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MINISTRY OF HEALTH PROTECTION OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY

Department of occupational pathology and functional diagnostics

«APPROVED»



Vice-rector for scientific and pedagogical work

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Eduard BURIACHKIVSKYI

" " _____ 2023

**METHODICAL RECOMENDATIONS FOR PRACTICAL LESSONS
FROM EDUCATIONAL DISCIPLINE**

Course: 5. Faculty: international

Educational discipline: "Occupational diseases"

Approved:

Meeting of the Department of Occupational Pathology and Functional Diagnostics
of ONMedU, Minutes No. 1, dated August 30, 2023.

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Practical lesson No. 1

Topic: General issues of occupational pathology. Medical examinations

Purpose: to form a clear idea about the differences of occupational diseases, to work out the algorithm for establishing the occupational nature of the disease, the algorithm for constructing an investigation of an accident at work; to expand knowledge about medical examinations, their organization, conduct, significance, which documents regulate them; analyze what conclusions the commission can make after completing the medical examination.

Basic concepts: occupational pathology; harmful production factor; sanitary and hygienic working conditions, preliminary, periodic and emergency medical examinations; examination of working capacity.

Equipment: multimedia projector, laptop with presentation.

Plan:

1. Organizational measures: greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic.

2. Control of the reference level of knowledge: frontal survey on knowledge of basic terminology.

3. Questions (test tasks) to check basic knowledge on the subject of the lesson:

1. List the main groups of occupational diseases:

a)

b)

c)

d)

e)

f)

g)

2. Name the main documents regulating detection, accounting and prevention of occupational diseases.

3. Indicate into which stages the process of establishing the occupational nature of the disease is divided

4. List the documents that should be analyzed to establish the connection between the disease and the production activity

5. What is the main task of periodic medical examination of employees?

6. What is the main task of the preliminary medical examination of employees?

4. Discussion of theoretical issues:

- the main differences of occupational diseases
- to build an algorithm for the investigation of an accident at work;
- to build an algorithm for establishing the occupational nature of the disease.
- what conclusions can the commission draw upon completion of the medical examination?

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of answers of higher education applicants, etc.

5. Topics of reports/abstracts:

1. Accounting, registration and investigation of cases of occupational poisoning and occupational diseases.
 2. Conducting medical examinations during martial law in Ukraine
- Note.* When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summary: presentation of current grades

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2018. – 496 p.

2. Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.

3. Electronic information resources:

- http://www.ifp.kiev.ua/ftp1/metoddoc/nastanova_hozl_2020.pdf

- https://www.dec.gov.ua/wp-content/uploads/2019/11/2013_555hozl_ykpm.pdf

- <https://tkoz.sumy.ua/pamjatka-dlja-pacienta-z-hronichnim-obstruktivnim-zahvorjuvannjam-legen/>

Practical lesson No. 2

Topic: Pneumoconiosis, chronic bronchitis and chronic obstructive lung disease of dust etiology.

Purpose: to form a clear idea of the sequence and practice skills in case of suspicion, diagnosis, establishing a diagnosis and carrying out an examination of work capacity in patients with the occupational disease pneumoconiosis, to expand knowledge about the diagnosis and differential diagnosis of chronic bronchitis and chronic obstructive pulmonary disease of dust etiology, as an occupational disease.

Basic concepts: Pneumoconiosis; silicosis; silicates; asbestosis; talcose; anthracosis; metalloconiosis; carboconiosis; byssinosis; interstitial fibrosis; nodular and nodular pneumoconiosis; dust bronchitis; occupational bronchial asthma; chronic obstructive pulmonary disease (COPD).

Equipment: multimedia projector, laptop with presentation.

Plan:

- 1. Organizational measures:** greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic.
- 2. Control of the reference level of knowledge:** frontal survey on knowledge of basic terminology.
- 3. Questions (test tasks) to check basic knowledge on the subject of the lesson:**
 1. Epidemiology of silicosis.
 2. Basic theories of the development of silicosis.
 - a)
 - b)
 - c)
 3. Specify the clinical, Rö-logical, spirometric signs of the 1st stage of silicosis:
 - a) clinic:
 - b) Rö:
 - c) FEB:
 4. Specify the clinical, Rö-logical and spirometric signs of the II stage of silicosis:
 - a) clinic:

b)Rö:

c)FEB:

5. List the main complications of silicosis

6. Examination of working capacity for silicosis

I stage.

