

**PHYSIOLOGICAL AND HYGIENE BASIS OF HUMAN LABOR ACTIVITY****Togayev Jamshiddin**

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<https://doi.org/10.5281/zenodo.11503780>

**Abstract.** *In this article, physiological indicators of human labor activity, working time, rest time, breaks, and norms of day and night work are studied based on them, and recommendations in the field are reflected.*

**Key Words:** *“Labor activity, physiological indicators, working time, rest time, breaks, day work, night work.”*

**ФИЗИОЛОГИЧЕСКИЕ ОСНОВЫ ТРУДОВОЙ ДЕЯТЕЛЬНОСТИ  
ЧЕЛОВЕКА**

**Аннотация.** *В статье на их основе изучены физиологические показатели трудовой деятельности человека, рабочего времени, времени отдыха, перерывов, норм дневного и ночного труда, а также отражены рекомендации в данной области.*

**Ключевые слова:** *«Трудовая деятельность, физиологические показатели, рабочее время, время отдыха, перерывы, дневной труд, ночной труд».*

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**INTRODUCTION.** Work capacity is the ability of a person to perform the amount of work assigned to him in physical or mental work. According to the studies conducted by occupational hygienists and physiologists, the productivity of a person depends on many factors, regardless of the work performed (mental or physical).

These factors include the nervous system, glandular system, uniformity of body temperature, respiration, blood circulation and skeletal muscles. Dysfunction of any of the above causes a significant decrease in human working capacity. The negative impact of harmful habits on human ability to work has also been determined as a result of research. Smoking, alcohol abuse causes lung and liver diseases and causes complex health-related conditions. As a result of this, the working capacity of workers engaged in physical and mental work is observed to decrease. This situation is also confirmed by medical statistics. It is no coincidence that workers with harmful habits in many enterprises in a number of European countries decrease their labor rights due to the decrease in work capacity, especially labor productivity.

**OBSERVATIONS AND RESULTS OBTAINED.** According to all labor hygienists and physiologists, the high level of labor productivity of a person living a healthy lifestyle is

preserved not only during the entire working life, but also after it. In the process of such external research, the following known laws were also identified.

1) Physiological functions of most human organisms are active during the day. Therefore, the ability to work during the day is at a higher level than at night.

2) It is known that medical facilities (hospitals, reception centers for the injured, etc.), power stations, a number of industrial enterprises, railway transport (especially long-distance trains) work non-stop. Labor productivity of people who spend a lot of physical energy at night will not be high. In work between 2:00 and 4:00 at night, working capacity decreases (to the lowest daytime productivity), the productivity and quality of such work decreases. Twice as many mistakes are made early in the morning than during the day. Dispatch service employees will definitely take this situation into account and the safety of other people will depend on their activity.

3) It is possible to achieve the highest level of labor productivity in any activity if the mode of rest and work of a person corresponds to the biorhythm of the body in time.

4) Physical work can be done in the evening, morning and during the day.

5) Can consciously mix the period of peak work capacity during normal waking hours according to need or desire. This has been confirmed in scientific studies and life experiences. This applies primarily to workers engaged in mental work, at the same time productivity in mental work is undoubtedly higher after rest (sleep, rest breaks) and this is usually taken into account when planning work.

When the mental work of workers is properly planned before their work, they achieve the highest labor productivity. Another important condition for maintaining labor productivity is rational nutrition. Eating should not be more or less than necessary. Undernutrition, the body does not receive enough calories to restore strength, which reduces the ability to work.

Correct organization of work and rest processes is one of the important conditions for injury prevention.

A person's ability to work depends on his reaction to various harmful and dangerous production factors and the duration of the non-stop labor process.

If a person works without stopping for more than the specified period during the working day, he will be physically tired as well as mentally tired. The addition of noise, vibration, gassing, dustiness and other similar harmful and dangerous factors in working conditions increases the probability of injury to workers or the occurrence of accidents. For this reason, the administration must strictly observe the work and rest regime established by the labor legislation of the country. It is not possible to recruit an employee to work for two consecutive shifts.

