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## ASSESSMENT OF NEUROLOGICAL CONDITIONS IN ADULTS WITH ARTERIAL HYPERTENSION

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Relevance of topic: Arterial hypertension is a major risk factor for neurological disorders, significantly impacting cognitive function, cerebrovascular health, and overall quality of life. The assessment of neurological conditions in adults with hypertension is essential for early detection and intervention to mitigate complications such as stroke, cognitive decline, and autonomic dysfunction.

Materials and Methods: This study retrospectively examined 100 adult patients diagnosed with arterial hypertension over a three-year period. The evaluation of neurological conditions included the following diagnostic methods:

1. Clinical Neurological Examination: Assessment of motor, sensory, and reflex functions.
2. Neuroimaging Studies: MRI and CT scans to identify cerebrovascular changes and structural brain abnormalities.
3. Cognitive Assessments: Standardized tests such as the Montreal Cognitive Assessment (MoCA) to evaluate memory, attention, and executive functions.
4. Autonomic Function Tests: Heart rate variability (HRV) and blood pressure monitoring during positional changes.
5. Laboratory Analysis: Monitoring lipid profiles, blood glucose levels, and inflammatory markers.

Patient outcomes were analyzed based on neurological symptom progression, imaging findings, and cognitive performance.

Results: The mean age of patients was  $54.6 \pm 9.2$  years, with a male-to-female ratio of 60:40. Chronic hypertension duration averaged  $12.3 \pm 7.1$  years. Neuroimaging revealed white matter hyperintensities in 68% of patients and microinfarcts in 35%. Cognitive impairment was observed in 62%, with memory and attention deficits being the most common issues. Autonomic dysfunction manifested as orthostatic hypotension in 40% and reduced heart rate variability in 52%. Comprehensive treatment, including antihypertensive therapy and lifestyle interventions, showed improvements in cognitive function for 48% and stabilization of autonomic symptoms in 60% of patients. Early detection and consistent management were critical in preventing severe neurological outcomes.

Discussion: The findings underscore the complex interplay between arterial hypertension and neurological health. Neurovascular damage due to





prolonged hypertension contributes to cognitive decline, autonomic dysfunction, and an elevated risk of cerebrovascular events. The results highlight the importance of regular neurological assessments and tailored treatment strategies for hypertensive patients. Pharmacological management, combined with cognitive training and lifestyle modifications, proved effective in mitigating neurological complications.

**Conclusion:** This study emphasizes the need for a multidisciplinary approach in assessing and managing neurological conditions in adults with arterial hypertension. Early intervention, comprehensive care, and consistent monitoring are essential for improving patient outcomes and preserving neurological function. Further research is required to explore advanced therapeutic strategies and long-term neurological outcomes in hypertensive populations.

### References:

1. Abdurakhmonov, N. (2024). THE IMPORTANCE OF DIFFERENTIAL DIAGNOSING IN TREATMENT OF MARGINAL BLEPHARITIS WITH DEMODEX ETIOLOGY. *Science and innovation*, 3(D5), 188-192.
2. Jurayev S.B. (2024). CURRENT TREATMENT OPTIONS OF ADHESIVE SMALL BOWEL OBSTRUCTION (LITERATURE REVIEW).  
<https://doi.org/10.5281/zenodo.14506496>
3. Khamdamov , R. (2025). ANALYSIS OF RISK FACTORS AND PREVENTIVE APPROACHES FOR MORPHOFUNCTIONAL ALTERATIONS IN NASAL ALAE DUE TO FURUNCLES. *Universal International Scientific Journal*, 2(1), 100–109. Retrieved from <https://universaljurnal.uz/index.php/jurnal/article/view/1412>
4. Khamdamov , R. (2025). ANALYSIS OF RISK FACTORS AND PREVENTIVE APPROACHES FOR MORPHOFUNCTIONAL ALTERATIONS IN NASAL ALAE DUE TO FURUNCLES. *Universal International Scientific Journal*, 2(1), 100–109. Retrieved from <https://universaljurnal.uz/index.php/jurnal/article/view/1412>
5. Niyozbek Abdurakhmonov Khamdamjon Ogli, & Gulomov Qahhorali (2024). IMPROVEMENT OF SURGICAL TACTICS AND TREATMENT OF COMBINED INJURIES IN CHILDREN. *Eurasian Journal of Medical and Natural Sciences*, 4 (5-2), 17-21. doi: 10.5281/zenodo.11367251
6. O'Gli P. S. S. KATTA YOSHLI BEMORLARDA FOKAL EPILEPSIYANI TURLI XILLIGINI EEG XUSUSIYATLARI //Ta'lim fidoyilari. – 2022. – T. 5. – №. 9. – C. 621-624.
7. PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. (2025). INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES

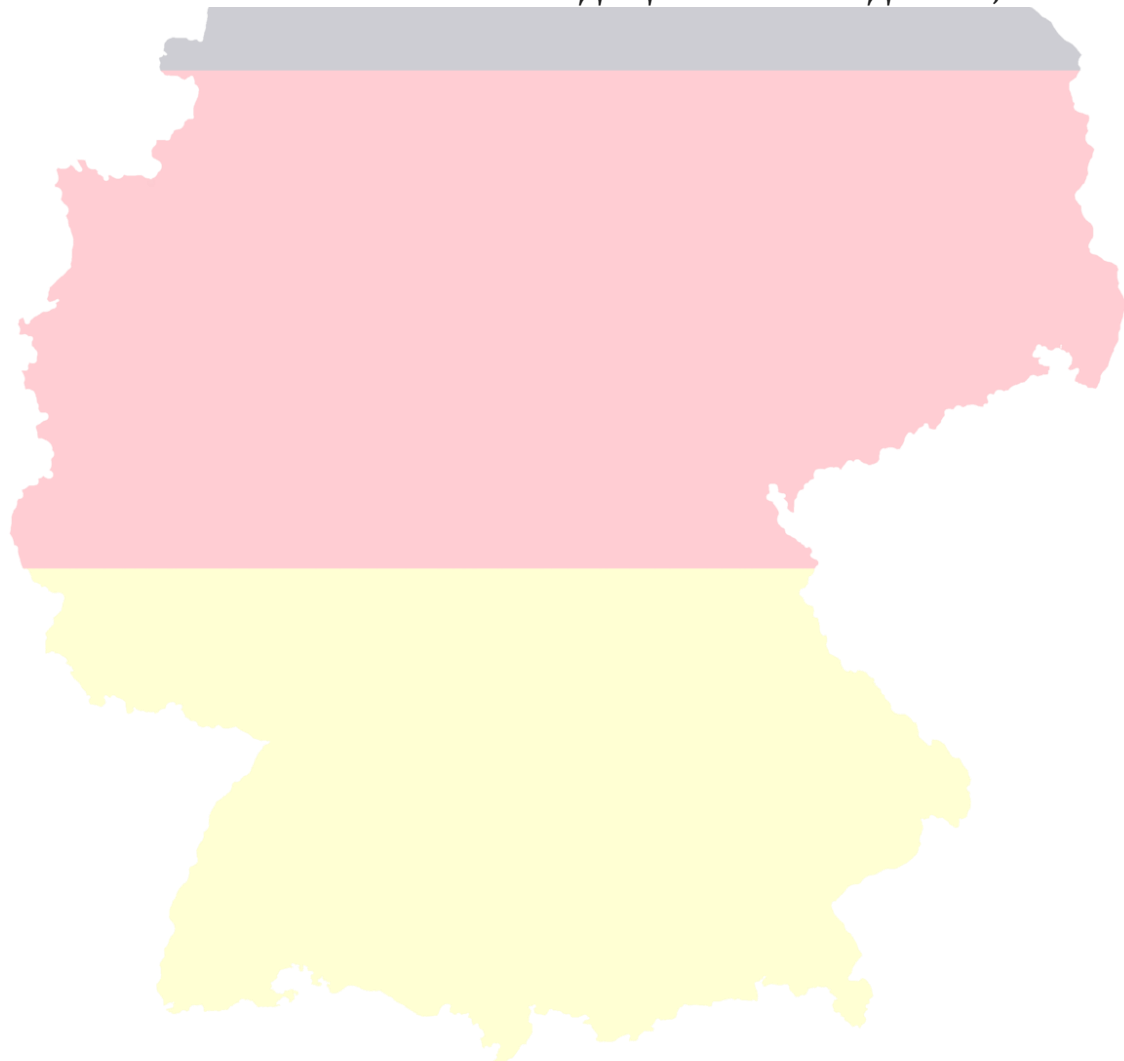




AND EDUCATION, 2(1), 4-6.

<https://eoconf.com/index.php/icmse/article/view/35>

8. Shuxrat o'g'li P. S. EEG CHARACTERISTICS OF DIFFERENT TYPES OF FOCAL EPILEPSY IN ADULT PATIENTS //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2023. – Т. 1. – №. 9. – С. 1-3.
9. UROGENITAL DIABETIC NEUROPATHY: CLINICAL FEATURES AND TREATMENT. (2025). *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION*, 2(1), 7-10.
9. <https://eoconf.com/index.php/icmse/article/view/36>
10. Жураев, С. Б. ОПТИМИЗАЦИЯ ТАКТИКИ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ПОВРЕЖДЕНИЙ АРТЕРИЙ КОНЕЧНОСТЕЙ ПРИ СОЧЕТАННЫХ ТРАВМАХ. «YOSH OLIMLAR TIBBIYOT JURNALI» *TASHKENT MEDICAL ACADEMY «MEDICAL JOURNAL OF YOUNG SCIENTISTS» ТАШКЕНТСКАЯ МЕДИЦИНСКАЯ АКАДЕМИЯ*, 82.







## ЭПИДЕМИОЛОГИЧЕСКИЕ И КЛИНИКО-МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ РАКА ПИЩЕВОДА В ЗАВИСИМОСТИ ОТ ВОЗРАСТНЫХ И ГЕНДЕРНЫХ ФАКТОРОВ

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**Введение:** Рак пищевода остается одним из наиболее агрессивных онкологических заболеваний, при этом возраст и пол пациента играют ключевую роль в клиническом течении и прогнозе болезни. Изучение эпидемиологических данных и морфологических особенностей опухолей в зависимости от этих факторов позволит выявить закономерности в развитии заболевания и улучшить тактику диагностики и лечения.

**Цель:** Оценить влияние возрастных и гендерных факторов на частоту, морфологическую структуру и клиническое течение рака пищевода.

**Материалы и методы:** Проведен ретроспективный анализ историй болезни пациентов с раком пищевода, госпитализированных в онкологические клиники региона. Оценивались возраст, пол, тип опухоли (плоскоклеточный рак или аденокарцинома), степень дифференцировки, клинические проявления и распространенность заболевания на момент постановки диагноза.

**Полученные результаты:** Установлено, что плоскоклеточный рак чаще встречается у мужчин старше 50 лет, в то время как аденокарцинома чаще диагностируется у пациентов с ожирением и ГЭРБ. Женщины реже болеют раком пищевода, однако у них чаще выявляются агрессивные формы опухолей с поздней диагностикой.

**Выводы:** Возраст и пол пациента оказывают значительное влияние на морфологию и течение рака пищевода. Полученные данные подчеркивают необходимость возрастнo- и гендерно-специфических подходов в ранней диагностике и лечении заболевания.





## LINGUISTIC TERMINOLOGY

**Musinjanova Mavludakhan Tojidin qizi**

**Free explorer**

**Annotation:** the development of the terminology of the Uzbek language in the current rapidly developing period, the conclusion of which is that the compilation of field terminological dictionaries of various branches of science is of great importance. Not only the terminology of linguistics, but also the study of the terminology of fields has become important for modern society.

**Keywords:** linguistics, terminology, pronoun, linguistics, dictionary, word conjunction, lexicon, lexical system

In linguistics, the specificity of terms, their absence from the general lexical system, the formation of a special lexical system, has been studied by a number of scientists. Researchers who conducted research on terminology in the last century considered the "term" as a special word, a product of the author's creation of a conscious word, and the "term" as a separate, clearly defined subsystem in the language general system.

In linguistics, general and special terms that represent certain concepts, views on the surface of the term and term are interpreted differently by scientists. We witness that the requirements for the term, the characteristics of the term, the aspects of expressing the ambiguity in it, the presence of homonym, synonym, antonymic polysemia and the feature of polyfunctionality in terminological units, vocabulary, as well as conveying, articulating with different words, are covered in many studies. Because in recorded and many other areas, understanding specific lexical units of the directional language can cause difficulties or lead to misunderstandings.

Researchers who conducted research on terminology considered the term as a special word, a product of the author's creation of a conscious word, and terminology as a separate, clearly defined subsystem in the language general system. "The term lexeme is derived from the Latin word "terminus", meaning end, Check, border, end. "The term-by its linguistic nature, is distinguished by its clear, concise expression of scientific and technical or other professional concepts and richness in information." In most modern definitions of the term, its relation to the concept is advanced, and this feature is recognized as the most important for determining the linguistic essence in question. For Example, A.V.Let's focus on the opinion of superanskaya that "in science, the relationship of term and concept comes to the fore". "Behind the term is always an object of thought, but not a general thought, but a special thought that is limited to a particular sphere. The term is directly related to the scientific concept". "Terms are a known way to reproduce professional,





scientific(special) knowledge as a linguistic expression of special concepts. When expressing a special concept that defines something general and natural in an object through a language sign, the term becomes a means of cognition".

Currently, term semantics differ from word semantics in that a.A.Potebnya's argument is that "when the term is used as the designation of a special concept, the lexical unit of the language has a terminological, conceptual meaning that is superimposed over a specific lexical meaning".

Terms can be similar to words in a common language. However, what makes pronouns different from words in a common language is the specific and detailed meaning they have in their context or in their specialized field. When translating a text, the nature of the work and the target audience should help determine whether the term or word in the general language corresponds to the context of the work. According to many current research in linguistics in the field of the term, the definition of the term "term" is becoming one of the important issues. While much research has been done on the study of important properties of the term, there are still no universal and complete methods of determining the nature of a "term" in linguistics.

In linguistics, the term is interpreted in similar variants. Sh. In the opinion of kokorov, "the term is a word or a combination used in the process of knowledge of certain objects and connections between them from the point of view of certain professions, their assimilation, expressing professional meaning, expressing and forming professional understanding". X.Prichodjayeva lists the well-rounded properties of the term: "(1) the term is a linguistic unit or compounds belonging to the language of production, science and technology, a type of universal language that performs a special task; 2) a term is a specific name of a specific thing – subject, material, abstract concepts; 3) a certain definition is necessary for a term, with the help of which it is possible to more accurately express the content of a particular term, distinguish one from the other, place a certain concept in a specific classification line, and more clearly indicate their distinguishing signs".

