Лабораторно-инструментально: ОАК, б/х анализ крови, ОАМ – вариант нормы. Анализ крови на ХГЧ: ХГЧ – 60 000 МЕ/л. УЗИ органов малого таза: аномалии развития матки: нефункционирующий, рудиментарный рог матки справа. Беременность 6 недель. УЗИ почек: левая почка не визуализируется, викарная гиперплазия единственной правой почки.

Была выбрана тактика пролонгирования беременности. В качестве лечения получила дидрогестерон 40 мг однократно, затем два раза по 10 мг с интервалом 8 часов, транексамовая кислота 250 мг в течении 5 дней, дротаверин 40 мг 2 раза в день в течении 2 дней. В последующем, беременность завершилась преждевременными родами на сроке 34 недели.

Согласно данному клиническому случаю, аплазия почки была случайной диагностической находкой, и сочетается с аномалией развития матки – рудиментарным рогом. Следует отметить, наличие рудиментарного рога сочетается с аномалиями развития мочевых органов в 9,5 % случаев.

Таким образом, аномалии развития мочеполовых органов является актуальным вопросом для акушеров-гинекологов и урологов, в силу того что данная патология не всегда бывает диагностирована. В целом, такие пациенты могут жить полноценной жизнью и не нуждаются в медикаментозной терапии, но при возникновении заболеваний мочеполовой системы или беременности требуют особенной тактики ведения.

1. Воскресенский, Г. Д. Урология / Г.Д. Воскресенский. - М.: Государственное издательство, 2013. - 448 с.
2. Оперативная урология. Классика и новации. Руководство для врачей / Л.Г. Манагадзе и др. - М.: Медицина, 2014. - 740 с.
3. Пытель, А. Я. Избранные главы нефрологии и урологии. Часть III / А.Я. Пытель, С.Д. Голигорский. - М.: Медицина, 2018. - 304 с.
4. Акушерство и гинекология. Дифференциальная диагностика от А до Я. - М.: ГЭОТАР-Медиа, 2018. - 400 с.
5. Акушерство / Под редакцией Г.М. Савельевой. - М.: Медицина, 2017. - 816 с.
6. Гитун, Т.В. Диагностический справочник акушера-гинеколога / Т.В. Гитун. - М.: АСТ, 2013. - 282 с.
7. Moshkin A.S. Description of the option vascularization of the horseshoe kidney if it is located to the right in the differential diagnosis in outpatient surgery (Описание варианта васкуляризации расположенной справа подковообразной почки при дифференциальной диагностике в амбулаторной хирургии) MEDICUS Международный медицинский научный журнал, № 4 (28), 2019 с. 60-62
8. Мошкин А.С. Ультразвуковая оценка вариантов расположения бедренной артерии и вены в хирургической практике //Вестник экспериментальной и клинической хирургии. Том XII №3 2019 г. с. 158-161

Eliseev Y.Y., Chernova O., Ivanova M.

The conditions of the educational-production environment during the development of Hygienic assessment of working specialties by cadets of the Lyceum of river transport

*Saratov State Medical University named after IN AND. Razumovsky
(Russia, Saratov)*

doi: 10.18411/sr-10-12-2019-19

idsp: sciencerussia-10-12-2019-19

Introduction Currently, over 2 million people are undergoing training in reformed secondary vocational educational organizations. Students occupy a special mastering of workers, a place among them is specializing in various types of transport, which is primarily due to their high professional demand. At the same time, there are numerous literature data on the negative impact of factors of the work environment and the labor process on the health of

workers in transport enterprises, including on the body of adolescents who are in specific conditions of vocational training [1, 2].

The purpose of the work was a comprehensive hygienic assessment of the conditions of the educational-production environment in the process of mastering working specialties in the Lyceum of River Transport (LRT). Hygienic assessment of the educational and production materials and methods with sanitary and epidemiological training was carried out in accordance with the requirements for the organization of the educational and production process in primary vocational education institutions set out in the sanitary. The assessment included the study of the general educational standard of the Russian Federation Ne 2.4.3.1186-03. and vocational training cycles for adolescents. The bases for the passage of industrial and technological practice were determined: ship repair workshops and enterprises of the Saratov River Port (PSA).

