

Ministry of Healthcare of Ukraine
O. O. Bogomolets National Medical University

Department of hygiene and ecology №2

METHODICAL INSTRUCTIONS

For individual work of students
During preparing for practical lesson in the discipline "Occupational health
and safety in the healthcare sector"
On the topic:

Labor protection for women, adolescents and older people in health care facilities

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1. Actuality of theme:

Nowadays, large contingents of women, adolescents and older people are employed in health facilities. As a result, the problem of rational organization of work in the spotlight of the anatomical and physiological characteristics of these contingents. The legislation of Ukraine provides for a number of measures and benefits related to the work of women and adolescents.

Labor conditions at workplaces for women, adolescents and older people are not always corresponding with current sanitary legislation, and workers may be subjected to negative factors that are specific to a particular type of work (psychophysiological, physical, chemical, biological).

From this point of view, it is necessary to carry out sanitary supervision of the workplaces of such contingents of workers (hygienic assessment of new equipment, certification of workplaces, substantiation and development of health measures, organization of preliminary and periodic medical examinations, etc.), and pay special attention to their health during conducting medical examinations, diagnostics, treatment and prevention of diseases in this contingent of persons.

2. Specific objectives:

1. To explain the physiological and anatomical peculiarities of the organism of women, adolescents and persons of the older age groups, which cause increased sensitivity to harmful factors of the work environment.

2. To treat the basic requirements for the organization of work of women, adolescents and senior citizens in health care institutions in accordance with the current legislation.

3. Explain the dependence of the health status of women, adolescents and senior citizens on working conditions.

4. To develop organizational, medical and biological measures aimed at improving the working conditions of women, adolescents and older population in health facilities.

3. Basic knowledge and skills (interdisciplinary integration)

Name of discipline	Knowledge
Human anatomy	Analyze information about human body organization, systems, which make up it, organs and tissues. Determine the topographic and anatomical relationships between human organs and systems.
3. Medical and biological physics	Explain the physical basis and biophysical mechanisms of the action of external factors on the systems of the human body. To treat the general physical and biophysical regularities that underlie a person's vital activity.
Medical chemistry	Interpret the types of chemical equilibrium for the formation of a holistic physicochemical approach to the study of the processes of vital activity of the organism. To apply chemical methods of quantitative and qualitative analysis. Classify chemical properties and metabolism of bio-organic substances in the process of vital activity of the organism. Treat general physical and chemical patterns that underlie human life processes.

Microbiology and immunology	Interpret biological properties of pathogenic and non-pathogenic microorganisms, incl. viruses and patterns of their interaction with the macroorganism, with human population and the environment.
Physiology	Analyze the state of human health in different conditions on the basis of physiological criteria.
Biologic and bioorganic chemistry	Interpreting the importance of metabolic biochemical processes and their regulation in ensuring the functioning of organs, systems and the whole human body.

4. Task for individual preparing for the lesson

4.1. Перелік основних термінів, параметрів, характеристик, які повинен засвоїти студент при підготовці до заняття:

TERMS	DEFINITIONS
Efficiency	the state of the person at which a combination of physical, mental and emotional capabilities allows the worker to perform the work of a certain content, volume and quality.
Working conditions	a combination of factors of the working environment and the labor process that affect the health and working capacity of a person during the performance of his labor duties.
Safe labor condition	the state of work conditions in which the influence on the employee of hazardous and harmful industrial factors is eliminated, or the impact of harmful production factors does not exceed the maximum allowable values.
Harmful production factor	the production factor, which effect on a person working under certain conditions can lead to illness, reduction of working capacity and (or) negative influence on the health of posterity.
Dangerous production factor	the production factor, the effect of which on the employee in certain conditions leads to injuries, acute poisoning or other sudden deterioration of health or death.

4.2. Theoretical questions:

1. Socio-economic background for use labor of women, adolescents and older people in health care facilities.

2. Basic physiological and anatomical peculiarities of the organism of women, adolescents and persons of older age groups, which cause increased sensitivity to harmful factors of the production environment.

3. Influence of production environment factors on an organism of women. The difference in the sensitivity of the female and male organisms to the harmful factors of the occupational environment. Long-term consequences after exposure to harmful factors of the work environment.

4. Requirements for working conditions of women in health care facilities. Legislation regulating female labor. Privileges granted to women in connection with pregnancy.

5. Influence of factors of the production environment on the body of adolescents. Sensitivity of the body of adolescents to the influence of harmful factors of the production environment.

6. Requirements for working conditions of adolescents in health care institutions. Basic provisions of the legislation regulating the work of adolescents.

7. Requirements for working conditions of senior citizens in health care institutions. Basic provisions of the legislation regulating the work of persons of senior age groups.

8. Features of the health of women, adolescents and senior citizens in health care institutions.

4.3. Practical work:

Situational tasks:

Task 1.

A graduate of a secondary school of 17 years old wants to work as a nurse at the bureau of forensic medicine. The Work shift is characterized by 24-hour duty, including night shift and weekend. The work of this labor contingent is characterized by the lifting and moving of cargo weighing up to 35 kg 1-2 times during each working shift. Workplaces are equipped with local exhaust ventilation, which does not always work efficiently. As a result, chemicals in concentrations exceeding the MPC reach the air in the working zone.

1. Give a hygienic description of the working conditions of the health care workers.
2. What kind of pathology can occur under these conditions?
3. Is it allowed to work for teenagers in this working environment?
4. Propose preventive measures aimed at improving working conditions.

Task 2.

The physiotherapy department of the clinic has 3 nurses. In the office there are three devices that emit EMF in the range of 50-300 MHz. The nurse works in the department 6 hours a day. The voltage level of the electric field in the working area is 80 V / m.

