Стом-21 ИН

Federal State Budgetary Educational Institution of Higher Education
«North-Ossetia State Medical Academy»
of the Ministry of Healthcare of the Russian Federation

Department of General Hygiene and Physical Culture

APPROVED
minutes of the meeting of the Central
coordination educational and methodical
Council on March 22, 2022, protocol № 4

VALUATION FUND

of the discipline " **HYGIENE** "

the main professional educational program of higher education –
specialty program in the specialty 31.05.03 Dentistry,
approved in March 30, 2022

for 3rd year students

specialty 31.05.03 Dentistry

Reviewed and approved at the meeting of the department
dated March 16, 2022 (Minutes №8)

Head of the Department of General Hygiene
and Physical Culture prof. MD Kusova A.R.

Vladikavkaz 2022

STRUCTURE OF FOS

1. Title page
2. Structure of the FOS
3. Review of FOS
4. Passport of the appraisal fund
5. A set of evaluation tools:
    - questions for the module
    - bank of situational tasks
    - sample test items (with title page and table of contents),
    - tickets to offset

Федеральное государственное бюджетное образовательное учреждение высшего образования «Северо-Осетинская государственная медицинская академия» Министерства здравоохранения Российской Федерации

РЕЦЕНЗИЯ
на фонд оценочных средств

по дисциплине: **Гигиена**
для студентов: **3 курса**
по специальности: **31.05.03 Стоматология, частично реализуемая на английском языке**

Фонд оценочных средств составлен на кафедре общей гигиены и физической культуры на основании рабочей программы учебной дисциплины и соответствует требованиям ФГОС ВО 3++ по специальности «31.05.03 Стоматология, частично реализуемая на английском языке».

Фонд оценочных средств включает в себя банк тестовых заданий, билеты к зачету, ситуационные задачи.

Банк тестовых заданий включает в себя следующие элементы: тестовые задания, варианты тестовых заданий, шаблоны ответов. Все задания соответствуют рабочей программе дисциплины «Гигиена» и охватывают все ее разделы. Количество тестовых заданий составляет 334, разного уровня сложности. Количество заданий по каждому разделу дисциплины достаточно для проведения контроля знаний и исключает многократное повторение одного и того же вопроса в различных вариантах. Банк содержит ответы ко всем тестовым заданиям и задачам.

Дополнительно к теоретическим вопросам предлагаются 36 ситуационных задач. Ситуационные задачи дают возможность объективно оценить уровень усвоения студентом теоретического материала.

Количество билетов к зачету составляет 30, что достаточно для проведения данной формы аттестации и исключает неоднократное использование одного и того же билета во время зачета в одной академической группе в один день. Представленные билеты включают в себя 3 вопроса, формулировка которых полностью совпадает с вопросами, выносимыми на зачет. Содержание вопросов одного билета относится к различным разделам программы, позволяющее более полно охватить материал учебной дисциплины.

Замечаний к рецензируемому фонду оценочных средств нет. В целом, фонд оценочных средств по дисциплине «Гигиена» способствует качественной оценке уровня владения обучающимися соответствующими профессиональными компетенциями.

Рецензируемый фонд оценочных средств по дисциплине «Гигиена» может быть рекомендован к использованию для промежуточной аттестации студентов стоматологического факультета в V семестре.

Заведующая кафедрой биологии и
гистологии ФГБОУ ВО «Северо-Осетинская
государственная медицинская академия»
МЗ РФ профессор, д.м.н. Бибаева Л.В.

ВЕРНО: специалист по кадрам отдела кадров и документооборота
ФГБОУ ВО СОГМА Минздрава России
"____" _____ 20___ г.

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ «СЕВЕРО-ОСЕТИНСКАЯ ГОСУДАРСТВЕННАЯ МЕДИЦИНСКАЯ АКАДЕМИЯ» МИНИСТЕРСТВА ЗДРАВООХРАНЕНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ
ОТДЕЛ КАДРОВ И ДОКУМЕНТООБОРОТА