II stage

III stage

Tests:

1. Professions in which silicosis occurs include:

1) Drillers

2) Gas welders 3) cutters

2. Pneumoconioses from inhalation of dust containing asbestos, talc, cement belong to the group:

1) silicates

2) carboconiosis

3) metalloconiosis

3. Morphological changes in the lungs are characteristic of pneumoconiosis:

1) interstitial fibrosis 3) nodular fibrosis

2) infiltrates 4) nodular fibrosis

4. Complications of silicosis:

1) Chronic bronchitis 4) pulmonary heart

2) Tuberculosis 5) respiratory failure

3) COPD 6) all of the above

5. The leading method in the diagnosis of pneumoconiosis:

1) radiography

2) fibrobrochoscopy

3) spirometry

4. Discussion of theoretical issues:

1. To characterize industrial dust as a harmful factor - causes of formation, classification, effect on the body;
2. To define the MPC in occupational pathology. Establish the reasons for the conditionality of the MPC;
3. Define pneumoconiosis;
4. To divide pneumoconioses into separate nosoforms depending on the professional factor, clinical form and X-ray picture.
5. To determine the morphological changes in pneumoconiosis and to specify the pathogenetic mechanisms of their development;
6. To analyze the changes in indicators of laboratory, functional and radiation methods of diagnosis in silicosis using real or conditional medical histories of patients with silicosis;
7. Develop a silicosis treatment program.
8. To determine the leading methods of prevention of silicosis.

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of the answers of higher education, etc.

5. Topics of reports/abstracts:

1. Chronic dust bronchitis.
2. Chronic obstructive pulmonary disease.

Note. When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summary: presenting current assessments

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2018. – 496 p.
2. Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.
3. Electronic information resources:
- http://www.ifp.kiev.ua/ftp1/metoddoc/nastanova_hozl_2020.pdf

-https://www.dec.gov.ua/wp-content/uploads/2019/11/2013_555hozl_ykpm.pdf

-<https://tkoz.sumy.ua/pamjatka-dlja-paciiienta-z-hronichnim-obstruktivnim-zahvorjuvannjam-legen/>

- <https://vseosvita.ua/user/id844988/blog/pnevmokoniozy-33338.html>

Practical lesson No. 3

Topic: Occupational neurotoxicosis. Mercury, lead, manganese intoxication.

The goal: to form a clear idea of the sequence and practice skills in the case of suspicion, diagnosis, establishment of a diagnosis and performance of work capacity examination in patients with occupational neurotoxicosis, to expand knowledge about the manifestations, diagnosis, treatment, prevention and examination of work capacity in case of occupational intoxication with mercury, lead, manganese,

Basic concepts: Neurotoxicosis; acute and chronic poisoning; saturnism, antidote therapy, manganese parkinsonism.

Equipment: multimedia projector, laptop with presentation.

Plan:

1. Organizational measures: greetings, verification of those present, notification of the topic, the purpose of the lesson, motivation of students of higher education to study the topic.

2. Control of the reference level of knowledge: frontal survey on knowledge of basic terminology.

3. Questions (test tasks) to check basic knowledge on the subject of the lesson:

3.1. What pathological cells of the erythrocyte series are most often found in lead intoxication?

1. Poikilocytes
2. Microcytes
3. Macrocytes
4. Basophilic erythrocytes
5. Normoblasts

3.2. What type of anemia develops with lead intoxication?

1. Aplastic

2. Iron deficiency
3. Hemolytic
4. Sideroachristian
5. All of the above

3.3. What clinical syndromes occur with lead intoxication?

1. Asthenovegetative
2. Vegetative-sensory polyneuropathy
3. Gastrointestinal
4. Anemic syndrome
5. All of the above

3.4. What combination of clinical syndromes is characteristic of lead intoxication?

1. Intense pains in the abdomen without specific localization, dyspeptic phenomena, lack of bowel movement, increased blood pressure, bradycardia
2. Intense abdominal pain, positive symptoms of damage to the peritoneum, dyspeptic symptoms, lack of bowel movements, low blood pressure, tachycardia
3. Intense abdominal pain, mostly in the right hypochondrium with radiation to the lower back and right shoulder blade, dyspeptic symptoms, tachycardia, increased body temperature
4. Intense pains in the abdomen, mostly in the area of the left hypochondrium with radiation to the left iliac area, dyspeptic and dysuric phenomena
5. Sudden "stabbing" pain in the abdomen, sharply positive peritoneal symptoms, colaptoid state