1. Give a hygienic description of the working conditions.
2. What kind of pathology may occur in women under these conditions?
3. Is it allowed to work for women in these conditions?
4. Propose preventive measures aimed at improving working conditions.

Topic content.

In Ukraine, women make up about 50% of all employment in the population. Thus, in industry, women make up 38.9%, including light industry - 75%; in agriculture - 40.4% of the total number of employees. In some sectors of the non-productive sphere, the majority of them: in health care - 75.5%, in financial activity - 73.5%, trade - 63%, in culture and sports - 59.2%, in education - 55.4% .

The world as a whole is moving towards a gender balance. But there is a significant difference in the employment rate of women in different countries. For example, in Denmark, Finland, Sweden, this index reaches 70%, whereas in Greece and Spain it is below 50%. This is associated with a higher level of working conditions in countries with a high employment rate for women, which is very important for women's well-being and health.

The female body is different from the male for many anthropometric, physiological and psychophysiological features.

In average women have lower body height and body weight than men. This is important

to consider when designing workplaces, control panels, work furniture, control levers, signaling, etc., which are intended only for use by women or men and women.

The peculiarity of the physiological properties of the body of women is manifested in the fact that the general working capacity during heavy physical labor in women is on average 20-30% lower than in men. In addition, at the expense of training, the capacity for work in men can be increased by 50%, and for women only by 25%. The force of squeezing the right hand on average by 16.4 kg, the strength of the force - by 62.1 kg less than that of men. A more pronounced reaction of the cardiovascular, respiratory and musculoskeletal systems and general performance on the same type of labor load of the female body is found in comparison with the male.

Given the physiological features (menstruation, pregnancy, climax), the female body is more reactive in terms of the effects of occupational harm than on the human body. In these conditions, women are labile vegetative nervous system, gastrointestinal secretion, vascular tone and smooth muscle, increase in permeability of the stratum corneum, its electrical conductivity, increase in the frequency of various skin lesions (dermatitis, dermatosis, etc.). During pregnancy respiration and blood circulation increase, metabolism increases.

Therefore, during pregnancy, menstruation, and climax, the body of women exhibits the highest sensitivity to production poisons. There is an increased tendency of women in these conditions to develop skin diseases, especially in women of those occupations that are associated with the action of dust, chemicals that irritate the skin.

A number of violations of reproductive health of women are classified as occupational diseases according to the "List of Occupational Diseases", approved by the Resolution of the Cabinet of Ministers of Ukraine dated November 08, 2000 No. 1662: malignant neoplasms (professional cancer); ovaries and loss of the uterus and walls of the vagina. To production-related violations of reproductive health of women include non-specific inflammatory gynecological diseases when working in low temperature, dysplasia and leukoplakia of the cervix, malignant neoplasms of female genitalia under the influence of factors with a mutagenic effect. Historically, at the various stages of the development of economic relations in society, the relevant approaches of the International Labor Organization (ILO) and national governments to the protection of women's work are followed. In the 20 years of the last century, during the formation and competition of various economic systems and the active involvement of the female population in labor in the main sectors of the economy, the ILO adopted the Conventions and Recommendations aimed at protecting women's health, in the first place, maternity, childbirth functions : Convention 3 (1919), Convention 103 (1952) and Recommendation 95 (1952) - on the protection of maternity; Convention No. 4 (1919), Convention No. 4 (1934), Convention No. 89 (1948), Recommendation 13 (1921) - on the work of women at night in agriculture and industry; Convention 13 (1921) - on the use of lead white in the painting business; Recommendation 4 (1919) - on the protection of women and children from satire; Recommendation 114 (1960) - on the protection of workers from ionizing radiation; Convention 45 (1953) - on the employment of women in underground work in mines of any kind; Convention 127 and Recommendation 128 (1967) - on the maximum cargo that is allowed for transfer to one worker.

In the 90s of the last century, the actuality of the problem of work at night and the protection of women from the influence of chemicals has increased. Therefore, the ILO adopted Convention 171, Recommendation and Protocol (1990) - on night work and Recommendation 177 (1990) - on safety in the use of chemicals in production.

Legislation of Ukraine provides for special measures for the protection and hygiene of women's labor. Chapter XII "Labor of Women" is devoted to this issue in the Labor Code of Ukraine (Labor Code).

According to Article 174 of the Labor Code, the use of women's labor in heavy work and work with harmful or hazardous working conditions is prohibited. In accordance with this requirement, the Order of the Ministry of Health of Ukraine dated 29.12.1993 № 256 approved the "List of heavy work and work on harmful and dangerous working conditions, which prohibits the use of women's labor". This order (in order to bring normative legal acts in line with the requirements of gender policy) has expired on the basis of the Order of the Ministry of Health № 1254 dated 13.10.2017, in addition to Chapter 3 of Section I.

In addition, Article 174 of the Labor Code states that it is prohibited to involve women in lifting and moving things, which mass exceeds the limits established for them. In accordance with this requirement, by the order of the Ministry of Health of Ukraine dated 10.12. 1993 № 241 approved "Limit norms of lifting and moving heavy things by women".

These provisions were also reflected in the Law of Ukraine "On Occupational Safety" (Article 10. Labor Protection of Women).

Particular attention is paid to providing women working with sanitary facilities, specialized complexes of medical prophylaxis and health-improving purposes. According to GBN (Governmental building norms) B.2.2-28: 2010 "Administrative and household purpose buildings", the number of rooms or cabin for personal hygiene of women should be taken from the calculation of one hygienic shower for 75 women working in the most numerous shift. The rooms must be provided with dressing room and washbasin in these areas. If the number of women working more than 14 to 75 inclusive, one cabin with a hygienic shower (bidet) should be provided, which should be placed at the women's toilet and have an entrance with a wash.