It is known that the science of terminology arose as a result of the development of various disciplines. Currently, each aspect of science has its own terminology. Many linguists have researched differently the nature of terminology, its lexical-semantic, functional-structural aspects. Until the 19th century, when they were interested in general terminology issues, beginning in the 20th century, they conducted research on the terminology of each branch of science separately. Standardization of terminology is the process of ensuring that terms meet certain standards.

### Reference:

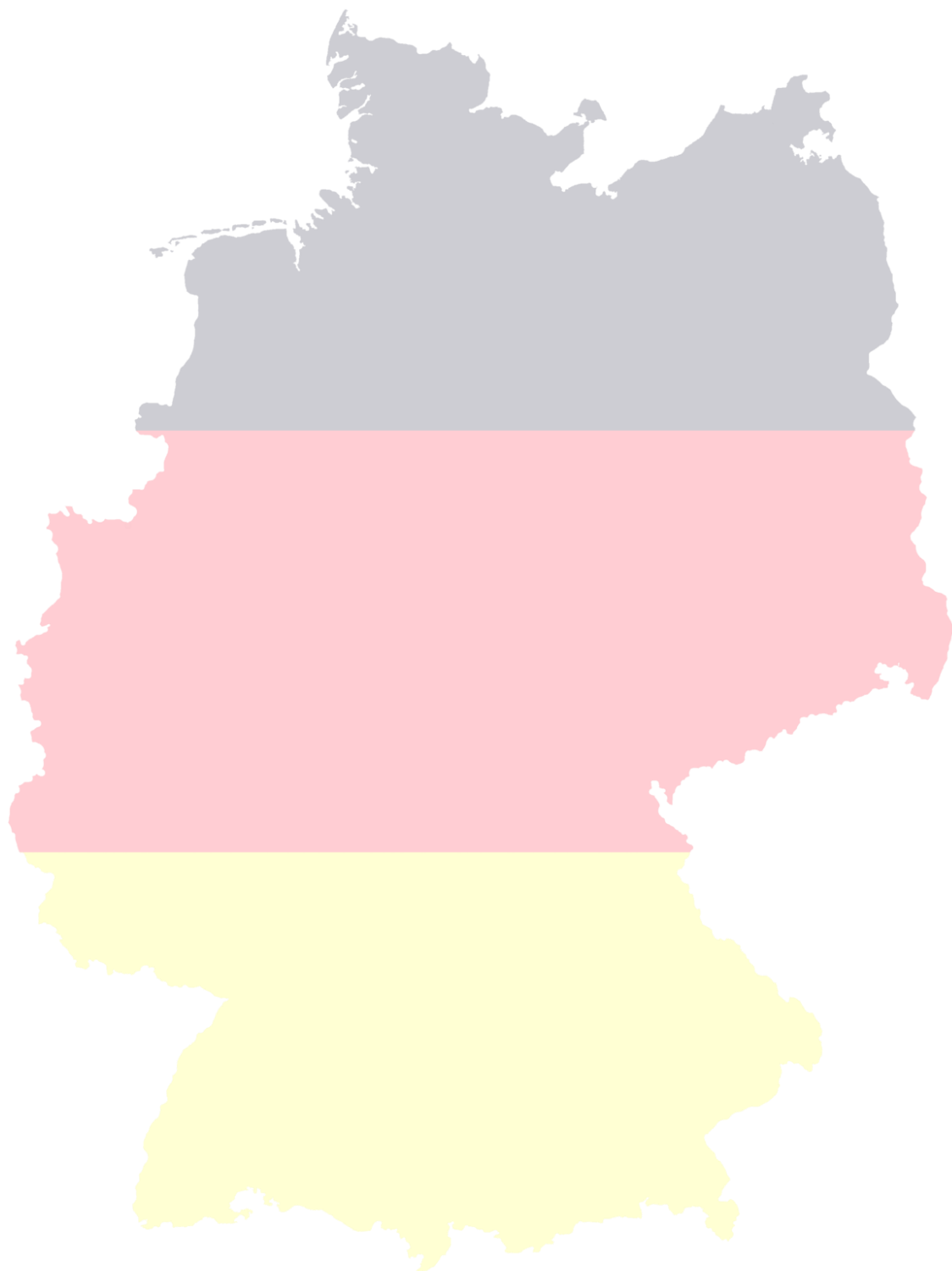
1. Qo'chqorov Sh. Diplomati til asoslari. – Toshkent; O'qituvchi, 2006.- 76 b.





2. Narxodjayeva X. Jarayon anglatuvchi terminlarning o'zbek tilida tutgan o'rni. – Toshkent: Fan, 2013- B.11

3. Усмонов С. Мирхамидов М., Ҳасанов С. Юристнинг нутқ маданияти. – Т.: 2007. – 117б.







## GENDER CHARACTERISTICS OF PLACE NAMES: A CULTURAL, HISTORICAL, AND LINGUISTIC ANALYSIS

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**Abstract.** This article analyzes the gender characteristics of place names from linguistic, historical, and cultural perspectives. The study examines the semantic and etymological aspects of toponyms associated with men and women, as well as the influence of gender stereotypes and social changes on geographical naming. The findings reveal that while place names reflect patriarchal structures, they are gradually evolving to align with the principles of gender equality.

**Keywords:** place names, gender characteristics, toponymy, semantic analysis, patriarchal society, gender equality.

**Introduction.** Place names (toponyms) are significant cultural and historical sources reflecting the history, culture, and linguistic features of a people. Gender characteristics play an important role in toponymy because they express the roles, values, and perceptions of men and women in society.

In Uzbekistan, place names dedicated to male figures are more prevalent, yet names honoring women also form an integral part of the cultural heritage. This study analyzes the gender characteristics of place names in Uzbekistan from cultural, historical, and linguistic perspectives. The aim is to uncover the historical evolution, cultural significance, and linguistic meaning of gender representation in place names.

**Methodology.** This research employed the following methods:

**Literature review:** Scientific literature on Uzbek toponymy, including historical, linguistic, and cultural studies, was examined.

**Empirical data collection:** Selected famous place names in Uzbekistan (e.g., Bibi-Khanym Mosque, Ok Qiz village) were analyzed to explore their origins and gender associations.

**Analytical method:** Place names were categorized based on their gender, historical, and linguistic characteristics.

**Comparative approach:** Place names were compared with other cultural processes related to gender representation in Uzbekistan.

The primary focus was on gender characteristics and their linguistic and cultural interpretations.

**Results.** Place names in Uzbekistan reflect the cultural values and gender perceptions of the people. The prevalence of names dedicated to male figures



is a legacy of patriarchal structures, while names associated with women highlight their respected roles in society.

**Bibi-Khanym Mosque (Samarkand):** Dedicated to the wife of Amir Timur, this structure illustrates the significant role of women in family and society during that era. The use of the term "Bibi" demonstrates the tradition of respecting women.

**Ok Qiz Village (Namangan):** The name represents women as symbols of beauty and purity in local cultural values, reflecting a positive perception of femininity.

**Kok Gumbaz Mosque (Shakhrisabz):** This monument highlights the historical significance of male figures, particularly Amir Timur and his descendants, in cultural and religious traditions.

Some place names in Uzbek toponymy have evolved over time, shedding their gender-specific associations or acquiring broader meanings due to historical and social transformations:

**Buvayda (Fergana Region):** Initially linked to "bibu" or "buva," possibly representing a female figure, this name has become gender-neutral, emphasizing its historical and spiritual significance.

**Zarafshan (Navoi Region):** As a river name meaning "gold-dispersing," it was once viewed as a feminine symbol but now carries a gender-neutral interpretation.

**Ok Machit (Surkhandarya Region):** Associated with Islamic worship, this name may historically reflect women's participation in religious activities.

The absence of grammatical gender in the Uzbek language means that gender representation in place names relies on semantic meaning. Some names directly express gender, while others do so indirectly:

**Qizbibi Village (Kashkadarya):** The word "qiz" (girl) explicitly reflects a female image, illustrating the tradition of honoring respectable women.

**Shakhrukhia (Fergana Valley):** Linked to Amir Timur's son, this name represents the societal importance of male figures.

**Buloqbosh (Andijan Region):** As a natural source, this name often symbolizes life, which in cultural traditions may have connections to femininity.

Many nature- and geography-related place names are devoid of gender characteristics, emphasizing respect for nature and descriptive expression:

**Chorvoq (Tashkent Region):** Reflects the geographical features of a mountainous area, carrying no gendered meaning.

**Kyzylkum (Navoi and Karakalpakstan):** The name of a desert, based on color or natural phenomena, is gender-neutral.

**Kuksaroy (Tashkent):** This name, associated with color and a palace, also carries a gender-neutral meaning.





In Uzbek toponymy, the abundance of place names honoring male figures signifies the historical legacy of a patriarchal structure. However, names dedicated to women also reflect societal respect for them. These two aspects collectively enrich the cultural heritage.

**Examples:** Names like Amir Timur's Gates highlight the historical role of men.

Bibi-Khanym Mosque showcases the significant societal roles of women and their recognition even within patriarchal systems.

**Discussion.** The findings indicate that gender representation in Uzbek toponymy has been shaped largely by cultural and historical processes. While the traces of patriarchal structures are evident in the dominance of male-associated place names, names honoring women occupy a distinct place in cultural heritage.

Historical changes have directly influenced the gender markers and meanings of place names. Some have transformed or adopted neutral meanings over time. Additionally, gender-neutral nature- and geography-related names reflect a worldview connected to the natural environment.

From a linguistic perspective, the absence of grammatical gender in Uzbek has resulted in gender being expressed semantically, showcasing the unique linguistic and cultural characteristics of Uzbekistan.

**Conclusion.** Place names in Uzbekistan reveal numerous interesting aspects of gender issues in the country's historical, cultural, and linguistic development.

Place names serve as a source of cultural and historical information reflecting the roles of men and women in society.

Due to patriarchal cultural influences, male-associated names are more prevalent, but names linked to women also form an integral part of cultural heritage.

Historical changes demonstrate the adaptability of gender representation in place names.

Linguistically, gender is expressed semantically, a feature tied to the grammatical characteristics of the Uzbek language.

This study contributes to a deeper understanding of Uzbekistan's cultural and linguistic heritage. Further exploration of gender characteristics in place names could shed light on their regional and global significance.

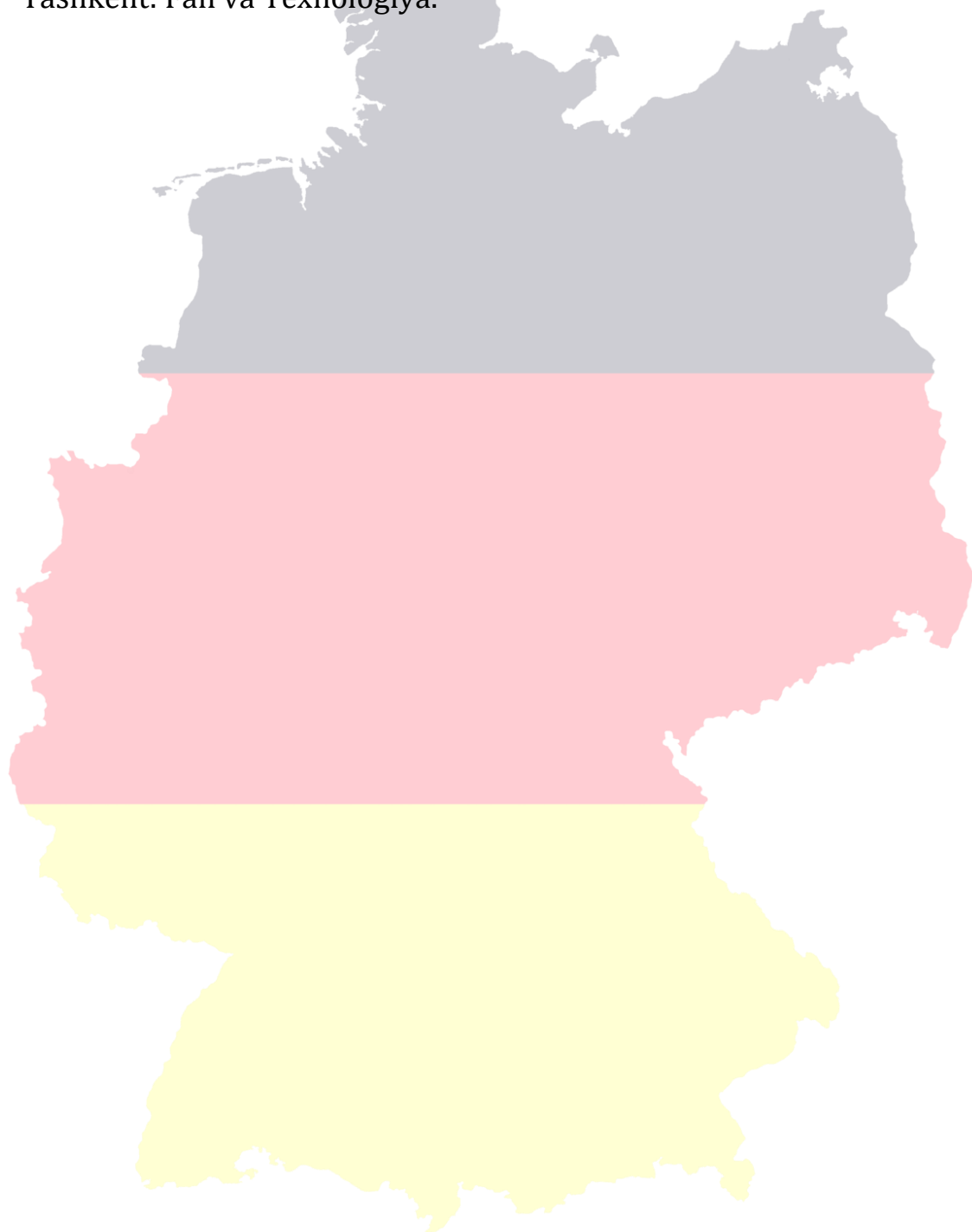
### References

1. Alieva, G. (2015). *Cultural Layers in Uzbek Toponymy*. Tashkent: Fan.
2. Karimov, B. (2021). *Place Names and History: Glimpses of Uzbek Culture*. Tashkent: Ma'naviyat.
3. Halimova, Z. (2019). *Linguistic Aspects of Uzbek and International Toponymy*. Samarkand State University Press.





4. Ismoilov, N. (2017). *Linguistic and Historical Analysis of Uzbek Toponymy*. Tashkent: Yangi Asr Avlodi.
5. Sattorov, M. (2020). *Toponymy of the Fergana Valley*. Fergana: University Press.
6. Abdullayev, M. (2018). *Etymological Aspects of Uzbek Toponymy*. Tashkent: Fan va Texnologiya.