2013-2018 in the conditions of the study was conducted during the study in LRT natural hygienic experiment. Teens mastered 4 professions: a master skipper, a mechanic of a small vessel, a ship's minder, a ship's electrician, and a sailor. The training was conducted on the basis of basic general education (9 grades), in full-time, for 2 years 10 months. The studied 4 groups divided by professions included 200 students combining theoretical and industrial training. educational measurement of indoor microclimate, parameters in the cockpits of ships of production workshops, workshops of ship repair enterprises, was carried out in accordance with the requirements of the sanitary standard of the Russian Federation 2.2.4548-96 "Hygienic requirements for the microclimate of industrial premises". For temperature measurement speed and air movement, a TA-055 Almaz thermoelectric anemometer was used. Relative humidity measurements MB-4-2M The levels of suction air were carried out by a psychrometer and artificial light were determined by a TKA-PKM pulsometer-natural light meter in accordance with the requirements of the sanitary standard of the Russian Federation N® 2.2.1 / 2.1.1.1278-03 "Hygienic requirements for natural, artificial and combined lighting of residential and public buildings. " Conducted 118 studies.

Measurement of sound pressure levels at workplaces, their frequency response was carried out by a noise and vibration meter БМВ-003 М-2 in accordance with sanitary standards (CH) N 2.4 / 2.1.862-96 "Noise at workplaces, in residential and public buildings and in residential areas "and" Guidelines for the prevention of the adverse effects of industrial noise on the body of adolescents "NP2410-81.

The study of the chemical composition of the air in the working zone was carried out in a testing laboratory accredited by the Rospotrebnadzor system in accordance with state standards (GN) 2.2.5.1313-03 "Maximum permissible concentrations (MPC) of harmful substances in the air of the working zone". 318 measurements were taken.

A hygienic assessment of the organization of the educational-production process for adolescents mastering working professions in river transport was carried out on the basis of timing studies.

Timekeeping was carried out in two directions. On the one hand, the training was the study of the timing of the cost structure of production time, which allows to evaluate the theoretical mode and, on the other hand, the timing of professional training for young men. Studies were carried out to compile the profессиographic structure of industrial training for adolescents in river transport. In this regard Ergonomics and labor severity indicators (lifting and moving the load during the work shift, total mass of the lifted load, the time it takes to complete physical work, etc.) were evaluated in accordance with the Decree of the Government of the Russian Federation of 25.02.2000 N 163 "List of heavy work (professions) and work (professions) with harmful and dangerous working conditions, the implementation of which prohibits the use of labor by persons under 18 years of age ", Decree of the Ministry of Labor and Social Development of the Russian Federation of 07.04.1999

No. 7“ Norms of maximum permissible loads for persons under 18 years of age under deme and moving heavy loads, "Labor Code of 197-F3 from 30.12.2001g.

Processing data is formed using conventional methods calculating the arithmetic mean, sample error, standard deviation, coefficient Student's; applied correlation and regression analysis. The data obtained were processed using IBM PC, an Excel spreadsheet processor and the Statistica 6.0 statistical package were used in the workplace .

Results and discussion.

The conditions of the training and production process in the classrooms, classrooms and production workshops (1st year of study) basically corresponded to the requirements of SanPiN 2.4.3.1186-03 (volume and area of premises, lighting levels, noise, concentration of chemicals), with the exception of microclimate parameters. In the cold periods of the year in training workshops, air temperature indices did not meet the standards in 41% of cases; in the warm season, air temperature indices exceeded the permissible values in 34% of cases.

The arrangement of students during the internship at the PSA is carried out differentially, taking into account the chosen direction of the future profession. So, mastering young men, for two weeks (76 hours) the profession of an engineer and shipbuilder minder, undergo practical training in a fitter's and assembly workshop, mainly engaged in the work related to the installation and cleaning of engines, fuel equipment, nozzles, hydraulic pumps, and mechanisms for actuating the covers of holds , compressors and deck mechanisms.