According to the Order of the Ministry of Health of Ukraine dated May 21, 2007 No. 246 "Procedure for conducting medical examinations of certain categories of workers", it is provided that the pregnancy and lactation period, the persistent miscarriage and anomalies of the fetus in the history of women of the childbearing period, are common medical contraindications for work with harmful and dangerous and factors of the production environment and labor process. In addition, this order stipulates that during the conduct of preliminary (periodic) medical examinations of women, an obstetrician-gynecologist inspects the observation of bacteriological (on flora and cytology (on atypical cells) examination. In the final act, according to the results of the periodical medical examination of workers in certain relevant graphs it is noted the number of women surveyed or not examined.

According to Governmental Sanitary Norms 3.3.2.007-98 "Hygienic requirements for organization of work with visual display terminals of electronic computers", women from the time of pregnancy and breastfeeding to performing all works related to the use of visual display terminals of computers and PCs are not allowed.

The basic laws of individual growth and development of the organism of children and adolescents are as follows:

- the younger an organism, the more intensive processes of growth and development of organs and physiological systems proceed;
- processes of growth and development of organs and physiological systems proceed unevenly;
- In the course of the processes of growth and development of the body there are sexual differences.

On the basis of the theory of systemogenesis P.K. Anokhin all physiological systems of the body of children and adolescents have large back-up compensatory opportunities.

In adolescents in the process of work recorded higher fatigue, especially in cases where the work is dominated by a static component.

Adolescents are less able to work than adults, and during the work, the reaction of individual organs and systems, such as cardiovascular, respiratory, muscular, thermoregulation, is expressed more than in adults. Thus, in adults, the performance during the work of average weight is maintained at a relatively stable level, while in 15-16-year-old adolescents it is reduced by 14.5%.

There is an increased sensitivity of the body of adolescents to chemicals, which is associated with a lower threshold of CNS excitability, unstable endocrine regulation, high vegetative reactivity, high blood flow rates and elevated pulmonary ventilation, decreased ability of the body of adolescents to neutralize and increased sensitivity of the tissues of the young organism to the action of chemical agents. Even with a short-term effect of chemicals in concentrations that do not exceed the maximum permissible, there are adverse reactions of a non-specific nature: reduction of immunobiological reactivity, anemia, functional disorders of the nervous and cardiovascular systems, allergic reactions, decrease in the rates of physical development.

Preserving the health of the younger generation, preparing young people for productive labor, and the labor potential formation of the country involves ensuring a high level of education and production qualifications, optimal working conditions, and rational rest of adolescents.

Matters related to the work of minors are covered in Chapter XIII "Youth Work" and Chapter IV "Working Hours" of the Labor Code of Ukraine, Article 11 "Labor Protection of Minors" of the Law of Ukraine "On Occupational Safety", as well as in the Law of Ukraine "On holidays" and other legislative documents.

In accordance with the requirements of Article 190 of the Labor Code and Article 11 of the Law of Ukraine "On Occupational Safety", the Order of the Ministry of Health of Ukraine of March 31, 1994, No. 46 approved the "List of heavy work and work on hazardous and hazardous working conditions, which prohibits the use of labor minors".

According to the requirements of the Labor Code and the Law of Ukraine "On Occupational Safety", "Limit norms of lifting and moving heavy things by minors" were established, which were approved by the order of the Ministry of Health of Ukraine dated March 22, 1996, No. 59.

In accordance with articles 169 and 191 of the Labor Code, the owner or the body authorized by him is obliged to arrange for his (its) hiring (for hiring) of the previous one, as well as the annual mandatory medical examination of persons under the age of 21 years.

Population aging is a global process that has affected all economically developed countries. This is a consequence of scientific and technological progress, which in its development has both positive and negative features. In the economic analysis and estimates of aging, the negative features are often highlighted in the foreground. Old-age pensioners are regarded as a burden on the able-bodied population, and accordingly they are considered as dependents.

Aging processes associated with the effects on the body of working conditions can be reversible and degenerative. Overload or exceeding harmful factors of the production environment can be the cause of the development of degenerative-reactive processes, and insufficient tension (hypodynamia) - inverse reactive changes. It should be emphasized that labor as such does not accelerate the process of aging and only excessive loads and adverse working conditions are causing the aging of the body.

It is established that as aging occurs, the gradual reduction of anthropometric indices such as height, volume of the chest with simultaneous increase or decrease in body weight, decrease in muscle strength and endurance is observed.

The psychological examination of the elderly reveals reduced attention, the ability to

memorize and process current information, reduce intellectual abilities, difficulty in decision making, deteriorating learning ability, communication, loss of entrepreneurship, indifference, but these losses can be offset by previously accumulated knowledge and experience, current professional activity.

The work organization of those people's category is provided in view of ensuring optimal capacity for work, eliminating the adverse impact of the labor process on the state of health, using stabilizing and strengthening the health of types of work.

For this purpose, during employment of persons of pre-retirement and retirement age, the following should be observed:

1. The nature of the work to be performed should take into account the narrowing of adaptation possibilities, should not set high requirements that are associated with changes in production situations, high physical and nervous-emotional stresses for workers over 50 years of age. Avoid the possibility of influencing these persons of extreme microclimatic conditions, physical factors of the production environment, exceeding the maximum permissible levels.

2. Persons of retirement age cannot be involved in multi-shift work.

3. Workers of pre-retirement and retirement age need not be involved in work with forced tempo, which requires high speed of movement, etc.

4. When deciding on the organization of work of older workers, account should be taken of reduced functional capabilities of sensory organs and adequate levels of illumination in the workplace, optimal ergonomic solutions to workplaces, etc.

