

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