In the Labor Code of the Republic of Uzbekistan, special attention is paid to the work of workers and servants. The legislation sets the length of the working week as 40 hours. The duration of daily work should not exceed 7 hours in a six-day work week, and 8 hours in a five-day work week. The working week of children aged 15-16 is 24 hours, and the duration of the working week of teenagers aged 16-18 is 36 hours. If the work is carried out in harmful working conditions, the duration of the working week is reduced to 36 hours. The government of the Republic of Uzbekistan determines the limit of working hours for employees engaged in extremely harmful and difficult work. On the eve of the working days before the holiday, the daily work (shift) period will be reduced by at least 1 hour for all employees. If at least half of the employee's daily work (shift) period falls on night time, the night work period shall be shortened by one hour, and the working week period shall be shortened accordingly. The time from 22.00 to 6.00 is night time

In cases where it is not possible to observe the duration of normal working hours every day, the legislation allows the administration to introduce generalized working hours in the case of agreement with the trade union committee. At the same time, the duration of working time in one shift should not exceed 12 hours, and the average duration of working time in a week should not exceed 40 hours. For certain categories of employees (medical staff, teachers, etc.) in jobs with a high level of excitement, mental stress, and nervous tension, i.e., the working time does not exceed thirty-six hours a week. is defined as

Out-of-hours work is carried out with the permission of the trade union committee.

According to the labor law, overtime in one year should not exceed 120 hours for each employee, and overtime in two consecutive working days should not exceed 4 hours. Payment for work performed outside working hours is paid according to the Labor Code. The legislation does not allow teenagers under 18 years of age, nursing mothers and pregnant women to work overtime. At the request of a pregnant woman who has a child under the age of fourteen (a disabled child under the age of sixteen), including a woman who has such a child under her patronage or a person who is busy caring for a sick member of the family. According to the medical report, the employer is obliged to assign them part-time working days or part-time working weeks.

Excessive work for the defense of the country, for the prevention of misfortune, for the termination of an accident or their consequences, or for the failure of public and state resources, such as water, gas, heat, light, sewerage, etc. performed in cases where there are. Disabled people of groups I and II will be assigned a reduced working time of no more than thirty-six hours per week without a reduction in wages. Disabled persons of this group are granted annual extended



basic leave for a period of not less than 30 calendar days. Recruiting disabled people to work at night, as well as work outside working hours and work on weekends is allowed only with their consent. Even in this case, the work performed should not be prohibited by medical recommendations.

Rest time is the time when the employee is free from work duties and can use it at his discretion.

The employee must be given a break for rest and meals during the working day, this break is not included in working time. The period of daily rest between the end of work and the start of work the next day cannot be less than 12 hours.

All employees are given days off. In a 5-day work week, employees are given two days off per week, and in a 6-day work week, one day off. SUNDAY is a public holiday. Employees are given annual basic leave for a period of not less than 15 working days.

In the following cases, employees are granted annual extended basic leave, taking into account their age and health:

- for persons under 18 years of age - 30 calendar days;
- working disabled persons of group I and II - 30 calendar days.

Taking into account the specific aspects and characteristics of their work duties and other circumstances, extended vacations are assigned to certain categories of employees in accordance with the law.

**CONCLUSION.** Physiological and hygienic basis of human labor activity means the main aspects related to the function of the body and environmental conditions that affect the ability of a person to perform work effectively and efficiently. Along with work and rest time, the following factors include the various physiological and hygienic principles necessary to ensure optimal performance:

1. **Physical Fitness and Endurance:** A person's physical condition, strength, and endurance significantly impact their ability to engage in labor activity. Regular exercise, proper nutrition, and adequate rest contribute to better physical fitness, enabling individuals to sustain prolonged work periods.

2. **Ergonomics and Workspace Design:** Ensuring a conducive work environment through ergonomic design helps prevent occupational hazards, reduces fatigue, and enhances productivity. Properly designed workspaces decrease the risk of musculoskeletal disorders and promote comfort during work.