Passport of the Fund of Evaluation Funds by discipline
HYGIENE

№ p / p	Name of the controlled section (topic) of the discipline / module	Code of the formed competence (stage)	Name of the evaluation tool
one	2	3	four
Type of control	**Intermediate control**		
1	The environment, its effect on the body	UC-1	Questions for the module, test tasks, situational tasks, tickets for the test
2.	Nutrition as a factor of preserving and strengthening health	PC-4 GPC-4	Questions for the module, test tasks, situational tasks, tickets for the test
3.	Labor as an integral part of human existence, its positive and negative impact on health. Hygiene of medical and preventive organizations of dental profile	PC-4 PC-5	Questions for the module, test tasks, situational tasks, tickets for the test
4	Hygienic bases for ensuring the normal development and high level of health of the child population	PC-5	test tasks, tickets for offset, situational tasks

QUESTIONS FOR ENTRANCE CONTROL OF STUDENTS' KNOWLEDGE LEVEL

1. The chemical composition of the air.
2. What is the biosphere?
3. What units are used to measure atmospheric pressure, temperature, and humidity?
4. What is climate?
5. What is adaptation?
6. List the physical properties of air?
7. Why is it easier to breathe after rain?
8. Importance of water for the human body.
9. What diseases are waterborne?
10. Why can't sea water be used for drinking purposes?
11. What is basal exchange? And how is it defined?
12. Methods for determining energy consumption. Units of measurement of energy consumption.
13. The value of proteins.
14. The value of fats.
15. The value of carbohydrates.
16. Name fat - o- and water-soluble vitamins.
17. What is the difference between communicable and noncommunicable diseases?
18. Name the B vitamins.
19. The value of vitamin D.
20. The value of vitamin C.
21. List macro and micronutrients.
22. Iodine deficiency leads to
23. Ca deficiency leads to
24. List the opportunistic pathogens.
25. What is botulism?
26. What is hypo- , hyper-, beriberi?
27. What is health?
28. What is prevention?
29. What is etiology?
30. Hygiene is a science....
31. In what units is it measured: work, work power, energy, muscle strength?
32. What is hypodynamia?
33. What is JEL? What indicators does it consist of?
34. What is dynamic work?
35. What is static work?
36. What is fibrosis?
37. List the formed elements of blood.
38. What is NH?
39. What do you know about hydrocarbons?
40. In what units is the frequency of mechanical vibrations measured?

QUESTIONS FOR MODULE №1
"Air Hygiene"

1. Hygiene and sanitation, content, tasks. Methods of hygienic research. The value of hygiene knowledge for dentists.
2. Environmental factors, their classification and role in the occurrence and spread of diseases.
3. Hygienic characteristics of the atmosphere. Sources of air pollution and measures for its protection.
4. Physical properties of air, their hygienic assessment and methods of determination.
5. thermoregulation mechanism. Heat transfer paths and their dependence on the physical properties of air.
6. Atmospheric pressure, its effect on the body. Decompression sickness and prevention measures.
7. Hygienic value of air humidity. Methods for assessing certain types of moisture.
8. The concept of microclimate. Hygienic characteristics of indoor air .
9. Meteorological conditions and their influence on the body.
10. Hygienic significance and biological effect of various parts of the solar spectrum. Prevention of UV deficiency .
11. Climate and weather, their hygienic significance. The concept of acclimatization.
12. Natural and anthropogenic changes in the environment.
13. Hygienic and environmental problems of the modern city

QUESTIONS FOR MODULE №2
"Hygiene of water and water supply"

1. Physiological and sanitary-hygienic value of water.
2. Hygienic requirements for the quality of drinking water
3. Chemical indicators of water pollution and their hygienic assessment.
4. Methods of water purification in stationary and emergency conditions.
5. Methods of water disinfection in stationary and emergency conditions.

QUESTIONS FOR MODULE №3
"Food Hygiene"

1. Nutrition as a factor in the preservation and promotion of health.
2. The main patterns of building a diet.
3. The value of rational nutrition for various population groups.
4. Nutritional and biological value of food products.
5. Methods for assessing the nutrition of the population. Rules for compiling menu layouts for various groups of the population.
6. The role of proteins for the body, their nutritional and biological value. Consumption rates for various population groups.
7. Food fats, their classification and significance for the body. Consumption rates for the population, taking into account climatic conditions.
8. Carbohydrates, their classification. Significance for the body and consumption rates.
9. Trace elements and their classification. The value of the mineral composition of food, the role

of calcium and phosphorus, consumption rates.