Lyceum students with a future profession - ship electrician for more than 2.5 weeks (96 ship repair training practices work in the watch repair shop) of a ship repair plant. During this time, students were engaged in: circuits, the development of electrical circuits as well as the repair of marine electrical equipment of electric motors, generators, fans, including their disassembly, rewind, assembly; electrical work, with the installation of equipment, installation of cable related routes and radio navigation equipment.

Ship repair practice young men, mastering the profession of a sailor takes only one week (36 hours) during which students work in the ship's hull and repair shop and are engaged in cleaning, repairing and preparing for painting the outer surfaces of small boats, mainly their metal bottoms and hulls.

For all young men, regardless of the type of specialty they are mastering, practical training begins at 8.30 in the morning, takes place in one 8-hour shift, which ends at 15.30. Moreover, not only an hour-long lunch break (from 11.30 a.m. to 12.30 p.m.), but also 10-minute breaks every 45 minutes of working time was provided for all students.

Given the lack of professional qualifications, frequent distractions associated with the discussion of the conformity and effectiveness of the stages of the production task, the density of practical training in non-technical operations exceeded 75.0%, and the implementation of the main workshops was 55.0-60.0% of shift time.

Along with this, which should be noted, the arrangement of students in production workshops was carried out mainly on unskilled areas of work, substantially related to the performance of manual operations.

Mastering the profession of a sailor, So, in youths, manual operations in the budget of working hours occupied up to 65.0%, and were carried out in the ship-hull repair shop in two directions: the first was the repair of the hull using epoxy resins and fiberglass; the second is the preparation of the hull for painting. from adolescents certain dynamic and Both directions required static physical effort. The first direction was associated with the careful manual cleaning of small areas of corrosion of the vessel hull to metal, degreasing the cleaned place with a brush dipped in gasoline, or for 40-60 minutes and acetone, wiping with rags, followed by drying by heating with hot air until 60 80 ° c. Then the students either used ready-made epoxy glue, or prepared epoxy putty, from binding materials: epoxy-diane resin (ED-5, ED-20, ED-40), hardener and plasticizer. Repair of damaged areas of the hull of a layer-by-layer glue application and gluing was carried out by a three-stage fiberglass with the formation of multilayer structures. These physical activities were accompanied by stereotyped working

movements when working with the muscles of the hands and shoulder girdle. The number of movements per shift did not exceed more than $1875 + 425$, which was significantly lower than the permissible values characteristic of light physical activity of the optimal class of working conditions.

When preparing the ship's hull for painting in the presence of significant areas of corrosion wear, as a rule, on the bottom, the latter was cleaned mechanically, which required not only considerable physical effort of the students, but also a long stay in an uncomfortable working position. The cleaning of the surface to be cleaned was carried out with the help of scrapers, bill hooks with shock and shearing manipulations, and subsequently using the rotating work of the drive electric brushes. The performance of this type of work, taking into account the physical static loads per shift, performed by students with one hand was $486000 + 68780 \text{ kg s}$, which corresponded to a harmful (heavy) 3.1 degree class of working conditions. Moreover, the forced torso of the torso over a shift was $112 + 26$, which also corresponded to the harmful 3.1 degree of the class of working conditions, given the presence of two indicators of class 3.1. the overall assessment of the severity of labor of students mastering the profession of a sailor in the process of production practice at a ship repair plant should be set one notch higher (3.2).

At the same time, manual manipulations performed by LRT students related to metal cleaning were not accompanied by exceeding the permissible level of local pulsed vibration. The equivalent corrected level of vibration acceleration was $115 + 2.1 \text{ dB}$, which is more than 10 dB lower than permissible, and the conditions are permissible to class 2.