3.5. What clinical syndromes are characteristic of the initial form of chronic lead intoxication?

1. Asthenovegetative syndrome
2. Toxic anemia
3. Vegetative-sensory polyneuropathy
4. Lead colic
5. Increased indicators of red blood regeneration, reticulocytosis, increased number of basophilic erythrocytes

3.6. The use of which drug is the most effective for isolation therapy in chronic lead intoxication?

1. Methylene blue
2. Sodium thiosulfate
3. Unitiol
4. Dipiroxime
5. Sodium iodide

4. Discussion of theoretical questions:

1. In which industries does mercury poisoning occur?
2. Which poisons include mercury and its derivatives?
3. What is the leading clinical syndrome in chronic mercury intoxication?
4. What changes in the psyche develop against the background of chronic mercury intoxication?
5. What contraindications to working with mercury do you know?
6. Examination of working capacity depending on the stage of chronic mercury intoxication.

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of answers of higher education applicants, etc.

5. Topics of reports/abstracts:

1. Chronic lead poisoning
2. Manganese poisoning. Manganese parkinsonism.

Note. When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summary: presenting current assessments

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2018. – 496 p.

2.Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.

3.Electronic information resources:

- http://www.ifp.kiev.ua/ftp1/metoddoc/nastanova_hozl_2020.pdf

-https://www.dec.gov.ua/wp-content/uploads/2019/11/2013_555hozl_ykpmd.pdf

Practical lesson No. 4

Topic: Professional intoxication with benzene, amino- and nitrocompounds of benzene.

Purpose: to form a clear idea of the sequence and practice skills in case of suspicion, diagnosis, establishing a diagnosis and carrying out an examination of work capacity in patients with occupational intoxication with benzene or its compounds, to expand knowledge about changes in blood tests in the case of these poisonings.

Basic concepts: acute and chronic benzene poisoning; anemia; toxic anemia; aplastic anemia

Equipment: multimedia projector, laptop with presentation.

Plan:

1. Organizational measures: greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic.

2. Control of the reference level of knowledge: frontal survey on knowledge of basic terminology.

3. Questions (test tasks) to check basic knowledge on the subject of the lesson:

- Specify the mechanism of action of benzene on the human body.
- Describe the clinic of chronic poisoning with aromatic carbohydrates
- What diagnostic criteria for benzene poisoning do you know?
- What contraindications to working with benzene do you know?

TESTS:

1. What is the nature of the toxic effect of benzene in acute inhalation poisoning?

1. Hepatotoxic

2. Nephrotoxic
3. Hemolytic
4. Narcotic
5. Irritable

2. What medical measures or drugs should be used in case of acute poisoning by benzene vapors?

1. Stop contact with benzene
2. Oxygen and carbogen therapy
3. Stimulators of the respiratory center (lobelin or cytiton)
4. Cardiovascular means
5. All of the above

3. What drugs are contraindicated in acute benzene poisoning?

1. Caffeine
2. Adrenaline
3. Cordiamine
4. Sulfocamphocaine
5. Lobelin

4. What expert decision should be made in acute inhalation poisoning with benzene of moderate severity, which ended in recovery?

1. Issue a sick list for 5-7 days
2. Issue a sick list for 25 days
3. Issue a professional bulletin
4. Send to MSEK

5. What is the nature of the action of benzene in chronic intoxication?

1. Damage to the kidneys
2. Suppression of hematopoiesis
3. Damage to the kidneys
4. Damage to the central nervous system
5. Damage to the respiratory system

4. Discussion of theoretical issues:

- criteria of toxic anemia;
- the main pathogenetic mechanisms of action of blood poisons.
- pathogenetic mechanisms in benzene poisoning.
- forms of damage to the nervous system, liver and gonads in chronic benzene poisoning
- diagnostic criteria of aplastic anemia;

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of answers of higher education applicants, etc.

5. Topics of reports/abstracts:

1. Algorithm for establishing the occupational nature of the disease in case of benzene intoxication.
2. Prevention when working with benzene and its homologues. The importance of medical examinations.

Note. When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summary: presenting current assessments

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2018. – 496 p.

2. Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.