10. The biological significance of iodine and fluorine for the body. Dental caries, fluorosis, endemic goiter and their prevention.
11. Hypo- and avitaminosis . Causes of their occurrence and preventive measures.
12. Water-soluble vitamins, their importance for the body, sources and consumption rates.
13. Fat-soluble vitamins, their importance for the body, sources and consumption rates.
14. Vitamins and their classification. The role of vitamins in the prevention of dental diseases.
15. B vitamins , sources, daily requirement.
16. The biological role of vitamin C , forms of vitamin C deficiency, daily requirement.
17. The biological role of vitamin D , sources, daily requirement for vitamin D.
18. Importance of vitamin A for the body. Norms, sources, prevention of A - vitamin deficiency.
19. Sanitary and hygienic examination of food products of animal origin. Methods for determining poor quality and falsification.
20. Food poisoning of microbial etiology. Basic principles of their investigation and prevention.
21. Food poisoning and their prevention.
22. Food mycotoxicoses and their prevention.
23. Food poisoning of non-microbial etiology and their prevention.
24. Dietary and medical nutrition. Therapeutic and preventive nutrition at work and its importance for the body.

QUESTIONS TO MODULE №4

Fundamentals of occupational health. Hygiene LPO dental profile "

1. The main recreational activities at industrial enterprises.
2. The effect of vibration on the body. vibration disease.
3. The impact of industrial noise on the body. Prevention of adverse effects.
4. Ultrasound, its sources, application, impact on the body.
5. Infrasound, impact on the body, preventive measures.
6. Principles of protection when working with radioactive substances and sources of ionizing radiation.
7. Industrial dust, classification, physical and chemical properties, effect on the body.
8. Specific diseases of the lungs and other organs under the influence of industrial dust. Pneumoconiosis, classification, course features, preventive measures.
9. Nonspecific diseases arising under the influence of industrial dust.
10. General patterns of the action of industrial poisons on the body, measures to prevent occupational intoxication.
11. Lead, zinc and their compounds. Influence on the body and preventive measures.
12. Carbon monoxide and sulfur dioxide, sources of formation, toxicological characteristics, prevention of poisoning.
13. Mercury and its compounds, use in industry and medicine, effects on the body and preventive measures.
14. Hygienic requirements for working with amalgam.
15. Types of buildings of medical institutions and hygienic requirements for their device.
16. Hygienic requirements for the arrangement and placement of premises of dental clinics.

17. Hygienic requirements for natural and artificial lighting in dental clinics.
18. The concept of ventilation, its meaning and classification. Air conditioning.
19. Hygienic requirements for the microclimate, heating, ventilation of dental clinics.
20. Hygienic requirements for the microclimate in dental clinics.
21. Safety rules and industrial sanitation in dental clinics.
22. Hygienic requirements for the sterilization of dental instruments, dressings, utensils, etc.
23. Hygienic requirements for pre- sterilization treatment of dental equipment and instruments.
24. Hygienic requirements for the arrangement of the interior of dental clinics.
25. Hygienic requirements for the equipment of dental offices and ZTL premises.
26. Sanitary and anti-epidemic regime and cleaning of the premises of dental clinics.
27. Rules of personal hygiene for the staff of dental clinics.
28. Occupational hygiene of dentists.
29. The concept of occupational hazards and occupational diseases in dentists.

SITUATIONAL TASKS

Federal State Budgetary Educational Institution
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Department of General Hygiene and Physical Culture
Faculty Dental **Course** III
Discipline Hygiene

Situational task № 1

In the study of microclimatic conditions in a 3-bed ward with an area 21 м^2(with depth 5,5 мand height 3,5 м) of the therapeutic department of the hospital, the following data were obtained:

- the readings of the thermometer placed on the light-bearing (outer) wall were 20.5 ^{0} C , placed on the opposite (inner) wall 22 ^{0} C, on the inner side wall (at a distance 3 мfrom the light-bearing wall) - 21.5 ^{0} C. All measurements produced at a height 1 мfrom the floor.

Vertical temperature fluctuations amounted to 1 ^{0} C for each meter of the chamber height.

The relative humidity of the air, measured with an aspiration psychrometer, was 20%, the air velocity in the center of the ward was 0.05 m/ s .

Exercise

Give a hygienic conclusion on the given situation.