## POSTOPERATIVE DELIRIUM IN CABG PATIENTS: IDENTIFYING RISKS AND OPTIMIZING PERIOPERATIVE MANAGEMENT

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**Introduction.** Postoperative delirium (POD) in patients undergoing coronary artery bypass graft (CABG) surgery is a multifaceted issue influenced by various risk factors and necessitating comprehensive management strategies. Preoperative anxiety and depressive symptoms (ADS) have been identified as significant predictors of POD, with studies showing that patients with these psychological conditions are more likely to experience delirium, leading to prolonged hospital stays and increased healthcare costs (AbuRuz & Maloh, 2024). The pathophysiology of POD involves complex neurobiological interactions, including neuroinflammatory processes and neurotransmitter imbalances, which are exacerbated by factors such as advanced age, preexisting cognitive impairments, and the type and duration of surgery (Paunikar & Chakole, 2024). In frail elderly patients, additional risk factors such as frailty, lower preoperative cognitive scores, and longer operation times have been highlighted, with frailty and operation time showing high predictive value for POD (Ding et al., 2024). Non-pharmacological management strategies, particularly within perioperative geriatric services, emphasize the importance of cognitive and psychological assessments to mitigate the risk of delirium and improve patient outcomes (Travers et al., 2024). Pharmacological interventions, including the use of antipsychotics, alongside non-pharmacological approaches like environmental modifications and cognitive rehabilitation, are crucial in managing POD (Paunikar & Chakole, 2024).

**Purpose of the study.** This study aims to evaluate the incidence of POD in CABG patients, analyze contributing factors, and assess the effectiveness of perioperative management strategies.

**Materials and Methods:** A retrospective study was conducted at the Fergana Regional Branch of the Republican Specialized Scientific Practical Medical Center of Cardiology. Forty-two patients who underwent CABG were divided into two groups: Main Group (n=21): Received a comprehensive delirium prevention protocol, including multimodal anesthesia, optimized hemodynamic management, and early postoperative mobilization. Control Group (n=21): Standard postoperative care was administered. Patients were assessed using the Confusion Assessment Method for ICU (CAM-ICU), Mini-Mental State Examination (MMSE), and laboratory and instrumental





diagnostics, including inflammatory markers (CRP, IL-6), EEG, and cerebral oxygen saturation (rSO<sub>2</sub>).

**Results and Discussion.** Incidence of POD: The main group exhibited a significantly lower POD incidence (14.3%) compared to the control group (42.9%) ( $p < 0.05$ ).

**Inflammatory Markers:** CRP and IL-6 levels were significantly higher in patients who developed POD, with mean CRP levels of  $14.2 \pm 3.1$  mg/L in the POD group vs.  $7.8 \pm 2.5$  mg/L in non-POD patients ( $p < 0.01$ ).

**Cerebral Oxygenation:** Patients with POD had lower postoperative rSO<sub>2</sub> values (mean  $56.4 \pm 5.7\%$ ) compared to non-POD patients (mean  $65.1 \pm 4.8\%$ ) ( $p < 0.05$ ), indicating a potential role of perioperative cerebral hypoxia in POD development.

**MMSE Scores:** Patients who developed POD showed a significant postoperative decline in MMSE scores (preoperative  $26.8 \pm 1.9$ , postoperative  $21.4 \pm 2.3$ ,  $p < 0.05$ ).

These findings highlight the importance of inflammatory control, cerebral perfusion monitoring, and cognitive function preservation in reducing POD risk.

**Conclusion.** POD remains a significant concern in CABG patients, particularly those with preexisting cognitive impairment and inflammatory markers. Optimized perioperative management, including multimodal anesthesia, hemodynamic stability, and cerebral perfusion monitoring, can significantly reduce POD incidence. Recommendations for Cardioanesthesiologists

1. Implement multimodal anesthesia and hemodynamic optimization to minimize fluctuations in cerebral perfusion and reduce neuroinflammation.
2. Use cerebral oximetry (NIRS) and inflammatory markers (CRP, IL-6) for early risk stratification and targeted interventions to improve postoperative outcomes.

## References:

1. Abdurakhmonov, N. (2024). THE IMPORTANCE OF DIFFERENTIAL DIAGNOSING IN TREATMENT OF MARGINAL BLEPHARITIS WITH DEMODEX ETIOLOGY. *Science and innovation*, 3(D5), 188-192.
2. AbuRuz, M. E., & Maloh, H. I. A. (2024). Preoperative anxiety and depressive symptoms predicted higher incidence of delirium post coronary artery bypass graft surgery. *Nursing ... Critical Care*. <https://doi.org/10.1111/nicc.13204>
3. Ding, Y., Gao, J., Huang, T., & Zhang, Y. (2024). Risk factors for postoperative delirium in frail elderly patients undergoing on-pump cardiac surgery and development of a prediction model—a prospective observational study. *Frontiers in Cardiovascular Medicine*. <https://doi.org/10.3389/fcvm.2024.1425621>





4. Jurayev S.B. (2024). CURRENT TREATMENT OPTIONS OF ADHESIVE SMALL BOWEL OBSTRUCTION (LITERATURE REVIEW).  
<https://doi.org/10.5281/zenodo.14506496>
5. Khamdamov , R. (2025). ANALYSIS OF RISK FACTORS AND PREVENTIVE APPROACHES FOR MORPHOFUNCTIONAL ALTERATIONS IN NASAL ALAE DUE TO FURUNCLES. Universal International Scientific Journal, 2(1), 100–109. Retrieved from <https://universaljournal.uz/index.php/jurnal/article/view/1412>
6. Niyozbek Abdurakhmonov Khamdamjon Ogli, & Gulomov Qahhorali (2024). IMPROVEMENT OF SURGICAL TACTICS AND TREATMENT OF COMBINED INJURIES IN CHILDREN. Eurasian Journal of Medical and Natural Sciences, 4 (5-2), 17-21. doi: 10.5281/zenodo.11367251
7. Niyozbek, A. (2023). MEMBRANA POTENSIALI VA ION KANALLARI. *ENG YAXSHI XIZMATLARI UCHUN*, 1(6), 881-883.
8. O'Gli P. S. S. KATTA YOSHLI BEMORLARDA FOKAL EPILEPSIYANI TURLI XILLIGINI EEG XUSUSIYATLARI //Ta'lim fidoyilari. – 2022. – T. 5. – №. 9. – C. 621-624.
9. Paunekar, S., & Chakole, V. (2024). Postoperative Delirium and Neurocognitive Disorders: A Comprehensive Review of Pathophysiology, Risk Factors, and Management Strategies. *Cureus*. <https://doi.org/10.7759/cureus.68492>
10. Paunekar, S., & Chakole, V. (2024). Postoperative Delirium and Neurocognitive Disorders: A Comprehensive Review of Pathophysiology, Risk Factors, and Management Strategies. *Cureus*. <https://doi.org/10.7759/cureus.68492>
11. PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. (2025). *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION*, 2(1), 4-6. <https://eoconf.com/index.php/icmse/article/view/35>
12. Shuxrat o'g'li P. S. EEG CHARACTERISTICS OF DIFFERENT TYPES OF FOCAL EPILEPSY IN ADULT PATIENTS //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2023. – T. 1. – №. 9. – C. 1-3.
13. Travers, R., Gagliardi, G., & Ramseyer, M. (2024). Delirium management in perioperative geriatric services: a narrative review of non-pharmaceutical strategies. *Frontiers in Psychiatry*, 15. <https://doi.org/10.3389/fpsy.2024.1394583>
14. Жураев, С. Б. ОПТИМИЗАЦИЯ ТАКТИКИ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ПОВРЕЖДЕНИЙ АРТЕРИЙ КОНЕЧНОСТЕЙ ПРИ СОЧЕТАННЫХ ТРАВМАХ. «YOSH OLIMLAR TIBBIYOT JURNALI» TASHKENT MEDICAL ACADEMY «MEDICAL JOURNAL OF YOUNG SCIENTISTS» ТАШКЕНТСКАЯ МЕДИЦИНСКАЯ АКАДЕМИЯ, 82.
15. Пирматов Ш.Ш., Рахматуллаева Н.И., & Холматов Р.И. (2021). ОСОБЕННОСТИ ЭЭГ РАЗЛИЧНЫХ ТИПОВ ФОКАЛЬНОЙ ЭПИЛЕПСИИ У ВЗРОСЛЫХ ПАЦИЕНТОВ. Экономика и социум, (10 (89)), 964-971.





## THE PROBLEM OF MAN IN ANCIENT EASTERN PHILOSOPHY

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**Abstract:** This article explores one of the main themes of philosophy: the human being, including their essence, nature, place in the world, function, and the significance of their social and natural existence. The views of representatives from Eastern philosophical schools, scholars, and various trends on this subject are presented, along with examples from legends.

**Keywords:** philosophy, human, essence, being, esoteric thinking, mythology, religion, Avesta, Rigveda, Confucius, Elamite civilization.

The most ancient foundations of views about humans are products of a mythological worldview, which remained the lifeblood of perspectives on the roots of humanity not only in ancient times but also up to the beginning of the 1st century. Most scholars who study humans and related knowledge consider myths (legends) to be the basis of primary understanding.[1.48]

Mythology (Greek: mythos - tale, myth, legend, and logos - word) is a systematically organized system of mythological concepts created by a specific people, a collection of myths. For example, Greek mythology, Indian mythology, Uzbek mythology.

The foundation of mythology consists of myths about the origin of ancient humans, the universe, celestial bodies, objects, and phenomena.

In Europe, extensive research is being conducted on the study of antiquity, which is considered the birthplace of mythology, and the first teachings about humans and their socialization are based on these studies.[2.186]

In this regard, L.A. Gogotishvili states: "Turning away from mythology means renouncing social sentiment, for only mythology can provide the values necessary for today".[3.45] – he says. Regarding this opinion, we can say that mythology is a form of social consciousness that embodies the intuitive spiritual power inherent in man.

The first philosophy, that is, the first stage in the history of human philosophical culture, is inextricably linked with the mythological worldview, which began long before antiquity, in the ancient East, that is, in Ancient Egypt, Babylon, Central Asia, India, and China. This worldview is distinguished by the global nature of its subject, the syncretism and monolithicity of the structure of knowledge, as well as a completely mysterious nature. [4.162]

Thus, the views about man, his socio-historical stages, as well as the idea that man is the center of the universe, are more relevant not only to the West,





but also to the East. The wisdom of the Vedas, the teachings of the Avesta, and the religious teachings of Egypt and Babylon are considered much older than those originating in Greece.

Our ancient history bears witness to the fact that the aspirations and will of our people have found expression in humanistic and progressive ideas. It is known that, in accordance with the spirit of the times and the needs, interests, aspirations, and dreams of the people, these ideas manifested themselves sometimes in noble concepts associated with goodness and justice, sometimes with a powerful state and a just ruler, and at other times with the perfect individual and an enlightened society. [5.42]

It would be correct to say that initially, this was embodied in the vital idea that found its interpretation in the Avesta in ancient times. It was this very dream that led to the principle of "Good thought, good word, and good deed" taking firm root in the thinking and lifestyle of the people. In this way, the protection of goodness and humanism became an important component of our people's mentality and spirituality, and the main direction of their life's activities. [6.16]

At the end of the 4th millennium BC and the beginning of the 3rd millennium BC, the cultures of ancient Babylon and ancient Egypt reached the pinnacle of their development. The legends that emerged during this period incorporated themes related to the origin of humankind and its spiritual and moral world. Among these are "The Song of the Harpist," "A Conversation of a Man Disillusioned with Life and His Soul," and "The Master and Slave's Questions and Answers About the Meaning of Life."

The earliest written monuments of the East contain the first teachings about the universe and mankind, and their origins. For example, in the Rigveda (an ancient Indian literary monument dating back to the second half of the eleventh millennium BC), the section entitled "Hymn to Purusha" describes the origin of the universe, emphasizing the primacy of human essence. According to this text, the universe (purusha) originated from man. Additionally, the "Vedas," which provide insights into the philosophical views of ancient Indians regarding the emergence of humankind, were created approximately between 1500 and 600 BC. [7.144]

Also, in the territory of the Ancient East, the most important processes related to the beginning of the development of human civilization and culture took place in the 10th-7th millennia BC. During this period, various forms and spheres of cultural activity emerged in the East. Writing, literature, art, science, and the first world religion - Buddhism - appeared. Without this initial process, it is difficult to imagine all subsequent development of human culture.

The concept of the Ancient East does not correspond to modern concepts of the East. After all, the ancient East encompassed a vast region of the globe





from Egypt to China, and in this area, starting from the 7th millennium BC, the first civilization in human history began to emerge. The civilizations of Egypt, Mesopotamia, India, and China were the oldest and largest cultures. Under the influence of these cultures, the civilizations of Urartu, Phoenicia, Hittite, and Elam were formed, which had a significant impact on the history of human culture. [8.60]

According to I.P. Weinberg, the culture of the ancient East fulfilled "a great mission as the initial discoverer and founder": developing writing and constructing the foundation of statehood, creating conditions for the coexistence of people differing in their ethnic, professional, property, and social status.

"Nothing is as precious as a sweet life." The Mesopotamians' views on a joyful life are also depicted in the epic "Gilgamesh." They were more interested in personal life issues. The Sanskrit translation of karma means "activity" (fate). Determining the content of this concept is complex. Karma is inherited from a person's previous life and manifests itself in the content and activities of their present life, determining the quality of the future material form. It is impossible to change Karma through repentance or prayers for forgiveness of sins; it only determines a person's moral character. At the same time, for every Hindu and Buddhist, it is essential to focus on self-knowledge and self-perfection, determining one's spiritual state, and maintaining the purity of one's karma.

This does not mean that religions in India encourage renouncing life and activity, but rather they promote indifference to worldly concerns. The entire essence of Indian culture is rooted in the idea of maintaining a balance between the external and the internal, the temporary and the eternal. [9.137]

A distinctive feature of Chinese culture is that since ancient times, the mystical aspects of religions have been considered secondary to morality, and the defining idea in culture has been the great "moral-social-political order" sanctioned by Heaven.

For millennia, the teachings of the great thinker Confucius, who lived from 551-479 BCE, have been considered the main spiritual, moral, and ideological source of Chinese culture and civilization. All the most important aspects that determine the "character" of any civilization - the principles of life, forms of state and social organization, and generally accepted moral norms and values - were formed in China under the influence of Confucianism. [10.228]

The concept of "Mandate of Heaven" was developed by Confucius in a new way of thinking, in which social morality plays a central role and shapes political culture. Ideals such as respect for traditions, a strong sense of duty, high moral standards, dedication to society, constant pursuit of truth, faith, and nobility served as guiding principles for those who aspired to rule others.





These ideals, embodied in Confucianism as the main pillar of the state, were complemented by Daoism, the second great philosophical doctrine that emerged in China. Daoism reflects on the problems of life, nature, and universality. While Confucianism focuses on a person's social activity, Daoism reflects on their spiritual life and worldview. Daoism captured the main ideas of ancient Chinese thought and enriched world culture with new life. Its core concepts include: the dualistic nature of the world based on the "yin-yang" principles; "wuxing" - matter composed of five basic elements (earth, water, fire, metal, and wood); and the constantly changing nature of the world, indicating that the basic elements are in a perpetual state of qualitative transformation.