5. Older workers at the expense of changing the structure and working regime reduce the severity and tension of labor. Thus, compared to the 20-year-olds in the age of 50-79, the reduced density of working time (by 17.5%), the share of employment in the main basic work (2-3 times) and the increased share of employment in freely-adjustable auxiliary work (in 3-4 times). Despite the fact that there should be less heaviness and labor intensity, the elderly people have reduced the duration of continuous work and increased the duration of further rest (twice, three times).

6. With regard to the social plan, account should be taken of the recognition of the social importance and usefulness of persons of retirement age, the use of professional experience, the absence of an adversarial relationship with young colleagues in labor.

7. The working conditions and requirements relating to the work of older workers must be fully consistent with their state of health and give them a sense of satisfaction. Satisfaction with work is a significant preventive factor of premature aging.

Addition 1.

LABOR CODE OF UKRAINE

(lifts)

Article 51. Reduced terms of working time. Reduced working hours are set to:

1) for workers aged 16 to 18 years - 36 hours a week, for people aged 15 to 16 (students aged 14 to 15 working in the period of holidays) - 24 hours a week.

The duration of working hours of students who work during the school year in their free time may not exceed half of the maximum working time provided for in the first paragraph of this paragraph for persons of the corresponding age.

Reduced working hours may be set at their own expense at enterprises and organizations for women who have children under the age of fourteen or a disabled child.

Article 55. Prohibition of work at night. It is prohibited to engage in work at night:

1) pregnant women and women with children under the age of three (Article 176);

2) persons under the age of eighteen (Article 192).

The work of women at night is not allowed, except in cases stipulated by Article 175 of this Code. Work of invalids at night is allowed only with their consent and provided that this does not contradict the medical recommendations (Article 172).

Article 56. Part-time working time. By agreement between the employee and the owner or an authorized body can be established both during hiring, and subsequently part-time or part-time working week. At the request of a pregnant woman, a woman who has a child under the age of fourteen or a disabled child, including one under her care, or cares for a sick family member according to a medical opinion, the owner or an authorized body of the obligation To establish her part-time or part-time working week.

Payments in these cases are made in proportion to the time spent or depending on the output.

Article 63. Prohibition of involvement in overtime work. For overtime work (Article 62) it is prohibited to involve:

1) pregnant women and women who have children under the age of three (Article 176);

2) persons under the age of eighteen (Article 192);

3) workers who attend general education schools and vocational schools without interruption from production, on the day of classes (Article 220).

Legislation may also provide for other categories of workers who are prohibited from engaging in overtime work.

Women who have children between three and fourteen years of age or a disabled child may be involved in overtime work only with their consent (Article 177).

CHAPTER XII

Female labor

Article 174. Works that prohibit the use of women's work. It is prohibited to use women's labor in heavy work and work with harmful or hazardous working conditions, as well as in underground work, except for some underground work (non-physical works or sanitary and domestic service).

It is also prohibited to involve women in raising and moving things that exceed the limits set for them.

The list of heavy work and work on harmful and hazardous working conditions, which prohibits the use of women's labor, as well as the limits of lifting and moving heavy things by women, are approved by the Ministry of Health of Ukraine in agreement with the State Committee of Ukraine for Labor Protection Supervision.

Article 175. Limiting the work of women at night work. Attraction of women to work at night is not allowed, except for those sectors of the national economy, where this is a special necessity and allowed as a temporary measure.

The list of these branches and types of work with indication of the maximum terms of the employment of women at night is approved by the Cabinet of Ministers of Ukraine.

The restrictions specified in part one of this article do not apply to women who work in enterprises where only members of one family are employed.

Article 176. Prohibition of the involvement of pregnant women and women with children under the age of three, to night, overtime work, work on weekends and sending them on a business trip. It is not allowed to engage in work at night, to overtime and work on weekends, and to send a business trip to pregnant women and women with children under the age of three.

Article 177. Restrictions on the involvement of women with children from three to fourteen years of age or disabled children to overtime work and sending them on a business trip.

Women with children aged between three and fourteen or children with disabilities can not be involved in overtime work or travel without their consent.

Article 178. Transfer to easier work of pregnant women and women who have children under the age of three. Pregnant women, according to a medical conclusion, reduce production norms, norms of service, or they are transferred to another job that is easier and excludes the impact of unfavorable production factors, with the preservation of average earnings for previous work.

Upon the decision to issue a pregnant woman in accordance with the medical opinion of another work, which is easier and excludes the impact of adverse productive factors, it is subject to dismissal from work with the preservation of average earnings for all lost working days due to the company, institution or organization.

Women who have children under the age of three years, in case of impossibility of performing the previous work, are transferred to another job with the average salary for previous work before the child reaches the age of three years.

If the earnings of the persons specified in parts 1 and 3 of this article on the lighter work is higher than that which they received before the transfer, they are paid the actual earnings.

Article 179. Vacations due to pregnancy, childbirth and child care. Based on the medical report, women receive paid leave in connection with pregnancy and childbirth for a duration of 70 calendar days before childbirth and 56 (in the case of two or more children and, in case of birth complications - 70) calendar days after delivery, from the date of birth.

The length of leave due to pregnancy and childbirth is calculated in total and amounts to 126 calendar days (140 calendar days - in the case of two or more children and in case of complications of delivery). It is given to women regardless of the number of days actually used before childbirth.

At the request of a woman, she is granted a childcare leave until she reaches the age of three with payment for these periods of assistance in accordance with the law.

Enterprises, institutions and organizations may, at their own expense, provide women with partly paid leave and leave without salary waivers for longer child care.

A childcare leave before reaching her age of three years is not granted if the child is in state maintenance.

If the child needs home care, the woman is obliged to leave without wage salary for a period determined in the medical report, but not more than until the child reaches the age of six.