Head Department Professor **A.R. Kusova**
Date of approval at the CCMS
March 22, 2022 Number 4

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Faculty Dental **Course** III
Discipline Hygiene

Situational task № 2

In the school of the settlement, for students in grades 1-2, it is necessary to organize preventive UV irradiation using EUV-30 lamps. The erythemal flux of the EUV lamp is 540 mayor. area of each class 52 кв. метра. Height 3 м. Calculate the required number of erythema lamps based on the fact that children should receive ¼ of the biodose (to receive 1 biodose, a luminous flux equal to 5000 mayor is required).

Exercise

What irradiation unit is needed in this situation **.**

Head Department Professor **A.R. Kusova**
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Faculty Dental **Course** III
Discipline Hygiene

Situational task № 3

The rural settlement, numbering 750 people, does not have running water. For drinking and household needs, water is used from a mine or from a tubular well. The village has a livestock dairy farm and private use of individual farms - cows, sheep, goats and poultry. Solid waste is not removed, disposed of by incineration on site, or cesspools are used. The results of the analysis of

Indicators	Units	Type of well		SanPiN requirements
		mine	tubular	
Smell	score	No	No	not>2-3
smack	score	No	No	not>2-3
Chroma	degree	>30	>30	>30
Turbidity	mg/l	1.3	0.5	1.5
Oxidability *(permanganate)*	mg O_2 /l	5.2	2.8	5
Rigidity	mg- eq /l	6.2	8.2	7 (up to 10)
Dry residue	mg/l	480	62.	1000 (up to 1500)
sulfates	mg/l	210	280	500
chlorides	mg/l	198	115	350
Iron	mg/l	0.4	1.2	0.3 (up to 10)
Fluorides	mg/l	1.2	2.0	1.5
Ammonia	mg/l	0.02	No	0.01
Nitrates (NO_3)	mg/l	48	28	45
microbial count	number of colonies	360	86	not>100
Coli-index	number of E. coli /l	eighteen	6	ten

water from wells are as follows

Exercise

Give a hygienic conclusion on the given situation.

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March 22, 2022 Number 4

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Faculty Dental **Course** III
Discipline Hygiene

Situational task № 4

A sample of beef meat, seized from the canteen of medical school No. 24, was delivered to the laboratory of the Center for Sanitary and Epidemiological Surveillance of the South-Western District of Moscow for the purpose of testing for finnosis. On external examination, the meat from

the surface has a dry crust of drying. The surface of the meat is slightly moist, not sticky, brown-red. The fat is yellowish, normal. On the cut, the meat is dense, elastic, the fossa formed by pressing is quickly leveled. The smell of fresh meat. An incision in the depth of the tissue, upon closer inspection, revealed oval-shaped bubbles, the size of a wheat grain. Microscopy reveals the formation of a bull tapeworm characteristic of Finns, a collapsed head of the parasite is visible inside the vesicle. When checking for viability, it was found that the Finns are in a dead state. On a plot of 40 cm^2, 2 Finns were found.

Exercise

Give a sanitary-hygienic conclusion on the meat sample based on organoleptic indicators and microscopy data.

Head Department Professor **A.R. Kusova**
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Faculty Dental **Course** III
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Situational task № 5

In the kindergarten for lunch, eggplant caviar (canned industrial production of one of the collective farm canning factories in the Krasnodar Territory) was given as a snack. After 7 hours, two children developed vomiting, abdominal pain, weakness, difficulty swallowing, uneven pupil dilation. Later, symptoms such as drooping eyelids, hoarseness, and nasal speech appeared. Body temperature remained normal, while tachycardia was noted. The children were consulted by a neurologist and hospitalized in the neurological department with diagnoses of bulbar form of poliomyelitis and diphtheria polyneuritis. Despite treatment, both children died a day later. For five more children with similar complaints that appeared after 12-48 hours, a medical commission was organized, which included an infectious disease doctor, a neuropathologist and a pediatrician. The commission made a diagnosis - food poisoning of a microbial nature. At the same time, it was found that all sick children received eggplant caviar from one can during lunch. As a result of the treatment, the last five children were saved.

Exercise

Analyze the described case of food poisoning, using the data of the anamnesis and clinic. Justify the diagnosis, indicate what additional laboratory tests are needed to clarify it, what should be the immediate assistance to the victims and suggest specific measures to prevent poisoning of this etiology.