The ancient civilization of the East gave rise to many crucial innovations in both material and spiritual spheres. In particular, the 2nd millennium BC is characterized by a process of spiritual upheavals. During this period, two principles first emerged: universal human unity and the spiritual independence of the individual. The freedom of ideas began, upon which people built their lives. The renowned Sufi scholar N. Komilov, in his views, pays special attention to how the subsequent stages of human evolution are illuminated: "I abandoned the physical form and became a plant, I left the plant form and turned into an animal. I gave up being an animal and became a human. Well... why should I be afraid after all, having abandoned everything... I haven't lost anything! Now I want to completely abandon humanity... so that I can grow wings like angels. But I have to transcend angels too. Because 'Every creature faces destruction' (as stated in the Quran). Let me soar once more beyond being an angel, let me become something the mind cannot fathom. Then I will disappear like a melody into the abyss of nothingness, and then let God say: everything will return to me".[11.12]

Ancient Eastern civilization began earlier than Western civilization. Greek culture flourished under the influence of ancient Eastern culture, a fact acknowledged by the Hellenes themselves. As a result of these influences, a period emerged when the synthesis of Eastern and Western cultures gave rise to Hellenistic culture: the ancient East left us with immortal treasures. These include the epics "Gilgamesh" and "Mahabharata," the dramas of Kalidasa and the symbolic fables of Zhuangzi, the Egyptian pyramids and the Great Wall of China, among others. Despite numerous doubts about whether some of this unique heritage was truly created by human hands or intellect, humanity is recognized as the owner and inheritor of such a magnificent legacy, destined to carry it forward.





### References:

1. Шермухамедова Н.А. Фалсафа ва фан методологияси.-Тошкент, ЎзМУ.2005.-Б.48.
2. Плотников Н.С. Переделы перспективы современных философских теорий мифа.Вопросы философии.1993, № 5. - С.186.
3. Гогтишвили Л.А. Мифология хаоса.// Вопросы философии. 1993.№9.-С.45.
4. Туйчиева Б.Т. Основы социальной философии: Учебное пособие. – Т.: Университет, 2009 г.
5. Ozodbek E. PHILOSOPHICAL FACTORS OF INCREASING SOCIAL AND ECONOMIC ACTIVITY IN SOCIETY //TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI. – 2023. – Т. 3. – №. 11. – S. 40-43.
6. Shavkatovich E. O. Human Existence and its Oriental Essence //American Journal of Science on Integration and Human Development (2993-2750). – 2023. – Т. 1. – №. 10. – S. 15-18.
7. Baxtiyorovna Y.B. FORMATION OF INDEPENDENT THINKING AMONG YOUNG PEOPLE–TODAY IS THE MOST RELEVANT DAY IN PEDAGOGY AS A FUNCTION //Proceedings of International Conference on Modern Science and Scientific Studies. – 2023. – Т. 2. – №. 3. – S. 143-148.
8. Bakhtiyarovna Y. B. Independent work of students through the internet pedagogical conditions of organization //Spectrum Journal of Innovation, Reforms and Development. – 2022. – Т. 3. – S. 59-61.
9. Saidovna R.D. A SYSTEMATIC APPROACH TO THE DEVELOPMENT OF STUDENTS'CREATIVE ABILITIES //Proceedings of International Conference on Modern Science and Scientific Studies. – 2023. – Т. 2. – №. 3. – S. 133-142.
10. Saidovna R. D. Professional competence of the educator–the main factor ensuring the quality of education //Spectrum Journal of Innovation, Reforms and Development. – 2022. – Т. 3. – S. 226-231.
11. Комилов Н. Тасаввуф.Тавхид асори.-Тошкент. “Ўзбекистон”. 1999.-Б.11-12.





## THE GENESIS OF THE MARRIAGE OF CONVENIENCE MOTIVE

(On the example of the Uzbek national-literary context)

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**Annotation:** In the article analyzes the motive of marriage of convenience and its variants within the framework of the literary-cultural context and historical-social context, and focuses on their common and different points. In particular, the story of Alexandr's marriage to Raksana is compared with Alisher Navoi's interpretation of marriage in the epic "Saddi Iskandari". Also, some marriage events in the fate of historical figures such as Amir Temur and Zahiriddin Muhammad Babur and their variants in the artistic work are analyzed.

**Key words:** genesis, motif, invariant, variant, literary-cultural context, historical-social context.

"All over the world, the majority of people strive for material well-being abundance and try to achieve it as much as possible." Although becoming the bride of a prestigious and rich family is considered an easy and acceptable option to "live a prosperous life", this situation is evaluated as an immoral, anti-ideal work both in human relations and in fiction.

Ravshanak (Raksana), the daughter of the ruler of Sugd, was captured during Alexander the Great's invasion of the Sughd lands, and Alexander decided to marry "the captive, Raksana, the daughter of his enemy". Historian Arrian says that Alexander fell in love with Raksana<sup>1</sup>.

According to another historical source, "whether this was done from the point of view of romance or diplomacy, the capture of the fortress and the marriage of Alexandr to Raksana led to the fact that Raksana's father, Oksiart, who was considered the strongest of Alexander's living enemies and apparently had a great reputation in Sughd, fearless came to Alexandr and was honored at his death"<sup>2</sup>

This marriage ensured Alexander's mutual alliance with his old enemy Oxyartus and strengthened relations with the Sughds, who had been seriously resisting the Greek forces for a long time. This proves that the interests of the colonizer and the colonial state were also intended from this marriage. "At the time of the wedding, Ravshanak was 16 years old. On that day, Alexander and his 10,000 warriors also got married with local girls.

After this wedding, the Sugidian and Bactrian warriors recruited by Alexander to the Greek-Macedonian army received equal status in the ranks of

<sup>1</sup> Арриан. Поход Александра. – С.150-160.

<sup>2</sup> History of Uzbekistan USSR. – T.: Publishing house of the USSR Academy of Sciences of Uzbekistan, 1956. – P.77.





the army. Ravshanak's family members, brothers and sisters were given high status"<sup>3</sup>. In the fifth epic of Alisher Navoi's "Khamsa" "Saddi Iskandarii" the marriage of Iskandar and Raksana (Ravshanak) is interpreted in a completely different way. In the epic, Raksana is the daughter of Darius, not Oksiart.

After Darius was injured by the conspirators, before his death he bequeathed to Iskandar, "Take my daughter Ravshanak as your wife." (Actually, Darius' daughter was Statira, whom Alexander also married). "A letter was written to Ravshanak and he was asked to stop mourning and agree to the wedding<sup>4</sup>." Naturally, the idealization of the image of Alexander does not allow a detailed description of the events of the marriage, similar to the reality of life.

Alisher Navoi is to create the image of a just king. For this reason, the motive invariant remained in the form of possibility, and as an option, its other side - the plot motifs covering the behavior of the ruler honoring value and love - was realized. In other words, the saga does not emphasize the interest behind this marriage at all. The Greeks distinguished seven types of love: agape, philia, eros, storge, ludus, pragma, mania<sup>5</sup>.

Pragma is Afrotida's sixth child, and for this child, "on the one hand, self-interest and calculation come first. All arranged marriages are the work of Pragma. On the other hand, this child develops a sense of love from a long, permanent relationship; Because of pragma, love is always between those close to you. This type of pragma love is exemplified by the love of Oceanus and Tephis, Gedesa and Persephone, Appalon and Athena, Hephaestus and Agla, Odysseus and Penelope.

The love of Alexandr the Great and Raksana can be called a pragma, and their marriage can be found an arranged marriage based on calculations. The only difference is that the motive of beneficial marriage and its semantics are different from this marriage and its meaning. In a marriage built with pragma love, both parties are compatible with each other in all respects, wealth, career, position, beauty, etc., and the most important thing is that pragma love consciously sees the goddess of the gods, the heroine, the heroine, the princess, the daughter of the tribal leader, the daughter of the tribal leader as suitable for him and loves.

Pragma-based marriages can be considered intermarriage. A marriage created on the basis of pure love (involuntarily, often inconsistent with reason, after conflicts) - a marriage built on the basis of pragma (chosen with the mind, without significant conflicts) - a marriage of interest (in accordance

<sup>3</sup> <https://uz.wikipedia.org/wiki/Roxshanak>. (Date of application: 31.10.2024)

<sup>4</sup> Alisher Navoi. Khamsa. A. Hojiahmedov, abridged and prepared for publication; responsible editor V. Rahmonov. - T.: New age generation, 2014. - P.338.

<sup>5</sup> <https://vk.com/@mifgreece-deti-afrodity-podarennye-filosofiei> (Date of application: 14.01.2024)



with reason, but in this case selfishness, the interference of taste deviates from the norm, the main thing is contrary to love).

By the 13th century, under the influence of the Mongol invasion and their rule, the lifestyle, conditions, and outlook of our people began to change radically. Genghis Khan and his descendants, who overthrew the kingdom of the great Khorezmshahs, defeated sultans such as "Iskandari Soni" and Jalaluddin Manguberdi, were deified. The situation reached such a level that even during the Timurid era, only a person from the Mongol khan's line could rise to the throne. As a result, in the political arena, taking a daughter from the line of the Mongol khan (marriage of convenience) became popular.

Although Amir Temur came to power in 1360, he did not declare himself as Khan. After all, for this he had to be related to the Genghis Khan family, as mentioned above. In 1370, he married Saraymulk, the daughter of the Mongol Khan Qazan Sultankhan, and got the title of "Ko'ragon"<sup>6</sup>, and took full control of the power. In general, the khan's connection to the Genghis Khans has become a stereotype in the social consciousness.

With that reason, although it is clearly beneficial, the authors turned such a marriage into a means of raising the status of the ruler and glorifying him. Even the power of Sahibqiran, which occupied a large part of the world and shook Europe, could not destroy this stereotype. After all, in that case, there would be no need for his successors Mirza Ulugbek, Mironshah Mirza, Abu Said Mirza to marry the daughter of the Mongol khan and become "Koragon". As Poyon Ravshanov wrote, "It is unthinkable to link Amir Temur's clan and region to the legend about the genealogy of Genghis Khan, which has no foundation at all".

In Salahiddin Tashkandi's work "Temurnoma", the issues of marriage and family are interpreted according to the ideal of Amir Temur. From a logical approach, marriages based on a certain interest, based on calculation<sup>7</sup>, in the plot of the epic, carried the content of a marriage that arose on the basis of love and affection.

In the epic, when Temur's father Turagai begs Tegin, Kazaghan (Mongol khan) also turns to the pir to ask for the girl's hand in marriage. This is essentially an advantageous marriage proposal, and by marrying Tegin, Kazaghan tries to break Turagai spiritually and prove who is the ruler. This issue is easily resolved without further conflicts, with the intervention of Sheikh-ul-Alam. That is, he says that he has betrothed Tegin begum to

<sup>6</sup> Yazdi, Sharafuddin Ali. Zafarnama. T.: Sharq, 1997. – P. 67.

<sup>7</sup> Information about several marriages can be found in Temurnoma. For example, the marriage to Sayoymulkhanim happens after the girl accidentally falls asleep and saves her from various dangers, as in epic epics. And in the events of 1373-1374, Khanzoda was brought from Khorezm and his prince Mohammad Jahangir ibn Amir Temur was sent to Koragon. Amir Temur ordered an unprecedented big wedding in Konigil. In 1377, the marriage of Sahibgiron to Tuman Aga, a nobleman. 1397-1398 Temur's marriage to Tokal, the daughter of Hizr Khoja.



Turagai, and that he cannot go back on his promise, and Kazaghan rises from the middle.

From this, “the intelligent reader will notice that the conflicts between the Mongols and the Turks are not limited only to the political struggle, but also to family issues, which are extremely sacred for the people of Central Asia. <...> By the 14th century, the rapprochement between the ruling Mughals and the subordinate population (including the nobles of both sides) was only for the sake of formality - betrothal, conversion to Islam (essentially a marriage of convenience and calculation)”<sup>8</sup>.

We know that Babur's father married the daughter of Mughal Khan Yunus Khan. He is directly related to the Mongols on his mother's side. For this reason, he did not need a beneficial marriage (marrying the daughter of a Mughal khan) like Amir Timur and Ulugbek. Although there were several marriages of interest in Babur's life, it was the marriage of his sister-in-law Khanzoda Begim and Shaibani Khan that changed his fate.

In Muhammad Salih's “Shayboniynama”, Shaibani Khan's “repeated arrival with an army to the gate of Samarkand” is interpreted not with the aim of taking the city, but as a love affair with Khanzoda Begim. The result of the marriage is given as follows:

Garchi ul ganj uchun chekti ranj.

Oqibat ko'rdi o'zin sohibi ganj.

Oni chun xong'a yubordi Bobur,

Shahrdan chiqdi-yu bordi Bobur.

Bo'ldi xon vasl ila shod-u hurram,

Bo'ldi xushhol qochib Bobur ham

“Boburnoma” does not describe this reality. “It was necessary to make a truce, and when the time was approaching midnight, Sheikhzade left the gate. <...> My sister Khanzodabegim fell into the hands of Shoibak Khan in this performance”<sup>9</sup>. Henry Beveridge “Babur did not mention all the cases. He writes that Khanzoda's stay in Samarkand was part of the agreement made with Shaibani.”<sup>10</sup>

Unlike the above two works, Pirmkul Kadyrov's novel “Starry Nights” presents the events surrounding this marriage in a relatively detailed artistic manner, and the diplomatic (interesting) side of this marriage is disclosed. It is not difficult to notice that Babur and M. Salih, the direct participants of

<sup>8</sup> Specified source. – P. 21

<sup>9</sup> Zahiruddin Muhammad Babur. Boburnama. –T.:Teacher, 2012. – P.84.

<sup>10</sup> Balabanlilar, Lisa. *Imperial Identity in the Mughal Empire : Memory and Dynastic Politics in Early Modern South and Central Asia*. London: I.B. Tauris, 2012 — 22-bet. [ISBN 9781848857261](https://doi.org/10.1017/9781848857261).



reality, saw their point of view as the absolute truth, and subjectivity is the priority in relation to this situation.

Taking into account the views of both parties, P. Kadirov looked at the issue from the outside and was able to give a relatively objective assessment. Babur Shaibani Khan, a “charming person” different from M. Salih, could not believe in the sincerity of his love. In “Starry Nights”, while recalling the khan’s attitude towards Zuhra begim, he doubts that Shaibani Khan’s love for Khanzodabegim, which M. Salih specifically acknowledged, is pure and sincere, and considers it necessary to reject his marriage proposal.