Vacations for child care provided for in parts three, four and six of this article may be used in whole or in part as the father of a child, grandparent, grandfather or other relatives who are actually caring for a child.

At the request of a woman or persons mentioned in part seven of this article, during their period of stay on childcare leave, they may work on part-time or at home. In this case, they retain the right to receive assistance during the period of leave to care for the child until she reaches the age of three.

Article 180. Joining annual vacation to maternity vacation. In the case of giving women vacation due to pregnancy and childbirth, the owner or authorized body is obliged by the application of a woman to attach her annual basic and additional vacation irrespective of the length of her work at this enterprise, institution, organization in the current working year.

Article 181. The procedure for providing vacation for the care of the child and enrollment for the length of service. Vacations for the care of a child up to the age of three years and vacation without salary waivers (parts three and six of Article 179 of this Code) are provided on the application of a woman or persons specified in part seven of Article 179 of this Code, in whole or

in part within the established period, and are issued by an order (order) of the owner or an authorized body.

Vacations for the care of the child up to the age of three years and vacation without saving of salary (parts three and six of Article 179 of this Code) are counted as a general, as well as to a continuous work experience and to work experience in a specialty. The period of vacation specified in this article does not count towards the length of service which gives entitlement to annual vacation.

Article 182. Vacation for women who have adopted children. Women who have adopted newborn babies directly from the maternity hospital are granted vacation from the date of adoption for duration of 56 calendar days (70 calendar days - at the time of adoption of two or more children) with the payment of state aid in the prescribed manner.

For women who have adopted a child from orphans or children deprived of parental care over three years of age, one-time paid leave due to the adoption of a child lasts for 56 calendar days (70 calendar days - in the case of the adoption of two or more children), without taking into account festive and non-working days after the enactment of the decision on adoption of the child. This leave can also be used by the child's father.

Women who have adopted a child (or two or more children at the same time) are granted vacation to care for her on conditions and in accordance with the procedure established by Articles 179 and 181 of this Code.

Article 182-1. Additional vacation for workers with children. A woman who works and has two or more children under the age of 15 or a disabled child, or who has adopted a child, a single mother, a parent raising a child without a mother (including in the case of a long stay of a mother in a hospital) as well as the person who took the child under guardianship, an additional paid vacation for 10 calendar days annually is provided, excluding festive and non-working days (Article 73 of this Code).

If there are several grounds for granting this leave, its total duration cannot exceed 17 calendar days.

The leave referred to in Paragraph one of this Article shall be granted more than the annual leave provided for in Articles 75 and 76 of this Code, as well as annual leave, established by other laws and regulations, and shall be carried over to another period or shall be continued in accordance with the procedure established by Article 80 of this Code .

Article 183. Breaks for feeding the baby. For women who have children under one and a half years, additional breaks for feeding the child are provided, except for a general break for rest and meals.

These breaks are provided at least three hours, each not less than thirty minutes.

In the presence of two or more infants, the duration of the break is set at least an hour.

The terms and the procedure for granting breaks shall be established by the owner or the body authorized by him, in agreement with the elective body of the primary trade union organization (trade union representative) of the enterprise, institution, organization and taking into account the wishes of the mother.

Breaks for feeding the baby are included in the working time and are paid for the average earnings.

Article 184. Guarantees for hiring and prohibiting the firing of pregnant women and women with children. It is prohibited to refuse women to hire and reduce their wages for motives related to pregnancy or the presence of children under the age of three, and for single mothers - if there is a child under the age of fourteen or a disabled child.

The release of pregnant women and women who have children under the age of three (up to six years - part six of Article 179), single mothers in the presence of a child under the age of fourteen or a disabled child on the initiative of the owner or his authorized body is not allowed, except in cases of full liquidation of an enterprise, institution, organization, where the release from compulsory employment is allowed. Mandatory employment of these women is also carried out in cases of their dismissal after termination of the fixed-term employment contract. For the period of employment for them, the average salary is retained, but not more than three months from the date of termination of the fixed-term employment contract.

Article 186. Mother care at enterprises, in organizations. Kindergartens, kindergartens, nursery rooms, and women's personal hygiene facilities are organized at enterprises and organizations with widespread use of women's labor.

LABOR OF CHILDREN AND ADOLESCENT

Article 187. Rights of minors in labor relations. Minors, that is, persons under the age of eighteen years in labor relations are equated with the rights of adolescents, and in the field of labor protection, working hours, holidays and certain other conditions of employment, they enjoy the benefits provided by the legislation of Ukraine.

Article 188. The age from which the recruitment is allowed. Persons under the age of sixteen are not allowed to work.

With the consent of one of the parents or a person substituting him, persons other than the age of fifteen years may, exceptionally, be hired.

In order to prepare young people for productive work, the recruitment of students of general education schools, vocational and secondary specialized schools for the performance of light work, which does not harm the health and does not violate the process of study, is allowed in the time-free from the time when they reach the age of fourteen with the consent of one of the parents or the person who replaces him.

Article 190. Works that prohibit the employment of persons under the age of eighteen. It is prohibited to use the work of persons under eighteen years in difficult work and in work with harmful or hazardous working conditions, as well as in underground work.

It is also prohibited to include persons under eighteen years before raising and moving things that exceed the limits set for them.

The list of heavy work and work on harmful and dangerous conditions of work, as well as the limits of lifting and moving heavy objects by persons under eighteen years, are approved by the Ministry of Health of Ukraine in agreement with the State Committee of Ukraine for the Protection of Labor Protection.

Article 191. Medical examinations of persons under eighteen years old. All persons under eighteen years of age are recruited only after a preliminary medical examination, and thereafter, until they reach the age of 21, they are subject to mandatory medical examination every year.