Head Department Professor **A.R. Kusova**
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Department of General Hygiene and Physical Education
Faculty Dental **Course** III
Discipline Hygiene

Situational task № 6

During the regular preventive medical examination of the workers of the workshop for the production of car batteries, 2 workers complained of frequent headaches of a dull, aching nature, fatigue, muscle pain, trembling of the fingers, periodic involuntary twitching of individual muscles.

From the anamnesis it was established that the length of service at this enterprise and in this workshop is more than 10 years.

On examination, it was found that the skin was pale with a grayish-earthy tint, the visible mucous membranes were pale. On the gums, mainly in the front teeth, there is a discoloration of the mucosa. It is colored purple in the form of a strip. There is a tremor of the fingers. On palpation of the muscles of the hands, pain is noted along the course of the nerves.

Exercise

What occupational disease can be discussed and what measures in this case should be provided by the medical unit of the enterprise?

Head Department Professor **A.R. Kusova**
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Discipline Hygiene

Situational task № 7

In a quarry for the extraction of ore, air samples were taken from an excavator engaged in loading rock in order to determine the concentration of dust, its chemical composition and dispersion of dust particles.

The concentration of dust in the air of the working area was 4 mg/m ^{3} . The dust contained 55% free silicon dioxide (MPC for this type of dust - 2 mg/m ^{3}). The dispersion of dust particles is presented in the table.

Distribution of dust particles by dispersion.

Dust particle sizes	up to 1.0 mm	from 1 to 5 mm	More than 5 mm
Percentage of dust particles	fifteen%	80%	5%

Exercise

Assess the working conditions at this workplace. Give recommendations for their improvement.

Head Department Professor **A.R. Kusova**
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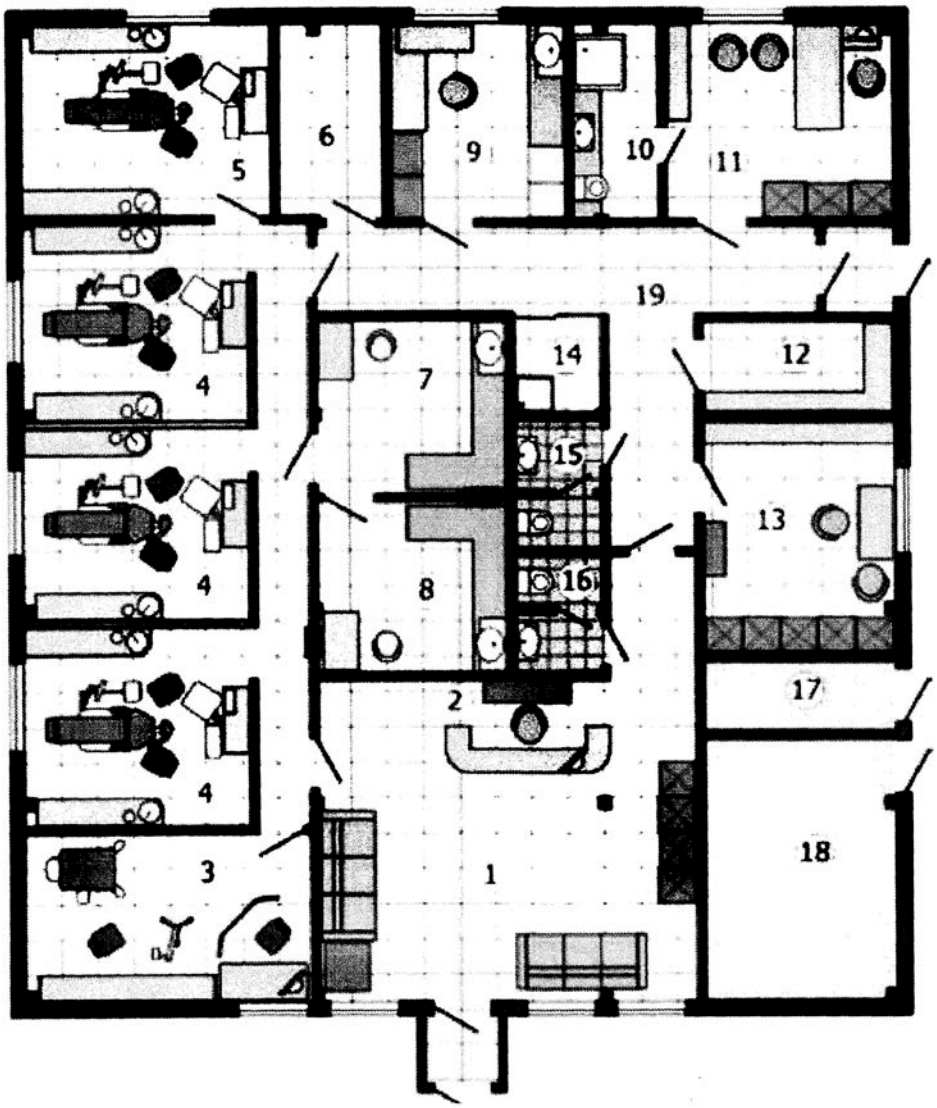
Discipline Hygiene