Unlike Babur, Esan Davlatbegim and Qutlugh Nigorkhanim consider accepting the marriage proposal and agreeing to peace as the only solution for Babur and the people of Samarkand in this difficult situation. “Khan took the Koran in his hands and said in front of all the sultans: “Enough of all the bloodshed, now let them agree with Khanzade Begim, we will not touch their brothers, mothers, or other people, and let them leave the fortress without any worries”<sup>11</sup>.

Khanzodabegim is both a victim of the situation and at the same time an interested party. After all, he wanted to “put himself in the hands of the evil one (victim - D.A) and save his brother from a cash death (interested party - D.A)”<sup>12</sup>. That is, at the age of 25, Khanzodabegim, who was over 50 years old, saved her brother's life by marrying the “grandson's khan” in a situation where there was “no help and support from anywhere”.

Here, our goal is not to thoroughly examine the variants of the “Cinwnience marriage” motif in the works of art dedicated to historical figures, but to emphasize that in the past - in social relations, the marriage of interest was not interpreted artistically. Also, it is to prove that the roots of the motif of marriage of interest go back to ancient times, that this motive is not borrowed from another literary and cultural context in our national literature, but it belongs to the motif that have existed since ancient times.

#### LIST OF USED REFERENCES

1. Anthony Giddens Sothiology.(2002) Translator: H. Маматов. Ж. Берматов. -Т.: Шарқ.. -P. 800
2. Arrian. Поход Александра. -[ Alexander's military campaigns] P. 382.
3. O‘zbekiston SSSR tarixi. (1956) [History of the Uzbek SSR] – Tashkent: O‘zbekiston USSR Fanlar akademiyasi nashriyoti.- P. 400 .
4. Alisher Navoiy. Xamsa. [Khamsa]. A. Hojiahmedov, abridged and prepared for publication; responsible editor V. Rahmonov. - T.: New age generation, 2014. - P.450.
5. Yazdi, Sharafuddin Ali. Zafarnama. T.: Sharq, 1997. – P. 384.

<sup>11</sup> Specified source. – P. 250.

<sup>12</sup> Specified source. – P.251.



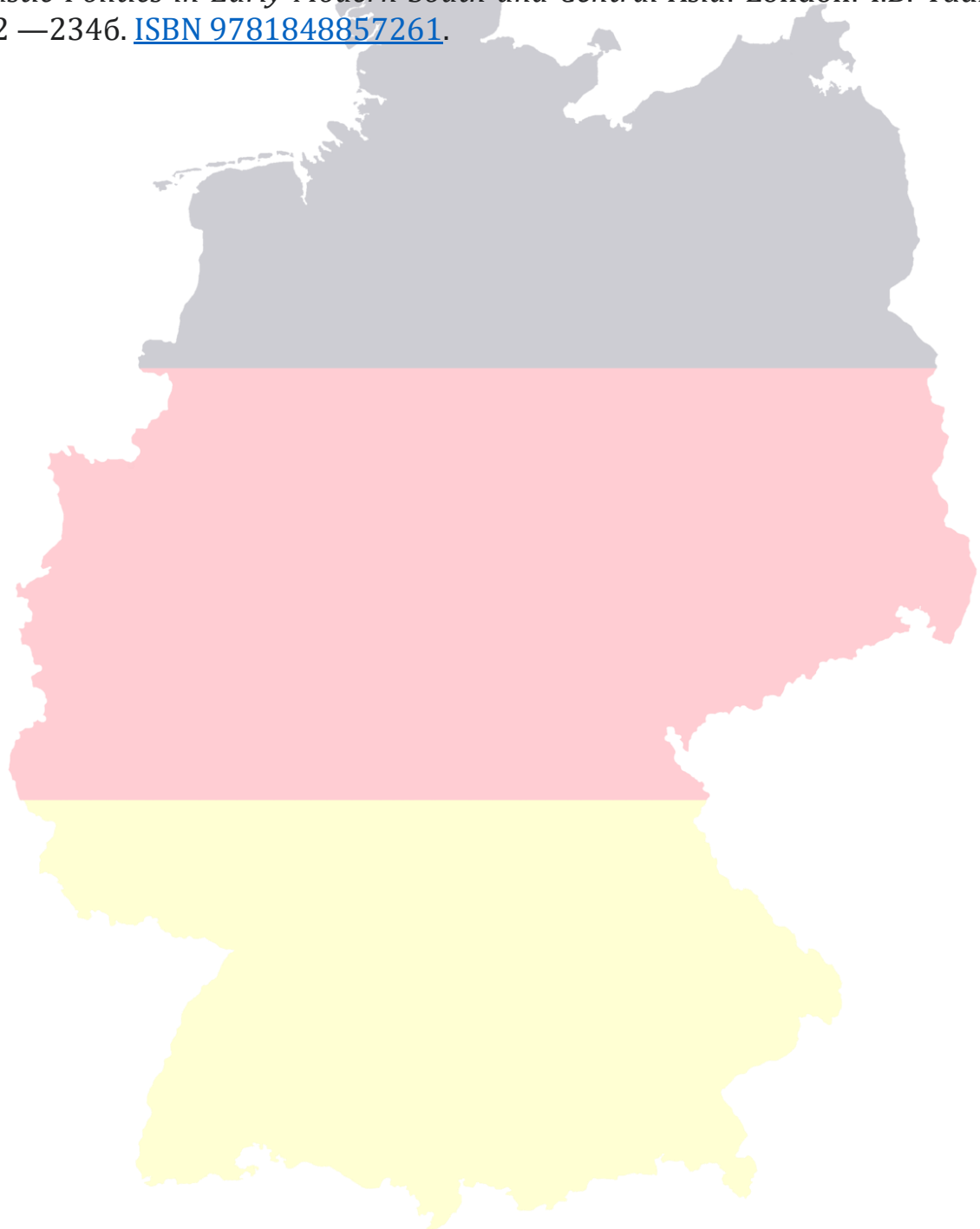


6. Zahiriddin Muhammad Bobur.(2012) Boburnoma [Boburnama] – T.: O'qituvchi. – P. 849.

#### INTERNET RESOURCES

7. <https://uz.wikipedia.org/wiki/Roxshanak>.

8. Balabanlilar, Lisa. *Imperial Identity in the Mughal Empire : Memory and Dynastic Politics in Early Modern South and Central Asia*. London: I.B. Tauris, 2012 —234б. [ISBN 9781848857261](https://www.isbn-international.org/view/title/9781848857261).







## SUBACUTE SCLEROSING PANENCEPHALITIS IN KIDS: EEG & MRI TRENDS PRE- AND POST-2023

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**Introduction:** Subacute sclerosing panencephalitis (SSPE) is a rare and fatal neurodegenerative disorder caused by persistent measles virus infection, primarily affecting children. Despite advances in vaccination, SSPE persists in regions with suboptimal immunization coverage, posing a significant public health challenge. Understanding its clinical presentation and diagnostic patterns in specific healthcare settings is crucial for improving detection and informing prevention strategies. This study focuses on SSPE cases in a single government hospital, where resource constraints and patient demographics may influence disease outcomes. By analyzing electroencephalographic (EEG) and magnetic resonance imaging (MRI) findings, this research aims to contribute to the limited data on SSPE in localized settings, emphasizing its relevance in pediatric neurology.

**Aim of the Study:** The aim of this study is to evaluate the clinical and diagnostic features of SSPE in 32 children admitted to a single government hospital, comparing EEG and MRI findings between a main group diagnosed before 2023 and a control group diagnosed from 2023 onward, to assess consistency and progression of diagnostic markers over time.

**Materials and Methods:** This retrospective study included 32 pediatric patients diagnosed with SSPE at a government hospital, based on clinical criteria and laboratory confirmation (elevated measles antibody titers). Patients were divided into two groups: the main group (20 patients diagnosed before 2023) and the control group (12 patients diagnosed in 2023 and later). Data were extracted from medical records, focusing on EEG patterns (e.g., periodic complexes, atypical findings) and MRI results (e.g., white matter changes, atrophy). EEGs were conducted using standard 10-20 electrode placement, and MRIs were performed with T2-weighted and FLAIR sequences. Comparative analysis assessed differences in diagnostic findings between groups, with descriptive statistics used to summarize results. The study period spanned hospital admissions up to February 20, 2025.

**Results and Discussion:** In the main group (n=20), EEG revealed periodic high-amplitude delta wave complexes in 17 patients (85%), with atypical patterns in 2 (10%). MRI showed white matter hyperintensities in 12 patients (60%), with cerebral atrophy in 8 (40%). In the control group (n=12), periodic EEG complexes were observed in 9 patients (75%), atypical patterns in 2 (15%), and MRI indicated white matter changes in 6 (50%), with atrophy in 4 (33%). The slightly lower prevalence of classic EEG findings in the control





group may reflect earlier detection, supported by milder initial MRI changes compared to the main group's more advanced atrophy. These findings align with SSPE's established diagnostic profile, though the lack of significant evolution between groups suggests consistent disease pathology over time. The discussion highlights EEG's sensitivity for early detection and MRI's role in tracking progression, emphasizing SSPE's devastating uniformity despite variable presentation.

**Conclusion:** This study demonstrates that SSPE in children at this government hospital exhibits consistent EEG and MRI features across pre-2023 and post-2023 cohorts, with periodic complexes and white matter abnormalities as reliable diagnostic markers. Earlier detection in recent cases may mitigate initial MRI severity, but the disease's progressive nature remains unchanged, underscoring the need for preventive focus.

**Recommendations:**

1. **Strengthen Measles Vaccination Efforts:** Intensify vaccination campaigns targeting the hospital's catchment area to prevent measles and subsequent SSPE cases.
2. **Establish Routine Diagnostic Protocols:** Introduce systematic EEG and MRI screening for children with neurological symptoms suggestive of SSPE to enhance early diagnosis and monitoring.

### References:

1. Abdumuminov B.R., Eminov R.I., & Gulomov K.K. (2023). UNDERSTANDING FETAL CIRCULATION AND THE TRANSITION TO POSTNATAL CIRCULATION: SHUNTS, PLACENTA, AND CONGENITAL HEART DEFECTS. Экономика и социум, (6-1 (109)), 14-21.
2. Abdumuminov, B., & Gulomov, K. (2023). ADVANTAGES OF THE PROGRAM ICSI IN ASSISTANT REPRODUCTIVE TECHNOLOGIES (ART). Академические исследования в современной науке, 2(26), 95–99.
3. DUE, M. A. I. N. A., & FURUNCLES, T. (2025). Universal Xalqaro Ilmiy Jurnal.
4. Jurayev S.B. (2024). CURRENT TREATMENT OPTIONS OF ADHESIVE SMALL BOWEL OBSTRUCTION (LITERATURE REVIEW). <https://doi.org/10.5281/zenodo.14506496>
5. Khamdamov, R. (2025). ANALYSIS OF RISK FACTORS AND PREVENTIVE APPROACHES FOR MORPHOFUNCTIONAL ALTERATIONS IN NASAL ALAE DUE TO FURUNCLES. Universal International Scientific Journal, 2(1), 100–109. Retrieved from <https://universaljurnal.uz/index.php/jurnal/article/view/1412>
6. Niyozbek Abdurakhmonov Khamdamjon Ogli, & Gulomov Qahhorali (2024). IMPROVEMENT OF SURGICAL TACTICS AND TREATMENT OF





- COMBINED INJURIES IN CHILDREN. Eurasian Journal of Medical and Natural Sciences, 4 (5-2), 17-21. doi: 10.5281/zenodo.11367251
7. Niyozbek, A. (2023). MEMBRANA POTENSIALI VA ION KANALLARI. ENG YAXSHI XIZMATLARI UCHUN, 1(6), 881-883.
  8. O'Gli P. S. S. KATTA YOSHLI BEMORLARDA FOKAL EPILEPSIYANI TURLI XILLIGINI EEG XUSUSIYATLARI //Ta'lim fidoyilari. – 2022. – T. 5. – №. 9. – C. 621-624.
  9. POSTOPERATIVE DELIRIUM IN CABG PATIENTS: IDENTIFYING RISKS AND OPTIMIZING PERIOPERATIVE MANAGEMENT. (2025). INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY, 2(1), 14-16.  
<https://eoconf.com/index.php/icset/article/view/42>
  10. PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. (2025). INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION, 2(1), 4-6.  
<https://eoconf.com/index.php/icmse/article/view/35>
  11. Saidazizova, S., & Inomov, F. (2024). SUBACUTE SCLEROSING PANENCEPHALITIS: EPIDEMIOLOGY, CLINICAL PRESENTATION AND DIAGNOSIS. Science and innovation, 3(D5), 254-259.
  12. Shuxrat o'g'li P. S. EEG CHARACTERISTICS OF DIFFERENT TYPES OF FOCAL EPILEPSY IN ADULT PATIENTS //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2023. – T. 1. – №. 9. – C. 1-3.
  13. UNDERSTANDING AND MANAGING CONSTIPATION IN CHILDREN AGED 0-3: CAUSES, DIAGNOSIS, AND TREATMENT STRATEGIES. (2025). ORIENTAL JOURNAL OF MEDICINE AND NATURAL SCIENCES, 2(1), 4-12.  
<https://innoworld.net/index.php/ojmns/article/view/206>
  14. Жураев, С. Б. ОПТИМИЗАЦИЯ ТАКТИКИ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ПОВРЕЖДЕНИЙ АРТЕРИЙ КОНЕЧНОСТЕЙ ПРИ СОЧЕТАННЫХ ТРАВМАХ. «YOSH OLIMLAR TIBBIYOT JURNALI» TASHKENT MEDICAL ACADEMY «MEDICAL JOURNAL OF YOUNG SCIENTISTS» ТАШКЕНТСКАЯ МЕДИЦИНСКАЯ АКАДЕМИЯ, 82.
  15. Пирматов Ш.Ш., Рахматуллаева Н.И., & Холматов Р.И. (2021). ОСОБЕННОСТИ ЭЭГ РАЗЛИЧНЫХ ТИПОВ ФОКАЛЬНОЙ ЭПИЛЕПСИИ У ВЗРОСЛЫХ ПАЦИЕНТОВ. Экономика и социум, (10 (89)), 964-971.





## IMPROVING THE TREATMENT OF COMPLICATIONS IN ENDOUROLOGICAL OPERATIONS FOR UROLITHIASIS

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Relevance of the topic: Managing complications in endourological procedures like PCNL and URS requires addressing key factors. Elevated intrarenal pressure (IRP) increases infection and sepsis risk, which can be reduced by optimizing irrigation flow and using ureteral access sheaths (Chew et al., 2023; Tonyali et al., 2023). Thermal injury during laser lithotripsy can be minimized by adjusting energy settings and using chilled irrigation fluids (Tonyali et al., 2023). RIRS complications can be prevented through careful planning and interdisciplinary teamwork (Malkhasyan et al., 2024; Edison et al., 2023). Fluoroscopy-free techniques reduce radiation exposure while maintaining safety (Davis et al., 2023). Preoperative assessment of comorbidities and infection history is crucial for reducing risks (Chew et al., 2023; Edison et al., 2023). Combining technological improvements, procedural strategies, and patient-specific care enhances the safety and effectiveness of endourological treatments.