Article 192. The prohibition is to attract workers under eighteen to night, overtime and work on weekends. It is forbidden to involve workers under eighteen to night, overtime and work on weekends.

Article 193. Development standards for young workers. For workers under the age of eighteen years, the standards of production are established on the basis of the norms of development for adult workers in proportion to reduced working hours for persons under the age of eighteen.

For young workers entering the enterprise, after graduation from general education schools, vocational schools, courses, as well as for those who have received training directly in

the work, in cases and sizes stipulated by the legislation and in the timeframe specified there may be approved reduced rates production standards. These norms are approved by the owner or an authorized body thereof, in agreement with the trade union committee.

Article 194. Payment of labor to workers under eighteen years with a shorter duration of daily work. Salaries for employees under eighteen years of age with a shorter duration of daily work are paid in the same amount as employees of the corresponding categories at full time of daily work.

The payment of the work of students of general education schools, vocational and secondary specialized educational institutions, which work in free time, is carried out in proportion to the time spent or depending on the output. Enterprises can set a payroll supplement to their students.

Article 195. Vacations for workers under the age of eighteen. Annual leave for workers under the age of eighteen is provided at a time convenient for them.

Annual leave for employees under the age of eighteen years of full duration in the first year of work is given by their application before the six-month term of continuous work in the given enterprise, institution, organization.

Article 196. For the employment of young people who graduated or stopped educating in secondary, vocational and higher education, retired from military service, military service during mobilization in times of crisis, military conscription officers or alternative (non-military) service (within six months after the end or termination of studies or service) and is first recruited for work, orphans and children deprived of parental care, vnylosya 15 years and that the consent of a parent or person in loco may, exceptionally, be employed and other categories of people who have additional safeguards to promote employment, enterprises, institutions and organizations set quota under the Law Of Ukraine "On employment of the population".

Article 197. employable youth - citizens of Ukraine in age from 15 to 28 years after completion or termination of education in general and professional educational and higher education, completion of training and retraining, and after discharge from military service, military service during the mobilization, for a special period, military service for a prize officer or alternative (non-military) service, the first job is provided for a period of not less than two years.

Young specialists - graduates of state educational institutions, the need for which was previously claimed by enterprises, institutions, organizations, provided work on a specialty for a period of not less than three years in the manner determined by the Cabinet of Ministers of Ukraine.

Article 198. Restrictions on the dismissal of workers under the age of eighteen. The release of workers under eighteen years of age, on the initiative of the owner or the body authorized by him, is allowed, except for observance of the general procedure of dismissal, only with the consent of the district (city) service for children. At the same time, the exemption from the grounds specified in paragraphs 1, 2 and 6 of Article 40 of this Code, is carried out only in exceptional cases and is not allowed without employment.

Article 199. Termination of an employment contract with a minor upon the request of his parents or other persons. The parents, adoptive parents and guardians of a minor, as well as state authorities and officials entrusted with supervision and control over compliance with labor legislation, have the right to request termination of the employment contract with a minor, including a term as a continuation of his force threatens health a minor or violates his legitimate interests.

LOW OF UKRAINE ABOUT OCCUPATIONAL SAFETY

Article 10. Labor Protection of Women. It is prohibited to use women's labor in heavy work and work with harmful or dangerous working conditions, underground work, except for some underground work (non-physical works or works related to sanitary and household services), as well as the involvement of women in lifting and moving things, the mass of which exceeds the limits established for them, according to the list of heavy work and work on harmful and dangerous working conditions, the limits of raising and moving heavy things approved by the central body executive authority in the field of public health. The work of pregnant women and women with a minor child is regulated by law.

Article 11. Labor Protection of Minors. It is not allowed to involve minors in work on heavy work and in work with harmful or dangerous working conditions, underground work, night work, overtime work and work on weekends, as well as to lifting and moving things that exceed the limits set for them, according to the list of heavy work and work on harmful and dangerous working conditions, the limits of raising and moving heavy things approved by the central executive body in the field of health care. Minors are recruited only after a preliminary medical examination. The procedure for the employment and vocational training of juvenile occupations associated with heavy work and work on harmful or hazardous working conditions is determined by the provisions approved by the central executive body for the supervision of labor protection.

Article 12. Protection of Work of Persons with Disabilities. Enterprises using the work of persons with disabilities are obliged to create working conditions for them, taking into account the recommendations of the medical and social expert commission and individual rehabilitation programs, and to take additional measures of safety, which correspond to the specific features of this category of workers. In cases stipulated by law, the employer is obliged to organize training, retraining and employment of persons with disabilities in accordance with medical recommendations. Involvement of persons with disabilities in overtime and night work is possible only with their consent and provided that this does not contradict the recommendations of the medical and social expert commission.

Limit norms lifting and moving heavy things by women

WORK'S CHARACTER	Maximum allowable weight of cargo, kg
Lifting and moving of loads when alternating with another work (up to 2 times per hour)	10
Lifting and moving loads constantly during working shift	7
The total weight of the cargo moving during each working shift hour shall not exceed:	
From working surface	350 kg
From the floor	175 kg

Limit norms of lifting and moving heavy things by minors

1. The limit norms are valid throughout the territory of Ukraine and apply to all enterprises, institutions, organizations, educational institutions, as well as to legal entities and individuals who use the labor of teenagers from 14 to 18 years of age.