3. Electronic information resources:

<https://emergency.zaslavsky.com.ua/index.php/journal/article/download/1432/1480/524>

Practical lesson No. 5

Topic: Professional intoxication with compounds used in agricultural work

Purpose: to form a clear idea of the sequence and practice skills in case of suspicion, diagnosis, establishment of a diagnosis and performance of performance examination in patients with occupational intoxication with compounds used in agricultural work (organochlorine compounds, organophosphorus compounds, pesticides), to expand knowledge about changes in blood tests and urine in these poisonings.

Basic concepts: pesticides; organochlorine compounds (OCC), organophosphorus compounds (OPCs), toxic nephropathy, chronic renal failure.

Equipment: multimedia projector, laptop with presentation.

Plan:

1. Organizational measures: greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic.

2. Control of the reference level of knowledge: frontal survey on knowledge of basic terminology.

3. Questions (test tasks) to check basic knowledge on the subject of the lesson:

3.1. What is the possible route of entry of phosphorus-, chlorine-, organomercury and other pesticides into the body:

1. Respiratory organs
2. Skin
3. Digestive organs
4. Respiratory organs and skin
5. All of the above

3.2. What form of pesticide intoxication is possible under production conditions?

1. Acute
2. Subacute
3. Chronic
4. Acute and subacute
5. All of the above

3.3. Which group of pesticides has the ability to accumulate?

1. Organophosphorus compounds
2. Organochlorine compounds

3. Synthetic pyrethroids
4. Derivatives of carbamic acids
5. All of the above

3.4. What pathogenetic mechanism is the main one in intoxication with organophosphorus compounds?

1. Inactivation of cholinesterase
2. Formation of methemoglobin
3. Blockade of sulfhydryl groups
4. Blockade of tissue respiration enzymes
5. Blockade of cholinergic receptors

3.5. What pathogenetic mechanism is the main one in intoxication with organochlorine pesticides?

1. Inactivation of cholinesterase
2. Formation of methemoglobin
3. Blockade of sulfhydryl groups
4. Blockade of tissue respiration enzymes
5. Blockade of cholinergic receptors

4. Discussion of theoretical issues:

1. Clinical symptoms of OPC poisoning:

- muscarinic
- nicotine-like
- central

2. What expert decision should be taken after a course of treatment for pesticide intoxication in the presence of persistent asthenovegetative syndrome and why.

3. What expert decision should be taken after a course of treatment for pesticide intoxication in the presence of pronounced vegetative-sensory polyneuropathy and why.

4. Build an accident investigation algorithm using OPC.

5. Build an algorithm for establishing the professional nature of acute OPC poisoning.

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of answers of higher education applicants, etc.

5. Topics of reports/abstracts:

1. Three stages of development of acute OPC poisoning.
2. Intoxication by organomercury pesticides.

Note. When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summary: presenting current assessments

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2018. – 496 p.

2. Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.

3. Electronic information resources:

<https://urgent.com.ua/ua/archive/2007/5%287%29/article-84>

<https://dastyle.cv.ua/?p=8016>

<https://urgent.com.ua/ua/archive/2008/2%2810%29/article-122/intoksikaciyi-hlororganichnimi-spolukami>

Practical lesson No. 6

Topic: Occupational diseases are associated with the action of a biological factor: infectious (COVID-19), parasitic.

Purpose: to form a clear idea of the sequence and practice skills in case of suspicion, diagnosis, establishing a diagnosis and carrying out an examination of work capacity in patients with occupational diseases related to the action of a biological factor, to expand knowledge about the algorithm for establishing an occupational disease in medical workers related to COVID -19.

Basic concepts: coronavirus disease (COVID-19), SARS-CoV-2 coronavirus, saturation, "frosted glass" symptom, PCR diagnostics, ELISA diagnostics, Decree of the CMU of April 17, 2019 under No. 337.

Equipment: multimedia projector, laptop with presentation.