Purpose of the study: The purpose of this study is to minimize complications in endourological procedures by optimizing IRP management, adjusting laser settings, using ureteral access sheaths, and adopting fluoroscopy-free techniques to enhance patient safety and outcomes.

Materials and Methods: This study was conducted at Fergana Private Hospital "Uromed" between 2021 and 2023. A total of 58 patients diagnosed with kidney stones underwent endourological procedures. Among them, 36 patients were treated using endoscopic methods, including percutaneous nephrolithotomy (PCNL), ureteroscopy (URS), and retrograde intrarenal surgery (RIRS). Preoperative assessments included patient history, laboratory tests, and imaging studies. Intrarenal pressure (IRP) management strategies, laser energy adjustments, and optimized irrigation techniques were implemented to reduce complications. Postoperative outcomes were assessed based on infection rates, thermal injuries, stone-free rates, and overall patient recovery.

Results and Discussion: Endoscopic treatment of kidney stones showed a high success rate, with 89% of patients achieving complete stone clearance. The use of ureteral access sheaths and controlled irrigation significantly reduced IRP-related complications, such as infections and sepsis. Among the 36 patients undergoing endoscopic methods, 5 (13.8%) developed mild post-procedural infections, which were managed conservatively. No severe complications, including sepsis or major hemorrhage, were reported. The





application of fluoroscopy-free techniques in selected cases minimized radiation exposure without increasing procedural risks. Effective preoperative assessment helped identify high-risk patients, allowing for tailored treatment plans that enhanced safety and outcomes.

Conclusion: Endourological treatment of kidney stones, particularly with optimized procedural strategies, is effective in reducing complications and improving patient outcomes. Proper IRP management, laser energy adjustments, and meticulous planning contribute to safer and more successful interventions. Recommendations:

1. Implement standardized IRP control measures, including optimized irrigation flow and ureteral access sheaths, to minimize infection risk.
2. Encourage the adoption of fluoroscopy-free techniques in experienced centers to reduce radiation exposure while maintaining procedural safety.

### References:

1. R. A. Khamdamov. (2025). DIAGNOSTIC APPROACHES AND PREVENTION OF MORPHOFUNCTIONAL TRANSFORMATION IN NASAL ALAE FURUNCLES. <https://doi.org/10.5281/zenodo.14825695>
2. Kholikov B.M. (2024). POSTOPERATIVE DELIRIUM: UNDERSTANDING CAUSES, RISKS, AND MANAGEMENT STRATEGIES. <https://doi.org/10.5281/zenodo.14518099>
3. Abdumuminov B.R., Eminov R.I., & Gulomov K.K. (2023). UNDERSTANDING FETAL CIRCULATION AND THE TRANSITION TO POSTNATAL CIRCULATION: SHUNTS, PLACENTA, AND CONGENITAL HEART DEFECTS. *Экономика и социум*, (6-1 (109)), 14-21.
4. Shuxrat o'g'li, P. S. (2023). EEG CHARACTERISTICS OF DIFFERENT TYPES OF FOCAL EPILEPSY IN ADULT PATIENTS. *Web of Medicine: Journal of Medicine, Practice and Nursing*, 1(9), 1-3.
5. Pirmatov, S. (2025). UROGENITAL QANDLI DIABETIK VEGETATIV NEVROPATIYANING KLINIK XUSUSIYATLARI VA DAVOSI. *Universal xalqaro ilmiy jurnal*, 2(1), 59-67.
6. Zokirjonov, D. Z., & G'ulomov, Q. (2025). THE SIGNIFICANCE OF VITAMIN D LEVELS ON MUSCULOSKELETAL STRENGTH, ATHLETIC PERFORMANCE, AND INJURY PREVENTION. *JOURNAL OF INTERNATIONAL SCIENTIFIC RESEARCH*, 2(4), 419-430.
7. Пирматов, Ш. Ш., Рахматуллаева, Н. И., & Холматов, Р. И. (2021). ОСОБЕННОСТИ ЭЭГ РАЗЛИЧНЫХ ТИПОВ ФОКАЛЬНОЙ ЭПИЛЕПСИИ У ВЗРОСЛЫХ ПАЦИЕНТОВ. *Экономика и социум*, (10 (89)), 964-971.
8. DUE, M. A. I. N. A., & FURUNCLES, T. (2025). *Universal Xalqaro Ilmiy Jurnal*.





9. Jurayev S.B. (2024). CURRENT TREATMENT OPTIONS OF ADHESIVE SMALL BOWEL OBSTRUCTION (LITERATURE REVIEW).  
<https://doi.org/10.5281/zenodo.14506496>
10. Khamdamov , R. (2025). ANALYSIS OF RISK FACTORS AND PREVENTIVE APPROACHES FOR MORPHOFUNCTIONAL ALTERATIONS IN NASAL ALAE DUE TO FURUNCLES. Universal International Scientific Journal, 2(1), 100–109. Retrieved from  
<https://universaljurnal.uz/index.php/jurnal/article/view/1412>
11. Kh, F. N., & Juraev, S. B. (2025, January). PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 4-6).
12. Kh, F. N., & Juraev, S. B. (2025, January). PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 4-6).
13. Ugli, G. K. K. (2025, February). SUBACUTE SCLEROSING PANENCEPHALITIS IN KIDS: EEG & MRI TRENDS PRE-AND POST-2023. In *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY* (Vol. 2, No. 1, pp. 28-30).
14. Juraev, S. B., Kholikov, B. M., & Sh, P. S. (2025, February). PREVENTIVE MEASURES FOR COMPLICATIONS AFTER GASTROINTESTINAL SURGERY. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 11-12).





## DIRECT RESULTS OF TREATMENT OF THROMBOSIS AND EMBOLISM OF THE MAGISTRAL ARTERIES OF THE LIMBS AND TOPS

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**Introduction.** Acute thrombosis and embolism of major arteries in the lower and upper limbs pose a significant threat to limb viability and overall patient health. These conditions can lead to severe ischemia, tissue necrosis, and, ultimately, limb loss if not treated promptly and effectively. Surgical and conservative management approaches aim to restore blood flow, prevent complications, and improve patient outcomes. This study investigates the immediate outcomes of different treatment strategies, providing valuable insights into their effectiveness and implications for clinical practice.

**Relevance of the Topic.** The management of arterial thrombosis and embolism remains a critical challenge in vascular surgery and emergency medicine. Early diagnosis and appropriate intervention are essential to prevent irreversible ischemic damage. Given the increasing prevalence of cardiovascular diseases and associated risk factors such as diabetes mellitus, hypertension, and cardiac arrhythmias, understanding optimal treatment approaches is crucial. This research contributes to the ongoing efforts to enhance treatment protocols, reduce morbidity and mortality, and improve quality of life for affected patients.

**Objective:** To investigate the immediate outcomes of treatment for thrombosis and embolism in the major arteries of the lower and upper limbs.

**Materials and methods.** The results of surgical and conservative treatment were analyzed in 96 patients aged 38 to 86 years with thrombosis and embolism of major arteries. 19 patients were under 50 years old, and 77 patients were over 51 years old. There were 62 men and 34 women. Thrombosis and embolism of major arteries in the upper extremities were diagnosed in 17 patients, while 79 patients had thrombosis and embolism in the aorto-iliac-femoral-popliteal-tibial segment. The cause of acute ischemia was thrombotic occlusion in 42 patients and embolic arterial blockage in 54 patients. To establish a diagnosis and assess the results of surgical and conservative treatment, a detailed medical history was collected, and clinical examination, duplex angioscanning with Doppler ultrasonography, multispiral echocardiography, and computed tomographic angiography were performed. Patients also underwent ECG and other examinations, and were consulted by an endocrinologist, nephrologist, and cardiologist. Concomitant diseases identified included diabetes mellitus, renal failure, arterial hypertension, post-infarction atherosclerosis, and various types of heart rhythm disturbances





(extrasystoles, atrial fibrillation). Doppler ultrasonography, CT angiography, and intraoperative examination revealed varying degrees of atherostenotic changes in the arteries of the lower extremities. Parameters of hemostasis and hemorheology were studied.

Results: Based on clinical examination, ultrasound Doppler, and CT angiography, acute occlusion was diagnosed in the following segments: aorto-iliac in 4 patients, iliac in 6 patients, ilio-femoral in 21 patients, femoro-popliteal in 34 patients, popliteo-tibial in 14 patients, subclavian-axillary in 11 patients, and axillary-brachial in 6 patients. Acute limb ischemia was diagnosed as grade IIA-B in 52 patients, grade IIIA-B in 34 patients, and grade IV in 10 patients. After brief preparation and examination by an anesthesiologist, endocrinologist, nephrologist, and cardiologist, the following procedures were performed: thrombectomy or embolectomy in 45 patients, thrombectomy or embolectomy with fasciotomy in 10 patients, thrombectomy with limb amputation in 3 patients, and thrombectomy with autovenous bypass in 2 patients. Due to irreversible soft tissue changes, 12 patients underwent limb amputation at the mid-thigh level, and 4 patients at the proximal third of the lower leg. One patient underwent angioplasty. Thromboembolectomy and thromboembolectomy with fasciotomy were performed under local anesthesia, while limb amputation and autovenous bypass were done under spinal or epidural anesthesia. Four patients refused the proposed limb amputation surgery and conservative treatment. One 78-year-old patient died immediately after admission to the intensive care unit from acute coronary insufficiency. Following 146 operations (thrombectomy, amputation), 4 patients died, and 1 patient died during conservative treatment. The cause of death was acute coronary insufficiency. Fifteen patients received conservative treatment (anticoagulants, antiplatelet agents, metabolism correction in the ischemic limb, epidural blockade, ozone therapy, vasoprostane, etc.). In these patients, the cause of acute ischemia was thrombosis of the popliteo-tibial segment against a background of chronic limb ischemia.

Discussion. During the perioperative period and conservative treatment, special attention was paid to correcting blood sugar levels, hemostasis and hemorheology indicators, and heart rhythm disturbances. Adequate management of these parameters contributed to a smooth postoperative course - no rethrombosis or recurrent thromboembolism was observed. We focused particularly on the prevention and treatment of reperfusion syndrome (pharmacological therapy, extracorporeal detoxification, laser therapy, ozone therapy). Intraoperative assessment of antegrade and retrograde blood flow plays a crucial role in preventing arterial reocclusions. Accurate determination of the degree of limb ischemia allows for the selection of an appropriate type of intervention - revascularization, primary limb





amputation, or conservative treatment. Underestimation of these factors leads to reocclusion in the early or late periods and recurrence of acute limb ischemia.

Conclusions. Restoration of blood flow in the ischemic limb in cases of arterial thrombosis and embolism is the optimal method for limb preservation and maintaining an active lifestyle for patients. Timely referral of patients to specialized clinics, adequate correction of homeostasis parameters and functions of other organs during the perioperative period, and proper assessment of antegrade and retrograde blood flow are key factors in ensuring optimal outcomes.

### References:

1. R. A. Khamdamov. (2025). DIAGNOSTIC APPROACHES AND PREVENTION OF MORPHOFUNCTIONAL TRANSFORMATION IN NASAL ALAE FURUNCLES. <https://doi.org/10.5281/zenodo.14825695>
2. Kholikov B.M. (2024). POSTOPERATIVE DELIRIUM: UNDERSTANDING CAUSES, RISKS, AND MANAGEMENT STRATEGIES. <https://doi.org/10.5281/zenodo.14518099>
3. Abdumuminov B.R., Eminov R.I., & Gulomov K.K. (2023). UNDERSTANDING FETAL CIRCULATION AND THE TRANSITION TO POSTNATAL CIRCULATION: SHUNTS, PLACENTA, AND CONGENITAL HEART DEFECTS. *Экономика и социум*, (6-1 (109)), 14-21.
4. Shuxrat o'g'li, P. S. (2023). EEG CHARACTERISTICS OF DIFFERENT TYPES OF FOCAL EPILEPSY IN ADULT PATIENTS. *Web of Medicine: Journal of Medicine, Practice and Nursing*, 1(9), 1-3.
5. Pirmatov, S. (2025). UROGENITAL QANDLI DIABETIK VEGETATIV NEVROPATIYANING KLINIK XUSUSIYATLARI VA DAVOSI. *Universal xalqaro ilmiy jurnal*, 2(1), 59-67.
6. Zokirjonov, D. Z., & G'ulomov, Q. (2025). THE SIGNIFICANCE OF VITAMIN D LEVELS ON MUSCULOSKELETAL STRENGTH, ATHLETIC PERFORMANCE, AND INJURY PREVENTION. *JOURNAL OF INTERNATIONAL SCIENTIFIC RESEARCH*, 2(4), 419-430.
7. Пирматов, Ш. Ш., Рахматуллаева, Н. И., & Холматов, Р. И. (2021). ОСОБЕННОСТИ ЭЭГ РАЗЛИЧНЫХ ТИПОВ ФОКАЛЬНОЙ ЭПИЛЕПСИИ У ВЗРОСЛЫХ ПАЦИЕНТОВ. *Экономика и социум*, (10 (89)), 964-971.
8. DUE, M. A. I. N. A., & FURUNCLES, T. (2025). *Universal Xalqaro Ilmiy Jurnal*.
9. Jurayev S.B. (2024). CURRENT TREATMENT OPTIONS OF ADHESIVE SMALL BOWEL OBSTRUCTION (LITERATURE REVIEW). <https://doi.org/10.5281/zenodo.14506496>
10. Khamdamov, R. (2025). ANALYSIS OF RISK FACTORS AND PREVENTIVE APPROACHES FOR MORPHOFUNCTIONAL ALTERATIONS





IN NASAL ALAE DUE TO FURUNCLES. Universal International Scientific Journal, 2(1), 100–109. Retrieved from  
<https://universaljurnal.uz/index.php/jurnal/article/view/1412>

11. Kh, F. N., & Juraev, S. B. (2025, January). PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 4-6).
12. Kh, F. N., & Juraev, S. B. (2025, January). PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 4-6).
13. Ugli, G. K. K. (2025, February). SUBACUTE SCLEROSING PANENCEPHALITIS IN KIDS: EEG & MRI TRENDS PRE-AND POST-2023. In *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY* (Vol. 2, No. 1, pp. 28-30).
14. Juraev, S. B., Kholikov, B. M., & Sh, P. S. (2025, February). PREVENTIVE MEASURES FOR COMPLICATIONS AFTER GASTROINTESTINAL SURGERY. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 11-12).
15. Kholikov, B. M. (2025, February). POSTOPERATIVE DELIRIUM IN CABG PATIENTS: IDENTIFYING RISKS AND OPTIMIZING PERIOPERATIVE MANAGEMENT. In *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY* (Vol. 2, No. 1, pp. 14-16).