2. Adolescents are prohibited from assigning to work that relates solely to raising, retaining or moving heavy things.
3. Adolescents who do not have medical contraindications, certified by the corresponding medical certificate, are admitted to work requiring lifting and moving heavy things. For prolonged work on lifting and moving heavy things, adolescents under 15 years of age are not allowed.
4. The employer must ensure the obligatory passage of the work of his or her adolescents from previous and subsequent periodic medical examinations.
5. The total working time of adolescents should not exceed 24 hours. for a week for teens 14-15 years and 36 hours. - for teens 16-17 years old. It is obligatory to have a uniform distribution of weekly working time in the days of a five- or six-day working week.
6. The work of adolescents with loads should not exceed 1/3 of the working time.
7. The weight of the individual cargo and the total weight of the goods to be lifted and displaced by the adolescents shall not exceed the limits specified in Tables 1 and 2.

Table 1

Limit norms of lifting and moving of goods by adolescents during short-term and long-term work

Calendar age, years	Limit values of cargo weight (kg)			
	Short work		Long work	
	Young man	Young women	Young man	Young women
14	5	2,5	–	–
15	12	6	8,4	4,2
16	14	7	11,2	5,6
17	16	8	12,6	6,3

Notes.

1. Short-term work - 1-2 lifting and moving of cargo; lasted - more than 2 lifting and moving for 1 year. the working time specified in paragraph 5 of these norms.
2. The calendar age is defined as the number of full years deducted from the date of birth.
3. The weight of the cargo includes the weight of the packaging and packaging.
4. The muscular effort made when maintaining or moving the goods using small mechanization means shall not exceed the maximum cargo weight norm, its duration - no more than 3 minutes, further rest - at least 2 minutes.

Table 2

Limit norms of the total weight of the load for adolescents for a period of 1 year. working time

Calendar age, years	Total weight of goods (kg) rising (move) when doing work			
	from the working surface		From the floor	
	Young man	Young women	Young man	Young women
14	10	5	7	3,5
15	48	12	24	6
16	160	40	80	20
17	272	72	130	32

Notes.

1. The total weight of the goods is equal to the product of the weight of the cargo by the number of its lifting (displacement).

2. The level of the working surface is the working level of the table, machine, conveyor, etc.
3. Lift height should not exceed 1 m.
4. The distance of the cargo manually must not exceed 5 m.

**The list of heavy work and work on harmful and dangerous working conditions,
which are used to prevent the use of labor minors
(EXTRACT)**

35. Health care establishments of medical and social expertise, veterinary establishments, medical research and educational establishments of the enterprise for production of bactericidal and viral preparations and pharmaceutical factories

Health Care Establishments and Medical and Social Examination

Outpatient medical staff of the station (departments) of emergency and urgent medical care

Workers of pharmaceutical warehouses, engaged in work with poisonous and potent substances

Workers employed in baro-operative, multi-room baroque chambers

Workers employed in children's psychiatric, psychoneurological institutions and institutions for mentally retarded children and children with physical disabilities

Workers employed in leprosy (anti-lethal) institutions, wards, insulators, offices and offices

Workers employed in pathoanatomical departments, prospectives, morgues and vivarium

Workers employed in X-ray (including fluorographic) X-ray and radiology units and structural subdivisions

Workers involved in the preparation of hydrogen sulfide water

Workers involved in the conservation of blood, corpses and tissues

Workers engaged in maintenance of premises of hydrogen sulfide, sulfur, carbon, naphthalene and radon baths

Workers engaged in the maintenance of tuberculosis, infectious, skin-venereal and mentally ill; patients suffering from chronic alcoholism and drug addiction

Workers involved in transportation, heating, cooking and releasing dirt, ozokerite and washing cans

Workers employed in the departments (chambers) of anesthesiology: resuscitation and intensive care

Medium and junior medical personnel employed in the premises of hydrogen sulfide, sulfuric acid, carbon black, naphthalene and radon baths

Medium and junior medical personnel forensic medical examination

Medical research and educational establishments, laboratories of health care institutions

Workers employed in laboratories (departments) of especially dangerous infections, bacteriological, virological, deep mycoses and experimental syphilis, on works with poisonous and potent substances

Workers employed in laboratories for the conservation of cadaveric tissues, organs, blood, pathomorphological laboratories (divisions, departments), viavarias, aviaries

Pharmaceutical factories (production)

Workers engaged in work with poisonous and potent substances

Enterprise for the production of bacterial and viral drugs

Workers who are busy taking care of producers and pictorial animals

Workers engaged in work with infected material, as well as care for sick tv-rins
 Workers involved in the production of bacterial and viral drugs.

**ABOUT APPROVAL OF STATE SANITARY REGULATIONS AND RULES ON WORKING
 FROM SOURCES OF ELECTROMAGNETIC FIELDS**

GBN 3.3.6.096-02

(Extract)

3. Parameters that are standardized, and units of their measurement

3.2. Electromagnetic fields of 1 kHz to 300 MHz are normalized in terms of intensity and energy loads of electric and magnetic fields, taking into account the time of influence. The unit of electric field intensity is W / m, the magnetic field - A / m, the energy load is the product of the square of the power of the EMF and the time of its influence, expressed (W / m) 2 x year for the electric field and (A / m) 2 x h - for a magnetic field. The electromagnetic field in the frequency range of 300 MHz - 300 GHz is normalized by the intensity and energy load of the energy flux density (hereinafter -EFD). The unit of measurement of EFD is W / m2 (fraction units mW / cm2, μW / cm2). The energy load is the daily-current of the incident radiation and the time of its influence during the working shift in hours (h), expressed in W x H / m2 (mWh / cm2, μWh h / cm2). In the case of pulsed-modulated radiation, the normalized parameter characterizing the intensity of the EMF's influence is the mean value of the SPEE.

4. Maximum permissible levels of electromagnetic fields

4.4.2. The values of the GDR of the intensity of the electric (Egld) and magnetic (Ngd) components, depending on the duration of their actions, are given in Table. 3

Table 3.

