

FIRST PRACTICAL TRAINING IN OCCUPATIONAL DISEASES

TOPIC:

FUNDAMENTALS OF OCCUPATIONAL PATHOLOGY. DEFINITION, CLASSIFICATION, LIST OF OCCUPATIONAL DISEASES. BASIC PRINCIPLES OF DIAGNOSIS, TREATMENT, EXPERTISE AND MEDICAL PREVENTION

THESES

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DEFINITION

" **An occupational disease** is one that has occurred exclusively or mainly under the influence of harmful factors of the work environment or the work process on the organism and is included in the list of occupational diseases.

An occupational disease that is not included in the list of occupational diseases may also be recognized when it is established that it is caused primarily and directly by the employment of the insured and has caused permanent incapacity or death of the insured.

The term occupational disease also includes the complication and the late consequences. ”

Every year, 860,000 illnesses and 60,300 deaths are the result of occupational injuries and diseases in the United States.

Occupational diseases have great social significance:

- affect people of active working age and extensive professional experience
- significant morbidity in developed industrial countries [1]
- occupy a significant place in the structure of morbidity in Bulgaria
- In most cases they become chronic
- cause prolonged temporary and permanent incapacity for work
- generate significant losses for employers, the sick and the state
- are regulated by Legislation in Bulgaria, in the European Union and around the world

[1] *European Social Security Code; European List of Occupational Diseases; Classification of occupational diseases - WHO; European Directive on the Registration and Reporting (Declaration) of Accidents at Work and Occupational Diseases - ILO; Technical and ethical guide for health surveillance of workers - ILO.*

LOSS FROM OCCUPATIONAL DISEASE FOR EMPLOYERS, THE SICK AND THE STATE

CLASSIFICATIONS OF OCCUPATIONAL DISEASES

Specific occupational diseases

- are caused only by risk factors of the working environment and / or work process, the etiological factor can only be occupational, not domestic examples for this category is silicosis, foundry and polymer fever, vibration disease, caisson disease, etc.

Conditional occupational diseases

- are also found in non-occupational systemic, infectious and parasitic diseases, impairment of the cardiovascular and musculoskeletal system, etc. In

these diseases, the occupational nature is conditionally accepted after excluding various other causes of the disease (eg chronic occupational bronchitis, occupational bronchial asthma, occupational infectious and parasitic diseases, diseases of the musculoskeletal and nervous systems, cataracts and others).

Paraoccupational diseases -work-related

aggravated by the work place or in some other cases due to risky/bad conditions, partly caused by work, unlinked and / or worsened, exacerbated by occupational exposures to risk factors and / or are the cause of impaired working capacity, but are not the main cause of the disease (eg duodenal ulcer, hypertension, neurosis, etc.). Their etiology is complex and associated with additional not related with work factors.

- They involve various organs and systems in the human body (lungs, upper respiratory tract, hematopoietic, nervous, musculoskeletal system, sensory organs, gastrointestinal tract, skin, etc.).
- They change dynamically, depending on the introduction of new technological processes with new harmful effects in the work environment (computers, artificial mineral fibers, etc.).

Occupational diseases lead to specific legal consequences:

- Right to one-time compensation for occupational disease
- Entitlement to a higher disability pension for occupational disease
- Higher pay for temporary incapacity for work for occupational disease
- Right to compensation for material damage (food, medicines, special diets, etc.)
- Right to compensation for non-pecuniary damage (pain and suffering)

CRITERIA FOR DIAGNOSIS AND EVALUATION OF OCCUPATIONAL DISEASE

- 1. Etiological factor** –by the medical history and according to documents the professional route of the patient should be specified :
total length of service and chronologically by year in which position, where, when and for how long they worked, in contact with what harms from the work environment they were until their last job.
- 2. Assessment of the risk factors of the working environment and the work process** for each position separately and in total until the last job.
- 3. Medical history :**
 - When do the first complaints appear, what are they related to, including. whether there were changes in the technological process or irregularities in the system of technical prevention at that time.
 - How are the symptoms affected when the patient is absent from work (leave, change of the work place) or back at the work place.

Specific clinical signs are sought, for example:

- specific cataract in the clinical picture of trinitrotoluene poisoning;
- specific staining in the oral cavity in case of poisoning with certain metals - the so-called. dental stigmas of lead, mercury, etc. intoxication

- perforation of the nasal septum in poisoning with chromium, nickel, arsenic, fluorine
- specific X-ray image of bone fluorosis
- typical radiological picture in pneumoconiosis
- typical cataract in non-ionizing radiation
- leukopenia with ionizing factors.

4. Specific combination of syndromes:

- peripheral nervous, musculoskeletal and microcirculatory in vibration disease from local vibration impact
- a characteristic combination of anemic, gastrointestinal, hepatic and neurological syndrome is found in moderate chronic lead poisoning

5. Anamnesis vitae - specify the past and concomitant diseases: pneumonia, allergies, hypertension and all other conditions. Some common diseases contribute to the worsening of the development and progression of some occupational diseases (eg silicosis combined with tuberculosis -silicotuberculosis).