## ASSESSMENT OF COMPLICATIONS POST-HEMORRHOIDECTOMY

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Relevance of the topic: Post-hemorrhoidectomy complications commonly include pain, urinary retention, bleeding, anal incontinence, and anal stenosis, with variations observed between surgical techniques. Pain is frequently reported, with studies indicating a mean pain score of 6.15 on the first postoperative day, decreasing significantly by day 28 (Barman et al., 2024). Urinary retention occurs in approximately 22% of cases following open hemorrhoidectomy (Barman et al., 2024), while stapled hemorrhoidectomy shows a 5% incidence (Rahman & Hoque, 2023). Bleeding rates vary, with immediate bleeding reported at 8.3% for stapled techniques (Rahman & Hoque, 2023) and 1.5% in broader surgical contexts (Moldovan et al., 2023). Management strategies include pain control, urinary catheterization for retention, and surgical interventions for complications like anal stenosis, which may require dilatation or anoplasty (Rahman & Hoque, 2023) (Romaguera et al., 2021). Overall, careful monitoring and tailored management approaches are essential to mitigate these

**Materials and Methods:** This study was conducted at “**Ibrohim Xakim Tabobat**” private hospital, analyzing 60 patients who underwent hemorrhoidectomy over the past three years. Patients were divided into two groups: Main Group (n=36) underwent evaluation before minimally invasive surgery, while the remaining 24 patients were assessed after surgery.

Postoperative complications were assessed through clinical evaluation, imaging studies, and patient-reported symptoms. The primary complications analyzed included postoperative pain, bleeding, infection, anal stenosis, incontinence, and recurrence rates. Statistical analysis was performed using SPSS software, with a significance level of  $p < 0.05$ .

**Results and Discussion:** The incidence of postoperative pain was significantly higher in the post-surgery group (VAS score:  $5.6 \pm 1.1$ ) compared to the pre-surgery group ( $2.4 \pm 0.8$ ,  $p < 0.01$ ). Postoperative bleeding occurred in 10.7% of post-surgery patients versus 3.5% in pre-surgery patients.

Infection rates were low in both groups, with 1.8% in pre-surgery and 5.3% in post-surgery. However, anal stenosis was more frequent in post-surgery patients (8.9%) compared to pre-surgery patients (1.7%). Incontinence occurred in 5.3% of post-surgery patients, while no cases were observed in the pre-surgery group. Recurrence rates at the 12-month follow-up were slightly higher in the pre-surgery group (7.1%) compared to the post-surgery group (3.6%), indicating a need for further long-term monitoring.





These findings suggest that minimally invasive surgery results in fewer complications and faster recovery, but may carry a slightly higher risk of recurrence compared to traditional methods.

Conclusion: Minimally invasive hemorrhoidectomy is associated with lower postoperative pain, reduced bleeding, and fewer long-term complications than traditional methods. However, the recurrence rate requires further investigation. Research Gaps:

1. Long-term recurrence trends beyond 12 months require further evaluation to determine the effectiveness of minimally invasive surgery.
2. The influence of surgical expertise and technique variability on complication rates should be analyzed in larger patient populations.

Further studies should focus on optimizing surgical techniques and improving long-term outcomes for both procedures.

### References:

1. Abdumuminov B.R., Eminov R.I., & Gulomov K.K. (2023). UNDERSTANDING FETAL CIRCULATION AND THE TRANSITION TO POSTNATAL CIRCULATION: SHUNTS, PLACENTA, AND CONGENITAL HEART DEFECTS. *Экономика и социум*, (6-1 (109)), 14-21.
2. Gulomov, K. K., Juraev, S. B., Khamdamov, R. A., Kholikov, B. M., & Meliboev, R. A. (2025, February). IMPROVING THE TREATMENT OF COMPLICATIONS IN ENDOUROLOGICAL OPERATIONS FOR UROLITHIASIS. In *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY* (Vol. 2, No. 1, pp. 31-33).
3. Gulomov, K. K., Kholikov, B. M., Sh, P. S., & Yokubov, D. Y. (2025). NEUROLOGICAL ASSESSMENT OF POSTOPERATIVE PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING (CABG). *ZAMONAVIY ILM-FAN VA INNOVATSIYALAR NAZARIYASI*, 2(2), 6-10.
4. Juraev, S. B., Khamdamov, R. A., Meliboev, R. A., & Yokubov, D. Y. (2025). NEW TREATMENT APPROACHES FOR PEDIATRIC UPPER GASTROINTESTINAL OBSTRUCTION IN FERGANA VALLEY. *ZAMONAVIY ILM-FAN VA INNOVATSIYALAR NAZARIYASI*, 2(2), 4-6.
5. Juraev, S. B., Kholikov, B. M., & Sh, P. S. (2025, February). PREVENTIVE MEASURES FOR COMPLICATIONS AFTER GASTROINTESTINAL SURGERY. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 11-12).
6. Kh, F. N., & Juraev, S. B. (2025, January). PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 4-6).





7. Kh, F. N., & Juraev, S. B. (2025, January). PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 4-6).
8. Khamraev, A. Z., Eminov, R. I., & Rakhmonov, D. B. (2023). Osobennosti lecheniya detey s gemorroem. *Russian Journal of Pediatric Surgery, Anesthesia and Intensive Care*, 13, 196.
9. Kholikov, B. M. (2025, February). POSTOPERATIVE DELIRIUM IN CABG PATIENTS: IDENTIFYING RISKS AND OPTIMIZING PERIOPERATIVE MANAGEMENT. In *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY* (Vol. 2, No. 1, pp. 14-16).
10. Ugli, A. A. K. (2024). AI-DRIVEN METAGENOMIC ANALYSIS TO UNCOVER MICROBIAL INFLUENCES ON CANCER DEVELOPMENT. *ORIENTAL JOURNAL OF MEDICINE AND NATURAL SCIENCES*, 1(6), 43-54.
11. Ёкубов D. On differential diagnostics of spinal cord pathology of organic and functional genesis / Д. Ёкубов, А. Мазалова. – Актуальные вопросы фундаментальной медицины: сегодня и в будущем. – 2024. – № 1. – С. 36.
12. Кузибоев, Ш. (2025). АНАЛИЗ ОСЛОЖНЕНИЙ ПОСЛЕ ГЕМОРРОИДЭКТОМИИ: КЛИНИЧЕСКИЙ СЛУЧАЙ. *Экономика и социум*, (1-2 (128)), 697-701.
13. Хамраев, А., & Эминов, Р. (2023). Особенности клинического течения геморроя у детей. *Актуальные вопросы детской хирургии*, 1(1), 53-54.





## SHAHAR YO'LOVCHI TRANSPORTI YO'LOVCHILARNI HARAKATLANISH VAQTINI ASOSLASH BO'YICHA TAKLIFLAR

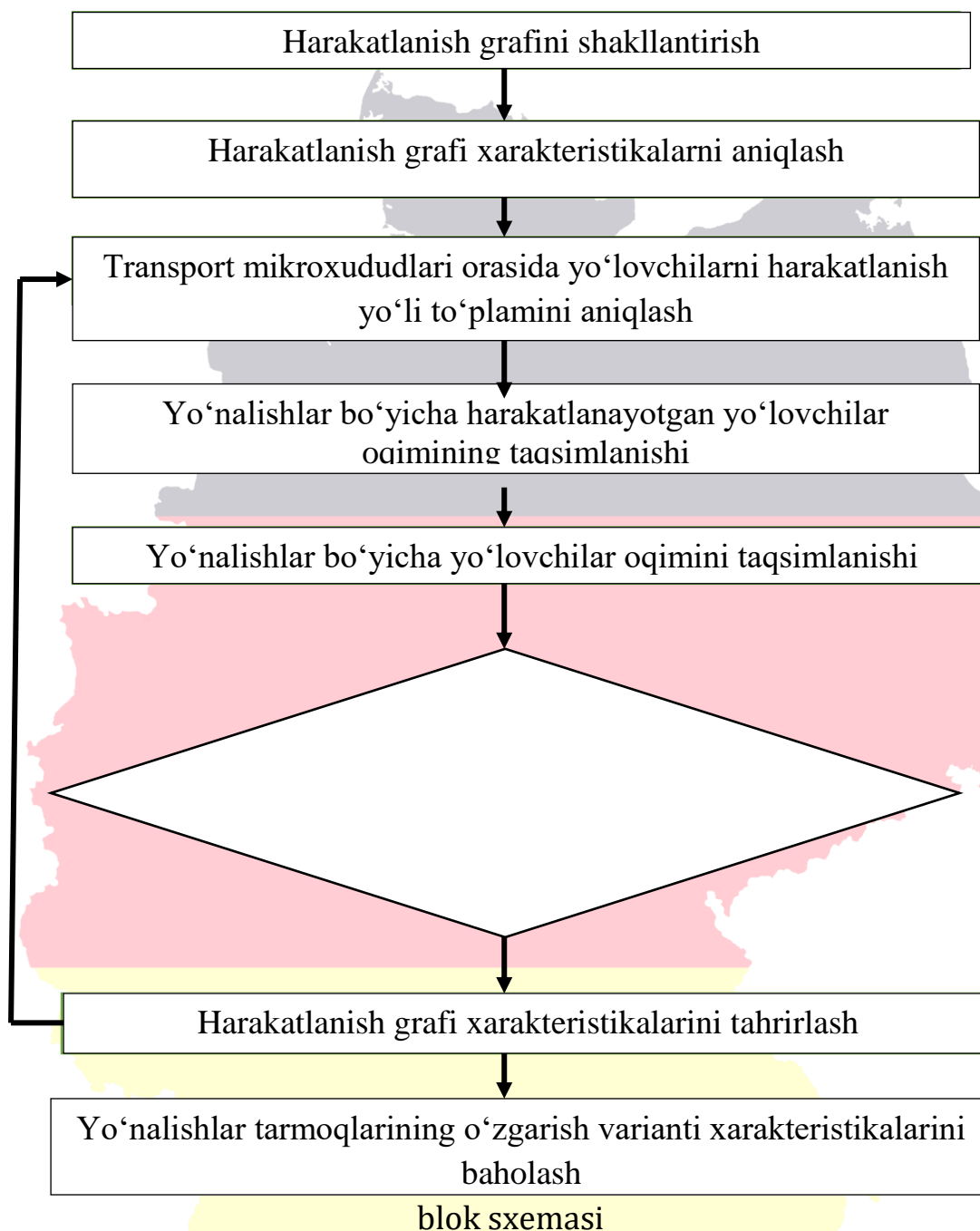
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O'tkazilgan nazariy va amaliy tadqiqotlar asosida yo'lovchilarni jamoat transportida harakatlanish vaqtini asoslash uchun yo'nalishlarning tarmoq bo'yicha tahlilini amalga oshirish zarur bo'ladi. Buning uchun avvalom bor yo'lovchilarni harakatini maxsus grafik holatini tahlil qilish taqozo etiladi.

Bu grafikni ishlab chiqish uchun avvalom bor harakatlanish grafigini shakllantirish kerak. Buning birinchi elementi mazkur grafikni ishlab chiqishni ta'minlaydi. Grafikni ishlab chiqishning dastlabki manbasi sifatida Andijon shahridagi har bir yo'lovchi jamoat transporti yo'nalishining ko'rsatkichlari, jumladan bekatlar, ularning ketma-ketlikda joylashish indeksleri, bekatlar orasidagi masofalar uzunligi, yo'nalishdagi transport vositalari soni va ularning sig'imi, harakatlanish tezligi, yo'nalishdagi aylanma vaqti hamda avtobusning shahar transport mikrohududlaridan o'tishi to'g'risidagi ma'lumotlar kerak bo'ladi. Bu ma'lumotlarning asosiylari sifatida xar bir transport mikrohududlarida qanday oraliq bekatlari mazkur mikrohudud aholisi tomonidan harakatni boshlanish va tugatish uchun foydalanilishi xamda markaz bilan transport mikrohududlari va oraliq bekatlari orasida masofalar qabul qilinadi.

Transport mikrohududlari o'rtasida bekatlarga piyoda kelish ehtimolligi hisobga olish uchun transport mikrohududlari umumiy chegaralari, hamda yo'lovchilarning bir yo'nalishdan ikkinchi yo'nalishga o'tish imkonini beradigan turli yo'nalishlarning bekatlari juftliklarining ro'yhati kerak bo'ladi. Bu ma'lumotlar asosida shahar aholisining ehtimoliy harakatlanish grafikini qurish mumkin bo'ladi.





$X$  grafikning ko'plab cho'qqilari ikki toifadagi cho'qqilardan iborat bo'ladi.

$$X = X^{(1)} \cup X^{(2)}, \quad (4.1)$$

Bu yerda  $X^{(1)}$  - transport mikrohududlar markazlari,





$X^{(2)}$  – yo'nalishlardagi to'xtash bekatlari

$W$  grafikning ko'plab yoyi besh toifadagi yoylardan tashkil topgan bo'ladi: transport mikrohududlari va oraliq bekatlarini quyidagicha belgilaymiz  $i \in X^{(1)}$ .  $j \in X^{(2)}$ . Bu holda  $(i, j) \in W^{(1)}$  bo'lib, uning uzunligi  $t^n(i, j)$ ,  $i$  markazdan  $j$  bekatga harakatlanish uchun sarflanadigan o'rtacha vaqtga teng. Bunda quyidagilar: transport mikrohududi  $i$  markazidan  $j$  bekatlarning joylashuvining; ikkala bekatni o'zaro bog'laydigan yo'nalishlarning barcha yig'indisi bo'yicha  $i$  va  $j$  bekatlar orasida kutish va harakatlanish uchun sarflangan o'rtacha vaqtga teng bo'lgan  $(i, j) \in W^{(2)}$   $(i, j \in X^{(2)})$  yoyning;  $i$  va  $j$  transport mikrohududlari markazlari oralig'ida piyoda harakatlanish uchun sarflanadigan o'rtacha vaqtga teng bo'lgan  $(i, j) \in W^{(3)}$  bunda  $t^{pm}(i, j)$  ga uzunlikda bo'lganda  $(i, j \in X^{(1)})$  va bir bekatdan boshqa yo'nalishdagi bekatga o'tish uchun harakatlanishning o'rtacha vaqtiga teng uzunligi  $t^{ot}(i, j)$  bo'lgan  $(i, j) \in W^{(4)}$  bunda  $(i, j \in X^{(2)})$  yoyning;  $i$  bekatdan transport mikrohududlari markazi  $j$  gacha harakatlanish uchun sarflangan o'rtacha vaqtga teng bo'lgan uzunligi  $t^o(i, j)$  ga teng bo'lgan  $(i, j) \in W^{(5)}$  bunda  $(i \in X^{(2)}), (j \in X^{(2)})$  yoyning individualligi hisobga olinadi.