Plan:

1. Organizational measures: greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic.

2. Control of the reference level of knowledge: frontal survey on knowledge of basic terminology.

3. Questions (test tasks) to check basic knowledge on the subject of the lesson:

1. Which of the medicines most often cause occupational diseases of medical workers?

1) atropine 4) antibacterial drugs

2) analgin 5) strophanthin

3) dibazol 6) prednisolone

2. The main manifestations of the toxic effect of antibacterial drugs:

1) asthenovegetative syndrome 4) dysbiosis

2) sensorineural deafness 5) osteoporosis

3. Target systems during the toxic effect of drugs and disinfectants:

1) nervous system 4) immune system

2) blood system 5) all of the above

3) respiratory system

4. What parasitic diseases can be occupational?

1) Helminth infections

2) Protozoonosis

3) Entomoses

4) Akarios

5) Tuberculosis

5. Workers of which occupations are most often affected by occupational toxoplasmosis?

- 1) Pigs
- 2) Milkmaids
- 3) Rabbits
- 4) Meat processing plant workers
- 5) Builders

6. Which of the presented groups of infectious diseases can be occupational?

- 1) Intestinal infections
- 2) Respiratory tract infections
- 3) Infections of the outer coverings
- 4) Genital infections

7. According to WHO, common symptoms of COVID-19 include:

- 1) fever (temperature - 37.5 or higher degrees Celsius);
- 2) cough - there can be any type of cough, not only dry;
- 3) shortness of breath;
- 4) difficulty breathing;
- 5) all of the above.

8. Respiratory hygiene measures and cough etiquette include:

- 1) the need to cover the nose and mouth with a napkin or a bent elbow when coughing or sneezing;
- 2) observing hand hygiene (washing them with soap) after contact with secretions from the respiratory tract;
- 3) avoiding touching the eyes, nose and mouth with potentially contaminated hands;
- 4) wearing a medical mask for suspected COVID-19 by those who have no contraindications to it.
- 5) all of the above.

9. Clinical and diagnostic manifestations: fever above 38 °C; respiratory rate more than 22/min; shortness of breath during physical exertion; pneumonia (confirmed by computed tomography of the lungs); SpO₂ <95%; CRP blood serum more than 10 mg/l is characteristic of:

- 1) mild course of COVID-19

- 2) moderate-severe course of COVID-19
- 3) severe course of COVID-19
- 4) extremely severe course of COVID-19

10. Which of the presented specific methods of diagnosing COVID-19 is the "gold standard"?

- 1) Polymerase chain reaction with reverse transcription to detect the nucleic acid of the coronavirus in material from the patient;
- 2) A rapid test for the detection of antibodies to coronavirus in the blood using the immunochromatographic method;
- 3) Immunoenzymatic method;

4. Discussion of theoretical issues:

- Occupational diseases under the influence of a biological factor that may occur in medical workers (causing agent, source of infection, route of transmission, risk groups, clinical manifestations): Anthrax, tuberculosis, brucellosis, leptospirosis, echinococcosis, toxoplasmosis, hepatitis B, AIDS.
- Resolution of the Cabinet of Ministers of Ukraine "Some issues of investigation and accounting of accidents, occupational diseases and accidents at work" dated April 17, 2019. No. 337
- Decision of the Cabinet of Ministers of Ukraine dated May 13, 2020 No. 394 "On Amendments to the List of Occupational Diseases"
- The main links of pathogenesis in the development of coronavirus disease
- To analyze the changes in indicators of laboratory and functional methods of diagnosis in case of corona virus disease using real or conditional medical histories of patients with corona virus disease (COVID-19);

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of answers of higher education applicants, etc.

5. Topics of reports/abstracts:

1. Cytokine storm in patients with COVID-19
2. Main complications in patients after suffering from COVID-19.

Note. When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summary: presenting current assessments

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2018. – 496 p.

2. Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.

3. Electronic information resources:

<https://www.pravda.com.ua/files/COVID-19-dobrobut.pdf>

<https://ukroj.com/index.php/journal/article/view/152>

Practical lesson No. 7

Topic: Vibration disease. Altitude and caisson sickness.

Purpose: to form a clear idea of the sequence and practice skills in case of suspicion, diagnosis, establishing a diagnosis and carrying out an examination of working capacity in patients with vibration sickness, altitude sickness and caisson sickness, to expand knowledge about pathological changes in the body in these occupational diseases.

Basic concepts: local and general vibration, vibration sickness, altitude sickness, caisson sickness.

Equipment: multimedia projector, laptop with presentation.