3. Hydration and Nutrition: Adequate hydration and a balanced diet are crucial for sustaining energy levels and overall health during labor activities. Proper nutrition ensures that the body receives essential nutrients, supporting physical performance and recovery.

4. Rest and Recovery: Sufficient rest and breaks during work are essential for preventing fatigue and maintaining productivity. Adequate sleep and periodic breaks help in restoring energy levels and reducing the risk of injuries or errors due to exhaustion.

5. Temperature and Ventilation: Optimal temperature and ventilation in the workplace are critical for comfort and productivity. Extreme temperatures, poor ventilation, or exposure to environmental pollutants can negatively impact an individual's ability to work efficiently.

6. Personal Protective Equipment (PPE): Using appropriate PPE according to the nature of the work helps safeguard individuals from potential workplace hazards, ensuring their safety and well-being.

7. Health and Hygiene Practices: Maintaining personal hygiene, following proper sanitation practices, and promoting a healthy lifestyle are.

## REFERENCES

1. Тимофеев С. С., Тимофеева С. С. цифровое будущее охраны труда // ХХИ век. Техносферная безопасность. 2022. Т. 7. № 1. С. 51–62. <https://doi.org/10.21285/2500-1582-2022-1-51-62>.
2. Otabek M. et al. Dynamics And Stability Of A Composite Feed Cylinder In The Feeding Area Of Rotor Spinning Machines //Journal of Pharmaceutical Negative Results. – 2023. – С. 1152-1157.
3. Рахимов О. Д., Тогаев Ж. Х., Хужакулов А. Х. У. Усовершенствованный кормонасос для фермерских хозяйств //Academy. – 2019. – №. 6 (45). – С. 25-27.
4. Рахимов, О. Д. "Тогаев ЖХ, Хужакулов АХ Усовершенствованный кормонасос для фермерских хозяйств." Москва. Журнал «Academy 6 (2019): 45.
5. Rakhimov O. D., Togaev Z. K., Khuzhakulov A. K. Improved feed pump for farms //Akademy. – 2019. – Т. 6. – №. 45. – С. 25-27.
6. Жураев М. Н. и др. Кластер тармоқлари учун автомобил транспортида ташиш жараёнларини бошқариш моделларини шакллантириш //O'zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar jurnali. – 2023. – Т. 2. – №. 19. – С. 1318-1323.
7. Hamroyev O., Togaev J., Keldiyorov R. N. Installation for testing the ability of oil-oxidizing microorganisms //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 417. – С. 02015.

8. Zhuraev M., Togaev J., Yusufkhonov Z. Management of consumers needs for volume of transportation, taking into account the probable nature //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 401. – С. 01066.
9. Норбаев Э. Қ., Тоғаев Ж. Х. ОЗИҚА УЧУН ТЕХНИКАЛАРДАН ФОЙДАЛАНИШДАГИ ҲАРАЖАТЛАР УЛУШИ //ББК 1 Е91. – 2019. – С. 131.
10. Тоғаев Ж. Х., Жураев М. Н., Назарова В. Ҳ. АВТОМОБИЛ ТРАНСПОРТИДА ОЗИҚ-ОВҚАТ МАҲСУЛОТЛАРИНИ ТЕРМИНАЛ ТАШУВЛАР АСОСИДА ЕТҚАЗИБ БЕРИШНИ ТАКОМИЛЛАШТИРИШ //О'ЗБЕКISTONDA FANLARARO INNOVATSIYALAR VA ILMIY TADQIQOTLAR JURNALI. – 2023. – Т. 2. – №. 19. – С. 1143-1151.
11. Сарвирова Н. С., Саматов Г. А., Тоғаев Ж. ИННОВАЦИОННОЕ РАЗВИТИЕ В АГРОЛОГИСТИКЕ //Актуальные проблемы экономики и управления на предприятиях машиностроения, нефтяной и газовой промышленности в условиях инновационно-ориентированной экономики. – 2020. – Т. 1. – С. 175-185.
12. Жураев М. Н., Тоғаев Ж. Х. МЕТОДИКА ЭФФЕКТИВНОГО РАСПРЕДЕЛЕНИЯ ПРОВОЗНЫХ ВОЗМОЖНОСТЕЙ АВТОТРАНСПОРТНЫХ СРЕДСТВ НА РАДИАЛЬНЫЕ МАРШРУТЫ //Актуальные проблемы экономики и управления на предприятиях машиностроения, нефтяной и газовой промышленности в условиях инновационно-ориентированной экономики. – 2020. – Т. 1. – С. 116-124.
13. Muradov S. et al. EMERGENCY EPIDEMIOLOGICAL, EPIZOOTIC AND EPIPHYTIC SITUATIONS. PARTICULARLY DANGEROUS INFECTIONS THAT CAUSE CONTAGIOUS AND COMMON DISEASES //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 52-89.
14. Muradov S. et al. STANDARDS OF SAFETY REQUIREMENTS FOR PRESSURE CABINETS, APPARATUS AND GAS EQUIPMENT //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 159-180.
15. Muradov S. et al. MOVEMENT OF CHICTONIC PLATES, ORIGIN OF EARTHQUAKES //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 401-415.
16. Muradov S. et al. STUDY OF THE HISTORICAL STAGES OF THE SCIENCE OF LABOR PROTECTION //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 350-365.
17. Muradov S. et al. CHECKING KNOWLEDGE OF LABOR PROTECTION //Modern Science and Research. – 2024. – Т. 3. – №. 2. – С. 386-400.