The vibration indicator corresponded to labor. It should be noted that the performance of this process in the performance of LRT students rarely reached 2-3 m / h, while qualified workers of the ship-hull repair shop processed up to 8 m in one hour. Moreover, this stage of work was associated with the formation of a significant amount of rusty metal aerosol of fibrogenic action Containing dizheleza trioxide (Fez Oz).

The effectiveness of the work done by LRT students was judged by testing the tightness of the hull in T.N. kerosene-chalk test. The tightness criterion was the absence of appearance for 40 minutes leaks and spots from the penetration of kerosene on the reverse (usually external) chalk screen of the body.

The training practice of young men, mastering the profession of a ship's minder and the profession of a skipper, took two weeks in the locksmith and assembly shop of a ship repair plant. This type of production practice was associated with a certain sequence of technological operations that make up the completed repair cycle of diesel engines of river small vessels. Manual operations in the budget of working hours of students in these specialties occupied up to

45.0%, and were mainly associated with physical dynamic loads (dismantling, loading, unloading, carrying and installation of parts).

The initial stage of the production practice of these groups of students consisted of dismantling according to the repair documentation: pipelines, shutting off the valves and disconnecting the disconnecting couplings, releasing the vessel's engine from water, oil and fuel; removal of fences, individual units and components of ship mechanisms from the installation foundation.

Further, students under the guidance of the foreman and foreman of the workshop, observing technological instructions and general requirements, carried out disassembly and washing operations, when this revealed wearing parts of the shaft line, boilers and diesel units, and heat exchangers.

The mechanical parts were cleaned by disassembling them in a single-chamber jet washing machines consisting of a retractable table to accommodate the parts and the washing chamber. At the same time, the pressure of the jet, with a power of 0.4-0.5 MPa during the

collision of abrasive particles with was accompanied by a sound effect with a noise level that cleans the metal reaching 89 dBA.

Further, parts were cleaned during engine repair in special baths under the influence of the pressure of a conical jet of washing liquid consisting of an alkaline organic solvent and a detergent. The process was also accompanied by a sound effect at 78 dBA. This stage provides for the degreasing of parts with low fluid consumption. Fat-free and cleaned parts were washed in a chamber with hot water and dried with a stream of hot air. Cleaning and washing of diesel parts allowed not only to remove tarry and particles of ash and soot, but also prepare them for deposits, soot, scale, defect. It should be noted that the practical training of students, which took place in the fitting and assembly workshop of the ship repair plant, was distinguished by the presence of several noise sources (the operation of automatic sinks and workshop fans). The main sound level created by jet washing machines was broadband, intermittent, and high-frequency due to the presence of noise detected in octave bands of 1000 Hz and higher. fitting and assembly shop of various types of equipment, noise assessment from each machine was carried out with the equipment and ventilation stopped and each machine turned on separately. At the same time, the noise interference level was lower than the noise level of the machines under study by more than 10 dBA in all octave bands. The noise was measured at 5 evenly distributed points of the workshop's working area, remote from the walls of the building at a distance of 2 m. The equivalent sound level calculated by us in the fitting and assembly workshop was 89.3 5 dCA. DCA, which exceeds the permissible level (80 DCA), more than Therefore, working conditions, taking into account the dependence on the noise level, belong to hazardous class 3.1.

Students visualized, and more often instrumental, instrumented wear detection of parts under the control of a master. If the presence of an irreparable defect was detected, the part was subject to replacement, with the drawing up of the act of delivery of the part in scrap metal and a statement of a similar replacement from the warehouse. Along with intellectual work, students were engaged in purely mechanical work related to manual loading and transportation of parts.

The final stage of repair work on the assembly of the ship's engine was carried out at the assembly stand of the locksmith and assembly shop of the ship repair plant. The assembly order was determined by the design of the diesel engine and was carried out by the foreman and foreman, with compulsory students under close supervision using the control and installation tags, stamps and marks. Before assembly, the parts were washed, their cavities and channels were dried with clean compressed air from the compressor and then lubricated and assembled, uniformly screwing and tightening the connected nodes.