Situational task № 8

A dental clinic (SP category V) is supposed to be built in one of the new districts of a city near Moscow near a green area at a sufficient distance from sources of noise and air pollution. The area of the selected site is 0,3 га, the aspect ratio is 2:1, there are convenient access ways. The following zones are provided on the site: landscaping (40%), a polyclinic zone and an economic zone. The polyclinic building will be located at a distance 15 мfrom the red line, in front of the main entrance there will be a site for visitors with an area of 45 sq.m. 2 entrances to the territory are planned - to the polyclinic building and to the utility yard area (for garbage and waste disposal of the joint venture).

The polyclinic includes: a waiting room with a reception desk and a wardrobe for the clothes of visitors, dental therapeutic rooms, a surgical dentistry room for pre- sterilization and sterilization, an X-ray diagnostic room, rooms for staff (a doctor's office, a nurse's room, a nursery staff room), storerooms, toilets for staff and patients, technical rooms. Figure 7 shows the explication of the polyclinic premises, their dimensions and equipment.

Lobby-waiting room -42 м^2	*Personal hygiene room -5,5 м^2*
Registry with archive - 4 m ^{2}	*Doctor's office -14 м^2*
Corridor width - 2.5 m ^{2}	*Pantry of clean linen -6 м^2*
Office of Surgical Dentistry –16,5 м^2	*Premises for paramedical personnel -15 м^2*
Dental office -15 м^2	*Storage room for cleaning equipment2,4 м^2*
Compressor -7 м^2	*Staff bathroom with a gateway -3.75 + 5,5 м^2.*
sterilization -11 м^2	*Patient bathroom with lock - 3.75 +4,25 м^2*
Sterilization -11 м^2	*ray room -16,8 м^2*
Hostess sister's room - 11 m	*Utility room -17 м^2*
Switchboard -4,5 м^2	



Exercise

Carry out a hygienic assessment of the submitted project and draw up a conclusion.

Head Department Professor **A.R. Kusova**
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Situational task № 9

During X-ray examination (RI) of the lower jaw of the patient on the panoramic device " Status - X ", the following organs received the highest equivalent doses of radiation :

red bone marrow - 110 μSv
lungs - 240 μSv

mammary glands - 400 μSv
The weighting coefficients (W t) for the listed organs are:
red bone marrow - 0.12
lungs - 0.12
mammary glands - 0.05

Exercise

Give an estimate of the effective radiation dose received by the patient and, if necessary, recommendations for reducing the radiation exposure of the patient.

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Situational task No. 10

The figure below shows the posture of the dentist during the examination and treatment of the patient.

Exercise

Give a hygienic assessment of the doctor's working position and name the possible adverse effects of working in such a position.

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Стом–21 ИН

Federal State Budgetary Educational Institution of Higher Education
«North-Ossetia State Medical Academy»
of the Ministry of Healthcare of the Russian Federation

Department of General Hygiene and Physical Education

STANDARD OF TESTS

in the discipline " **HYGIENE** "

the main professional educational program of higher education - programs of a specialist in specialty 31.05.03 Dentistry, approved on March 30 , 22

for 3rd year students

specialty 31.05.03 Dentistry

Reviewed and approved at the meeting of the department
dated March 16, 2022 (Minutes№ 8)

Head of the Department of General Hygiene
and Physical Culture prof. MD Kusova A.R.

Vladikavkaz 2022

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