18. Muradov S. et al. MAIN CONTENT AND COMPONENT PARTS OF THE SCIENCE" SAFETY OF CONSTRUCTION OF BUILDINGS AND CONSTRUCTIONS" //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 335-349.
19. Muradov S. et al. ANALYSIS OF SECURITY CATEGORY AND RULES FOR CARRIERS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 366-385.
20. Muradov S. et al. ANALYSIS OF SECURITY CATEGORY AND RULES FOR CARRIERS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 366-385.
21. Muradov S. et al. ANALYSIS OF SECURITY CATEGORY AND RULES FOR CARRIERS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 366-385.
22. Muradov S. et al. ADMINISTRATIVE BUILDINGS AND THEIR REQUIREMENTS //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 257-280.
23. Muradov S. et al. EMERGENCY EPIDEMIOLOGICAL, EPIZOOTIC AND EPIPHYTOTIC SITUATIONS. PARTICULARLY DANGEROUS INFECTIONS THAT CAUSE INFECTIOUS AND COMMON DISEASES //Modern Science and Research. – 2024. – T. 3. – №. 2. – C. 281-318.
24. Qizi S. M. A., Namazovna S. D. JAMOAT BINOLARI VA O ‘QUV MARKAZLARI UCHUN TASVIRIY SAN’AT VA RANG YECHIMINI LOYIHALASHDA RAQAMLI TEXNOLOGIYALARNING O ‘RNI //Raqamli iqtisodiyot (Цифровая экономика). – 2024. – №. 6. – C. 333-340.
25. Qizi S. M. A. et al. O ‘QUV BINOLARI VA O ‘QUV MARKAZLARINI RANG YECHIMINI RAQAMLI TEXNOLOGIYALAR HAMDA SUN’IY INTELLEKT ORQALI LOYIHALASH //Raqamli iqtisodiyot (Цифровая экономика). – 2024. – №. 6. – C. 325-332.
26. Muradov S. et al. CAUSES OF NATURAL EMERGENCIES //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 92-130.
27. Muradov S. et al. ANALYSIS OF SAFETY REQUIREMENTS OF EQUIPMENT WORKING UNDER HIGH PRESSURE //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 131-167.
28. Muradov S. et al. CAUSES OF NATURAL EMERGENCIES //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 92-130.
29. Muradov S. et al. CONTENT AND ESSENCE OF THE LAW AND LEGAL DOCUMENTS ON THE PROTECTION OF THE POPULATION AND TERRITORIES FROM EMERGENCIES //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 168-204.

30. Muradov S. et al. STABILITY CALCULATION OF LOAD LIFT VEHICLES //Modern Science and Research. – 2024. – T. 3. – №. 5. – C. 205-234.