Parts,assemblies and the engine assembled and tested at the stand were checked in stages, then transferred and permanently installed on. In order to install and deliver large-sized parts (diesel, boilers, ships, heat exchangers, etc.), mechanization tools were used, such as electric and mechanical hoists, hydraulic jacks, forklifts. At the same time, installation and dismantling work, it should be noted that the main ones in the production departments of the ship-repair plant remain poorly mechanized. The bulk of the above work is performed by both workers and

students manually. In general, the total physical activity associated with mechanical work and the movement of goods per shift among students, a marine engine and a skipper in the average mastering profession amounted to 2340 + 480 kgm. This exceeded the norms allowed for by the Ministry of Labor of the Russian Federation No. 7 of 04/07/99 for persons under eighteen years of age when lifting and moving heavy loads manually from the floor, but fit into the 2nd permissible class of working conditions for male workers.

The field of industrial practice of lyceum students mastering the profession of electrician shipbuilding at a ship repair enterprise was the longest (96 hours), in comparison with other specialties of students of LRT. At the same time, manual operations in the budget of working time occupied no more than 25.0%, which is directly related to the significant

amount of development of technical material described in the electrical wiring diagrams, the assembly of power lines, the installation and repair of cable routes, radio navigation and electrical equipment.

The practical skills of the lyceum students were tested at the workplace of the electric repair shop of the enterprise, located near the equipment being repaired and equipped with all the necessary equipment (installation tables, cabinets, racks, workbenches).

LRT students doing practical training taking into account their future specialties in various workshops of a ship repair plant daily encounter natural substances in the air in the working area of the enterprise. The generalized results of measurements of concentrations of chemical chemicals at students' workplaces in industrial premises showed that the average values of the content of aliphatic hydrocarbon vapors, aerosols of mineral oil products for the period of production practice at the workplaces of all workshops did not exceed the permissible values. At the same time, the presence of high average shift concentrations exceeding the maximum permissible concentration in the air of the working zone of aerosols of diesel trioxide aerosols ($6.24 + 2.1 \text{ mg / m}$) and vapor of volatile products of epoxy resin ($1.68 + 0.7 \text{ mg / m}$) is noteworthy. controlled by epichlorohydrin during production the practice of students mastering the profession of a sailor in a ship-hull repair shop. The results obtained, taking into account the concentration of harmful chemicals in the air of the working area, allow us to classify the studied working conditions as hazard class 3.1.

The profession-oriented youth adolescents, the characteristics of the labor mastering various working professions in the process of practical training at the ship-repairing enterprise, revealed, along with the optimal permissible working conditions, the presence of a number of hygiene requirements that are inappropriate as hazardous. Studies have shown that young people in LRT practice in the production halls of PSAs in conditions that are often harmful. Thus, LRT students mastering the profession of a sailor in the process of practical training in the shipbuilding and repair workshop are faced with harmful factors: the severity of labor of class 3.1 and chemical factors also belonging to class 3.1, which created the final hygienic assessment of working conditions in the process of passing the production as harmful class 3.2. Working conditions in the process of practical training of cadets mastering the profession of skipper and ship's minder in the fitting and assembly workshop were also classified as harmful, but with a class below 3.1. Conditions at the workplace of students mastering the specialty of the ship were assigned to the permissible 2 classes electrician in an electrical installation workshop.

Conclusions. Thus, adolescents in the process of vocational training are subject to the same level of exposure to production factors as adult workers of the corresponding specialties of river transport.

1. Voitovich, A.A. The influence of vocational training factors on adaptation processes of students with disabilities / A.A. Voitovich, Yu.V. Eliseeva, Yu.Yu. Eliseev // Russian Pediatric Journal. 2014-T.17.-N ° 1.-p. 38-40
 2. Eliseev, Yu.Yu. The implementation of health-saving technologies in institutions of secondary vocational education in Russia / Yu.Yu. Eliseev, A.A. Voitovich, E.A. Dubrovina et al. // Modern problems of science and education. -2017.-N4.-S.69-72
-