Plan:

1. Organizational measures: greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic.

2. Control of the reference level of knowledge: frontal survey on knowledge of basic terminology.

3. Questions (test tasks) to check basic knowledge on the subject of the lesson:

1. During periodic medical examinations of persons exposed to the influence of local vibration, the following shall be carried out:

a) Rheovasography

b) Oscillography

c) Dynamometry

d) Cold test

2. Courses of general ultraviolet exposure for the purpose of prevention of vibration pathology are conducted:

a) Once a year

b) Twice a year

c) Three times a year

d) Four times a year

3. At what stage of vibration disease can a decrease in tendon reflexes occur?

a) The first

b) Second

c) The third

d) All of the above

4. Which complaint is not characteristic of vibration disease from the influence of general vibration of the 1st century?

a) Periodic headaches, dizziness

b) Increased fatigue, irritability

c) Frostbite of the feet

d) Swelling of hands, feet

4. Discussion of theoretical issues:

- Build an algorithm of diagnostic studies for a patient suspected of developing vibration disease.

- To analyze the changes in indicators of laboratory and functional methods of diagnosis of vibration disease using real or conditional medical histories of patients with vibration disease;

- To determine the methods of prevention of vibration disease in workers at individual factories.

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of answers of higher education applicants, etc.

5. Topics of reports/abstracts:

1. Caisson (decompression) disease
2. Altitude sickness

Note. When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summary: presenting current assessments

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2018. – 496 p.
2. Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.
3. <https://doi.org/10.33573/ujoh2018.02.057>

Practical lesson No. 8

Topic: Sensorineural deafness.

Purpose: to form a clear idea of the sequence and to practice the skills of suspicion, diagnosis, establishing a diagnosis and carrying out an examination of work capacity in patients with occupational diseases - sensorineural hearing loss, to expand knowledge about the pathological changes that occur in this occupational disease.

Basic concepts: industrial noise, noise characteristics, neurosensory hearing loss, audiometry, tuning fork,

Equipment: multimedia projector, laptop with presentation.

Plan:

1. **Organizational measures:** greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic.
2. **Control of the reference level of knowledge:** frontal survey on knowledge of basic terminology.
3. **Questions (test tasks) to check basic knowledge on the subject of the lesson:**

1. The men's work is related to the testing of high-power engines (jet aircraft). What spectrum of noise has the most adverse effect on the human body?

- 1) Low- and medium-frequency
- 2) Medium frequency
- 3) Low frequency
- 4) High frequency

2. A 49-year-old man has been working as a conductor for 20 years. He has not heard some instruments for the last 2 months. Periodically there is a headache, dizziness. No changes were detected during general otoscopy. On the audiogram, there is an increase in the level of sensitivity. He can hear whispered speech normally. Roentgenogram of the bones of the skull without changes. Make a diagnosis:

- 1) Cochlear neuritis.
- 2) Otitis
- 3) Latent encephalitis.
- 4) Otosclerosis.
- 5) Brain tumor.

3. After the examination, the man was diagnosed with: Occupational hearing loss. What pathogenetic mechanism occurs in occupational hearing loss?

- 1) Traumatic effect of excessive acoustic energy.
- 2) Violation of the regulatory action of subcortical centers on the trophic of the sound-receiving apparatus.
- 3) Violation of hemodynamics of the inner ear.
- 4) Vascular disorders in the cortical part of the auditory analyzer.
- 5) All of the above.

4. A 49-year-old man has been working as an engine tester for 15 years. With what complaints did this man turn to the doctor during a periodic medical examination?

- 1) Hearing loss.
- 2) Headache.
- 3) Decreased memory.
- 4) Noise and ringing in the ears.

5) Irritability.

5. A 50-year-old man works as a foreman in a mine. When passing a medical examination, in which document are the results of those working in harmful and difficult working conditions entered.

1) Worker's card

2) Sanitary book

3) Outpatient skating rink

4) Medical history

5) Dispensary card

4. Discussion of theoretical issues:

- Build an algorithm of diagnostic studies for a patient suspected of developing sensorineural deafness.

- To analyze changes in indicators of laboratory and functional methods of diagnosis in sensorineural deafness using real or conditional case histories of patients with sensorineural deafness.

- Determine the methods of prevention of sensorineural hearing loss in workers at individual factories.

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of answers of higher education applicants, etc.

5. Topics of reports/abstracts:

1. Audiometry, technique, possibilities and significance of the method.

2. Physiotherapy methods in the treatment of sensorineural deafness

Note. When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summing up: presenting current assessments

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2018. – 496 p.

2. Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.

3. <https://doi.org/10.33573/ujoh2018.02.057>

Practical lesson No. 9

Topic: Occupational diseases associated with overstrain of individual organs and systems.