6. Family history - in order to clarify hereditary predisposition.

7. Bad habits (alcohol , smoking, drugs) as etiological or aggravating factors

8. Epidemiological test - frequency of a disease in homogeneous occupational groups (industrial unit, manufacture) and reporting of individual susceptibility to harmful factors

9. Physical status

10. Laboratory and paraclinical tests:

- Hematological tests and search for some features in certain diseases - punctured erythrocytes, Heinz bodies in erythrocytes, reticulocytes - in some intoxications;
- Biochemical and chemical tests - search for toxic substances and their metabolites in biological fluids
- Cytomorphological tests
- Immunological tests
- Imaging diagnostics - X-ray, computed tomography, magnetic resonance imaging, infrared thermography, etc.
- Functional tests - spirometry, arterial blood gases and , alkaline-acid balance ,EEG, ECG, EMG, palesthesiometry, Doppler sonography, diagnosis of the autonomic nervous system

AIM OF THE PARACLINICAL INVESTIGATIONS :

- detection of the toxic substance or its metabolite in blood, urine, saliva, hair for the diagnosis of chronic poisoning;
- Identify changes in:
 - vibrational sensation, distal autonomic function in vibration disease
 - radiography and lung function tests in pneumoconiosis
 - CT scan and bronchial provocation tests for bronchospastic conditions
 - tonal audiometry with typical parameters for occupational neuritis of the auditory nerve

11. Assessment the progression of the pathological process:

- reduction or complete reversibility of the symptoms of occupational allergies, musculoskeletal, skin and gastrointestinal diseases, chronic bronchitis, etc. after termination, resp. restoration of the contact with the harmful factor - the so-called **elimination**, respectively. **exposure test**
- dynamics after specific antidote treatment for chronic intoxications -

diagnosis ex juvantibus

12. Differential diagnosis

13. **Gender and age** - important for diseases of the musculoskeletal system, susceptibility to toxic noxa, dust exposure

Regulatory policy

- Occupational diseases are related to monetary compensation and privileges and by law cannot be diagnosed by only one doctor. Therefore, knowledge is needed on the **expertise** of occupational diseases.

RECOGNITION PROCEDURE FOR OCCUPATIONAL DISEASE

If Occupational disease is suspected, any qualified physician (including in the field of dental medicine) may express their suspicion, after that the patient should be sent to a specialized department to be diagnosed with an occupational disease, but that is only a preliminary stage.

Proceedings for the recognition of occupational diseases may be conducted by administrative or judicial order. The administrative path is through the expert bodies (TEMC, NEMC) after performing a mandatory procedure for occupational disease.

OCCUPATIONAL ACCIDENT

Definition

Occupational accident is any sudden damage to the health that caused incapacity for work or death and occurred during, or in connection with the work performed, as well as in any other work performed in the interest of the enterprise.

Occupational is also any accident that occurred during:

- moving from place of residence to place of work and back .
- movement to and from the place of work, from and to the place of eating .
- when going - to and from the place of receiving the remuneration

DIFFERENCES BETWEEN OCCUPATIONAL DISEASE AND OCCUPATIONAL ACCIDENT

Legal consequences of a recognized occupational disease under the Labour Code:

security and preferential employment regimes and the fullest possible use of their residual capacity . The employer is obliged to transfer the employee to a suitable job, as prescribed by the health authorities within 7 days.

In case of non-compliance with the prescription of the health authorities by the employer, he owes the employee compensation in the amount of his gross salary from the day on which he received the prescription for the new employment until its implementation

INSURANCE AND LEGAL CONSEQUENCES FOR PEOPLE DIAGNOSED WITH OCCUPATIONAL DISEASE

- Right to temporary incapacity benefit
- Entitlement to an invalidity pension due to an accident at work and an occupational disease
- To get benefits

- Modernization, indexation and compensation of cash benefits, pensions and any other benefits
- Technical aids related to the disability

Compensation of a patient with an occupational disease through a lawsuit:

- **for pecuniary losses** - the difference between the remuneration received as a healthy person and the remuneration received later as a sick person or compensation for temporary incapacity for work, employment or disability pension or pecuniary losses due to the termination of certain *other permanent payments, which they had as healthy individuals*- overtime and part-time additional work, civil contracts and others.
 - **for incurred expenses** that may include medications, food, special diet and balneotherapy
 - **for non-pecuniary damage** - pain, anxiety and many others
 - **repeated claim** - deterioration of health

TEMPORARY LOSS OF ABILITY TO WORK:

- temporary dismissal for outpatient or inpatient treatment (GP, or medical advisory committee)
- temporary employment without contact with the harmful factor (TEMC)
- provision of facilitated working conditions at the same workplace (TEMC)
- permanent change of the work place (TEMC).

PERMANENT LOSS OF WORKING ABILITY

for occupational diseases is determined by TEMC and NEMC for a certain period of time.

- The degree of disability is determined in percentages and the compensations are adjusted according to it:
- Up to 50% - no disability pension is paid
- Between 51-70% corresponds to a third group of disability with the right to a limited disability pension
- 71-90% corresponds to the second group of disability with the right to a larger disability pension
- 91% and more correspond to the first group of disability and over 91% have the right to have a personal assistant.

Prevention of occupational diseases

Primary (technical) prevention

Secondary (medical) prophylaxis consists of carrying out preliminary and periodic prophylactic medical examinations (screening and monitoring of workers) for early diagnosis and assessment of their health.

Tertiary medical prevention covers the treatment of occupational diseases in order to prevent complications and their progression.

Occupational Medical Service (OMS)

- The organization of the periodic medical screening examinations is executed by OMS, that have concluded a contract with the respective enterprise.