Time of staffing, h	electric field intensity, W / m					magnetic field, A/m			
	1-10 kHz	10-60 kHz	0,06-3 kHz	3-30 kHz	30-300 kHz	1-10 kHz	10-60 kHz	0,06-3 kHz	30-50 kHz
8	120	70	50	30	10	9,0	7,0	5,0	0,30
7	130	75	53	32	11	9,8	7,5	5,3	0,32
6	140	82	58	34	12	10,6	8,1	5,8	0,34
5	155	90	63	37	13	11,6	8,8	6,3	0,38
4	175	110	71	42	14	13,0	9,9	7,1	0,42
3	200	115	82	48	16	15,0	11,4	8,2	0,49
2	250	140	100	59	20	18,4	14,0	10,0	0,60
1	350	200	141	84	28	26,0	19,7	14,2	0,85
0,5	500	280	200	118	40	37,6	27,9	20,0	1,20
0,25	700	400	283	168	57	52,0	39,5	28,3	1,70
0,12	1000	580	400	240	82	75,0	57,0	40,8	2,45
0,08	–	700	500	296	80	–	–	50,0	3,00

4.5.3. The value of the PL of the energy flux density (Wgd), depending on the duration of the EMF, is given in Table. 5

Table5

Time of staffing, h	8	7	6	5	4	3	2	1	0,5	0,25	0,20
Flow density, $\mu\text{W} / \text{cm}^2$	25	29	33	40	50	67	100	200	400	800	1000

Sanitary norms of the microclimate of industrial premises
DSN 3.3.6.042-99
(Extract)

Terms and definitions

12. Category of work - the delineation of work on the basis of the overall energy consumption of the organization.

13. Light physical work (category I) covers activities in which the energy consumption is equal to 105-140 W (90-120 kcal / h) - category Ia and 141-175 W (121-150 kcal / h) - category Ib. Category Ia includes work performed sitting and not requiring physical stress. Category Ib includes work performed sitting, standing or walking-related and accompanied by some physical exertion.

14. Physical work of moderate (category II) covers activities in which the cost and energy is equal to 176-232 W (151-200 kcal / h) - category IIa and 233 - 290 W (201-250 kcal / year).) - Category IIb. Category IIa includes work related to walking, moving small (up to 1 kg) items or items in a standing position or sitting and requiring some physical exertion. Category IIb includes work carried out standing, associated with the movement, the movement of small (up to 10 kg) cargo and accompanied by moderate physical stress.

15. Heavy physical work (category III) covers activities in which energy gain amounts to 291-349 W (251-300 kcal / h). Category III includes works related to permanent displacement, the transfer of significant (more than 10 kg) of goods that require great physical effort.

1.1. Optimal conditions of the microclimate

1.1.1. The optimal microclimate conditions are set for permanent workplaces (Table 6).

1.1.2. The parameters of the air temperature in the working area in height and horizontally, as well as the length of the working change, should not exceed the normalized values of the optimum temperature for this category of works indicated in Table. 1

1.1.3. The temperature of the internal surfaces of the working area (walls, floor, ceiling), technological equipment (screens, etc.), external surfaces of technological equipment, fencing structures should not exceed 20C beyond the limits of the optimal values of the air temperature for this category of works , indicated in the table. 6

Table 6

Optimal values of temperature, relative humidity and air velocity in the working area of industrial premises

Period of the year	Labor category	Temperature of the air, °C	Relative humidity, %	Speed of movement of the air, m/s
Cold year period	Easy Ia	22-24	60-40	0,1
	Easy Iб	21-23	60-40	0,1
	Moderate IIa	19-21	60-40	0,2

	Moderate IIб	17-19	60-40	0,2
	Heavy III	16-18	60-40	0,3
Worm year period	Easy Ia	23-25	60-40	0,1
	Easy Iб	22-24	60-40	0,2
	Moderate IIa	21-23	60-40	0,3
	Moderate IIб	20-22	60-40	0,3
	Hevy III	18-20	60-40	0,4

Materials for self-control:

A. Tasks for self-control (tables, diagrams, drawings, graphs):

1. Specify the peculiarities of approaches to the organization of women's work.
2. Explain the features of workplaces for pregnant women.
3. Specify the peculiarities of the work organization of adolescents.
4. Make a program for assessing the working conditions of women, adolescents and senior citizens.

B. Problems for self-control:

The physiotherapy department is home to nurses. In the office of this department there are 2 devices of MHF therapy: "LUCH-250" and "LUCH-300". Devices operate in the range of 300 MHz. Provision of procedures is carried out by the nurse during the entire working shift - 6 hours. The hygienic examination carried out in the department has established the presence of EM-radiation SHPE 20 W / m².

1. Give a hygienic description of the working conditions.
2. What kind of pathology may occur in women under these conditions?
3. Is it allowed to work in women in the production data?
4. Propose preventive measures aimed at improving working conditions.

7. Literature:

Principal:

1. Occupational Physiology. / Allan Toomingas, Svend Erik Mathiassen, Ewa Wigaeus Tornqvist/ - 2011 by CRC Press - 309 Pages.
2. Occupational health and safety in the medical sector. / Yavorovsky O.P., Veremey MI, Zenkina V.I. etc. - K., 2017. - 208 pp.
3. Hygiene and ecology / Under the editorship of V.G.Bardov. – Vinnytsya: Nova knyha, 2018. – 688 pages.

Additional:

1. https://www.ors.od.nih.gov/sr/dohs/Documents/DLib_2.4_SHMS_roadmap_508.pdf
2. Occupational health and safety risks in the healthcare sector. Guide to prevention and good practice. European Commission – 282 pages.
3. International Labor Organization Convention on Gender Equality:
<https://www.ilo.org/gender/Aboutus/ILOandGenderEquality/lang--en/index.htm>