Purpose: to form a clear idea of the sequence and practice skills in case of suspicion, diagnosis, establishing a diagnosis and carrying out an examination of work capacity in patients with occupational diseases associated with overstrain of individual organs and systems (occupational dyskinesias, myofasciitis, osteochondropathy, tendovaginitis, stenosing ligamentitis, bursitis), to expand knowledge about pathological changes that occur during overstrain of the musculoskeletal system.

Basic concepts: Occupational dyskinesias, occupational tendovaginitis, myositis, ligamentitis, bursitis, polyneuropathy, radiculopathy, occupational neuroses.

Equipment: multimedia projector, laptop with presentation.

Plan:

- 1. Organizational measures:** greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic.
- 2. Control of the reference level of knowledge:** frontal survey on knowledge of basic terminology.
- 3. Questions (test tasks) to check basic knowledge on the subject of the lesson:**
 - 3.1. What type of work mostly leads to the development of diseases of the musculoskeletal system?
 - a) Intensive work;
 - b) Work in harmful conditions;
 - c) Hard work;
 - d) Work in jobs where there is a need for professional selection.
 - 3.2. Which syndrome is missing from the list of occupational diseases (from overstrain) of the musculoskeletal system?

- a) Chronic tendovaginitis
- b) Bursitis
- c) Aseptic osteonecrosis
- d) Dupuytren's contracture

3.3. Most often, syndromes of occupational (overstrain) pathology develop in the muscles:

- a) shoulder
- b) forearm
- c) brushes
- d) hips

3.4. In which joint area does occupational bursitis syndrome most often develop?

- a) Shoulder
- b) Elbow
- c) clavicular-acromial
- d) Interphalangeal

3.5. What drugs are not used in the treatment of occupational (overstrain) polyneuropathies?

1. Vitamins of group B
2. Vasodilating drugs
3. Ganglioblockers
4. Biogenic stimulants
5. Complexons

3.6. In which syndrome of occupational (overstrain) pathology of the musculoskeletal system is surgical treatment indicated?

1. Myositis
2. Tendovaginitis
3. Pathological reconstruction of the bone
4. Stenosing ligamentosis
5. Osteoarthritis

3.7. Which professional (from overstrain) patients need early rational employment?

1. Syndromes of aseptic osteonecrosis
2. Myalgia
3. Vegetative-sensory polyneuropathy
4. Styloidosis
5. Bursitis

3.8. What is the initial (functional) stage of muscle pathology from overstrain called?

1. Myalgia
2. Myositis
3. Myofasciitis
4. Myofibrositis
5. All of the above

3.9. Which professional (overstrain) patient has the most favorable labor prognosis?

1. Myositis
2. Bursitis
3. Chronic tendovaginitis
4. Sensorimotor polyneuropathy
5. Spondyloarthrosis

3.10. What expert decision should be taken in the presence of occupational (overstrain) aseptic osteonecrosis syndrome?

1. Continue work in compliance with sanitary and hygienic labor standards
2. Issue a professional bulletin for outpatient treatment
3. Issue a sick leave for outpatient or inpatient treatment
4. Send to MSEK

4. Discussion of theoretical issues:

- Build a diagnostic examination algorithm for a worker with suspected occupational tendovaginitis.

-Analyze changes in indicators of laboratory, functional and radiological methods of diagnosis in occupational bursitis using real or conditional medical histories of patients with diseases of the musculoskeletal system caused by overstrain;

-Determine methods of prevention of overstrain in workers at individual factories.

Note. The discussion of theoretical issues can take place in the form of answers to the questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of answers of higher education applicants, etc.

5. Topics of reports/abstracts:

1. Occupational radiculopathy
2. Professional neuroses

Note. When preparing a report, essay, analytical review, etc., applicants of higher education can, along with this, prepare didactic visual materials in the form of tables, code diagrams, slides, drawings, drug schemes, etc.

6. Summing up: presenting current assessments

7. List of recommended literature (main, additional, electronic information resources):

1. Occupational diseases / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko et al. ; edited by V. A. Kapustnik, I. F. Kostyuk. –Kyiv : AUS Medicine Publishing, 2016. – 496 p.
2. Occupational diseases. Manual for independent work of students.- Odesa, 2017.- 79p.
3. <https://www.msmanuals.com/uk/professional/musculoskeletal-and-connective-tissue-disorders/bursa-muscle-and-tendon-disorders/bursitis>