Yo'lovchi jamoat transporti grafikning bu kabi shaklda taqdim etilishi yo'lovchilarning noodatiy hatti harakatlari ehtimolligini potensial ravishda kamaytiradi. Bunday hatti harakatga misol sifatida yo'lovchilarning avtobus yo'nalishlarini almashtirmasdan ikkita to'xtash punktlari o'rtasida tizimli ravishda bir yo'nalishdan ikkinchisiga o'tishi bo'lib hisoblanadi.

Harakatlanish grafiki xarakteristikalarini aniqlash uchun yo'lovchilarning harakatlanish tezligiga bog'liq ravishda yoylarning uzunligi uchun dastlabki ma'lumotlarni belgilash kerak bo'ladi.

$(i, j) \in W^{(5)} \cup W^{(4)}$  yoyning uzunligi quyidagicha ifodalanadi

$$t_{ij} = \frac{l_{ij}}{v_p}, \quad (4.2)$$

Bu yerda  $l_{ij}$  – yoy uzunligi;

$v_p$  – yo'lovchilarning piyoda harakatlanish tezligi.

$(i, j) \in W^{(1)} \cup W^{(5)}$  yoylari  $i$  transport mikrohududlari inshootlari zichliklari notekisligi,  $i$  transport mikrohududlaridagi  $j$  to'xtash punktlarining joylashuvi va boshqa omillarini hisobga olgan holda aniqlanadi.

Jamoat yo'lovchi transportini kutish va  $i$  va  $j$  to'xtash punktlari o'rtasida harakatlanish uchun sarflangan vaqt uchun dastlabki qiymatlarni aniqlaymiz. Agarda jamoat yo'lovchi transporti birligi  $i$  to'xtash punktidan va  $j$  to'xtash



punktigacha boshqa ko'plab yo'nalishlar ichida mustaqil ravishda kelgan taqdirda, vaqt quyidagicha ifodalanadi.

$$t^{po}(i, j) = \hat{t}_{(i, j)} + \sum_{\omega \in M_{i, j}} \frac{l_{i, j}}{v_{\omega}} \rho_{i, j}^{\omega}, \quad (4.3)$$

Bu yerda  $\hat{t}_{(i, j)}$  - yo'lovchi  $i$  to'xtash punktidan  $j$  to'xtash punktiga harakatlanish jarayonida shu harakatlanishni ta'minlovchi birinchi yo'lovchi jamoat transportini kutishning o'rtacha vaqti;

$v_{\omega}$  -  $\omega$  yo'nalishdagi yo'lovchi jamoat transportining o'rtacha harakatlanish tezligi;

$\rho_{\omega}$  - yo'lovchi jamoat transporti birligida  $i$  to'xtash punktidan  $j$  to'xtash punktiga harakatlanayotgan yo'lovchilar ulushi.

Agarda harakatlanayotgan jamoat transporti birligi orasidagi interval  $\tau_0$  va  $\tau = \frac{m j n}{\omega} \tau_0$  bo'lsa, unda o'rtacha kutish vaqtini baholash uchun quyidagi bog'liqlikdan foydalanishimiz mumkin bo'ladi:

$$\hat{t}_{i, j} = \tau \left[ \frac{1}{2} + \sum_{r=1}^{N-1} \frac{(-1)^r \tau^r}{(r+1)(r+2)} \sum_{j_1=2}^{N-r+1} \sum_{j_2=j_1+1}^{N-r+2} \dots \sum_{j_r=j_{r-1}+1}^N \frac{1}{\tau_{j_1} \tau_{j_2} \dots \tau_{j_r}} \right], \quad (4.4)$$

Bu yerda:  $N-i$  va to'xtash bekatlarini  $j$  to'xtash punktlari ( $N = |M_{i, j}|$ ).

$\rho_0$  ning qiymatini aniqlash uchun yo'lovchilarning harakatlanish yo'nalishlari bo'yicha taqsimlanishi to'xtash bekatlariga jamoat transporti yo'nalishdagi ko'plab  $M_{i, j}$  larni tushish oqimiga proporsional deb taxmin qilinadi, u holda yo'lovchilarning ulushlarini quyidagicha hisoblash mumkin bo'ladi.

$$\rho_0 = \tau \left[ \frac{\tau}{\tau_0} + \frac{1}{\tau_0} \sum_{r=1}^{N-1} \frac{(-\tau)^{r+1}}{(r+1)} \sum_{\substack{j_1=1 \\ j_1 \neq \omega}}^{N-r+1} \sum_{\substack{j_2=j_1+1 \\ j_2 \neq \omega}}^{N-r+2} \dots \sum_{\substack{j_r=j_{r-1}+1 \\ j_r \neq \omega}}^N \frac{1}{\tau_{j_1} \tau_{j_2} \dots \tau_{j_r}} \right]. \quad (4.5)$$

Yo'lovchilar oqimi xarakteristikalarining berilgan dastlabki qiymatlari bilan mumkin bo'lgan harakatlanish grafiki qurilgandan keyin yo'lovchilar oqimining dastlabki taqsimotini aniqlashga o'tish mumkin. Ushbu amaliyotni bajarishda har bir ikkita juft transport mikrohududlari uchun eng ko'p ehtimolligi bo'lgan harakatlanish yo'nalishlarini aniqlash va ular orasida mos ravishda yo'lovchilar oqimlarini taqsimlash yo'li bilan yoki har bir grafik chuqqisi uchun yo'lovchilar tomonidan yo'lovchilar oqimini keyingi taqsimlanishi ularni qiymatlari bo'yicha qo'shaloq cho'qqilardan tanlash



ehtimolligini aniqlash orqali amalga oshiriladi. Modulning birinchi usulda yo'lovchilar oqimini taqsimlanish holatini qo'rib chiqamiz.

Bu holda modulning navbatdagi elementi bo'lib "Yo'lovchilarning transport mikrohududlari juftliklari orasida yo'llarni tanlashni aniqlash" bo'lib hisoblanadi. Yo'lovchilarning ehtimoliy harakatlanish yo'li sifatida yo'lovchilarning to'xtash bekatlaridan harakatni boshlash, boshqa yo'nalishga o'tish va tugatish bo'lib hisoblanadi, ya'ni bu yo'lga yo'nalishning yo'lovchi tranzit tartibida harakatlanayotgan to'xtash bekatlari kiritilmaydi. Bundan tashqari ehtimoliy harakatlanish yo'lga qo'shni transport mikrohududlari markazlari orasidagi piyoda harakatlanish ham kiritiladi.

Ko'plab yo'nalishlarni shakllantirish quyidagi qoidalarni hisobga olgan holda amalga oshiriladi:

yo'lga har bir keladigan yo'l cho'qqisiga so'nggi cho'qqiga yetib borish uchun sarflanadigan minimal vaqt va ushbu cho'qqi uchun sarf xarajatlarning eng kam miqdori to'g'ri kelishi lozim;

har bir yo'l bo'yicha harakatlanish uchun sarflanadigan vaqt eng yaqin masofa bo'yicha harakatlanish vaqtidan berilgan qiymatdan ko'p bo'lmagan miqdorda farq qilishi mumkin;

har bir harakatlanish yo'lida bir yo'nalishdan boshqasiga o'tishlar soni ham berilgan qiymatdan ortib ketmasligi kerak;

yo'lovchilarning "noodatiy xatti harakatlari" bilan harakatlanishlari e'tiborga olinmaydi, masalan bitta to'xtash joyi orqali bir necha bor o'tishi, bitta yo'nalishdan bir necha bor foydalanishi va h.k.).

Ehtimoliy harakatlanish yo'lining kombinatsiyalari belgilangandan keyin har birining umumlashtirilgan xususiyatlari aniqlanadi, jumladan harakatlanish uchun sarflanadigan umumiy vaqt, bir yo'nalishdan boshqasiga o'tishlar soni, harakatlanish uchun sarf-xarajatlar va h.k.

"Yo'lovchilar oqimini harakatlanish yo'nalishlari bo'yicha taqsimlanishi" elementi transport mikrohududlari juftliklari oraliqlaridagi har bir yo'li uchun yo'lovchilar tomonidan berilgan mezonlar asosida harakatlanish yo'nalishlarini ularning xarakteristikalarini bo'yicha tanlash orqali umumiy yo'lovchilar oqimidan yo'lovchilar ulushini ajratadi, ya'ni har qanday cho'qqi uchun  $s_p^2 (p \in P_{iz})$  aniqlanadi, unga mos ravishda (4.5) formula orqali har bir yo'lning harakat jadalligi aniqlanadi.

Masalan, agarda  $v_p^m$  -  $m$  xarakteristikaga ega bo'lgan  $p$  harakat yo'li va mos keluvchi og'irlik koeffitsientlari  $a_m$  bo'lsa, u holda  $s_p^2$  ning qiymatini aniqlash mumkin.

$$s_p^2 = - \frac{\exp v_p}{\sum_p \exp v_p}, \quad (4.6)$$

Bu yerda





$$v_p = \sum_m a_m v_p^m, \quad (4.7)$$

“Yo‘lovchilar oqimini yo‘nalishlar bo‘yicha taqsimlash” bloki har bir to‘xtash bekatida oraliqda harakatlanish yo‘lini belgilaydi,  $i$  va  $j$  yo‘nalishlarni o‘zaro bog‘lovchi to‘xtash bekatlari oraliqlarida yo‘lovchilar oqimini taqsimlaydi.

$$u_p^0(i, j) = u_p \rho_{ij}^\omega, \quad (4.8)$$

Bu yerda  $p \in P_{kl}; \omega \in M_{ij}; (i, j) \in X^{(2)}; (k, l) \in X^{(1)}.$

So‘ngra peregon uchastkalarini yuklanishlari topiladi. Bu tartib yo‘nalishdagi yo‘lovchilar oqimining boshlang‘ich taqsimlanishini aniqlash tugagunga qadar har bir yo‘nalish uchun takrorlanadi.

“Harakatlanish grafiki xarakteristikalarini tekshirib tuzatish” elementi yordamida yo‘nalishdagi barcha to‘xtash bekatlari  $t_{pij}$  va  $\rho_{ij}^m$  parametrlari bilan  $t^{p^0}(i, j)$  ning ko‘rsatkichlariga yo‘lovchilar oqimining taqsimlanishi bo‘yicha tuzatishlar kiritiladi. Shu maqsadda  $i$  to‘xtash bekatida  $\omega$  yo‘lovchilar yo‘nalishdagi jamoat transporti birligini kutishga sarflagan o‘rtacha vaqti  $t_i^\omega$  yangi qiymatlarini aniqlaydi. Iteratsiya boshlangunga qadar bu kattalik mazkur yo‘nalish bo‘ylab harakatlanayotgan jamoat transporti birligi orasidagi harakat intervalining yarmiga teng bo‘ladi deb taxmin qilingan edi. Bu yo‘nalish bo‘ylab harakatlanib to‘xtash bekatlariga kelgan jamoat transporti birliklaridagi “bo‘sh joylar” jadalligi bularga da‘vo qilayotgan yo‘lovchilar jadalligidan kam bo‘lmasligi lozim. Bu talab bajarilmay qolganda  $t_i^\omega$  qiymatini baholashga tuzatishlar kiritilishi kerak, chunki to‘xtash bekatiga kelayotgan yo‘lovchilarning barchasiga keyingi keladigan jamoat transporti birligi bilan xizmat ko‘rsatish mumkin emas. Bunday holatda jamoat transportini kutish uchun sarflagan o‘rtacha vaqtni  $t_i^\omega$  ni quyidagi bog‘liqlik yordamida baholash mumkin.

$$t_i^\omega = \begin{cases} \frac{\tau_\omega}{2}, & \text{agarda } u_i^\omega \leq \pi_i^\omega \\ \frac{\tau_\omega}{2} + \frac{1}{2} \left( \frac{u_i^\omega}{\pi_i^\omega} - 1 \right), & \text{agarda } u_i^\omega > \pi_i^\omega \end{cases} \quad (4.9)$$

Bu yerda  $u_i^\omega$  -  $i$  to‘xtash bekatidagi  $\omega$  yo‘nalishdagi yo‘lovchilar oqimi jadalligi;  $\pi_i^\omega$  -  $\omega$  yo‘nalishdagi “bo‘sh o‘rinlar” jadalligi.





(4.9) bog'liqlik, modellashtirish davomida  $u_i^\omega$  va  $\pi_i^\omega$  kattaliklar o'zagaradi va "birinchi kelganga birinchi xizmat qilinadi" tamoyili qabul qilinadi, ya'ni jamoat transporti birligiga chiqishi yo'lovchilarni to'xtash bekatiga kelish tartibida amalga oshiriladi.

O'z navbatida  $i$  to'xtash bekatiga kelgan  $\omega$  yo'nalishdagi "bo'sh o'rinlar" oqimi  $\pi_i^\omega$  ni aniqlash uchun quyidagi baholash usulidan foydalanish mumkin. Taxmin qilamiz,  $i$  – ko'rilayotgan to'xtash bekati,  $u(i-1, i)$  va  $u(i, i+1)$  mos ravishda  $u(i-1, i)$  va  $u(i, i+1)$  yo'nalishlardagi peregonlarning yo'lovchilar oqimining dastlabki taqsimlanishi orqali aniqlangan yuklanishi, bunda  $\pi_i^\omega$  ni aniqlashda quyidagi uchta xolatni farqlash kerak bo'ladi:

1. Yo'nalishdagi har bir to'xtash bekati ( $i = 1$ ) uchun quyidagi bog'liqlik to'g'ri keladi:

$$\pi_i^\omega = \chi / \tau_\omega, \quad (4.10)$$

Bu yerda  $\chi$  – jamoat transporti birligi sig'imi,  
 $\tau_\omega$  - harakat intervali.

2. Oraliq to'xtash bekatlari uchun agarda oldingi to'xtash bekatida olingan yuklanish, yo'nalishning o'tkazish qobiliyatidan ortib ketmasa, u holda quyidagi shart bajariladi

$$u(i-1, i) \leq \frac{\chi}{\tau_\omega}, \quad (4.11)$$

u holda quyidagi to'g'ri keladi

$$\pi_i^\omega = \frac{\chi}{\tau_\omega} - u(i, i+1) + u_i^\omega, \quad (4.12)$$

3. Agarda (4.13) shart bajarilmasa, u holda  $\pi_i^\omega$  ni baholash uchun quyidagi bog'liqdan foydalaniladi

$$\pi_i^\omega = \frac{\chi}{\tau_\omega u(i-1, i)} (u(i-1, i) - u(i, i+1) + u_i^\omega). \quad (4.13)$$

Turlicha berilgan yo'nalishning to'xtash bekatlarga taqsimlangan yo'lovchilar jamoat transporti birligiga chiqishda imtiyozga ega bo'lmaydi, deb taxmin qilinadi. Bu bilan jamoat transporti birligini kutish uchun sarflanadigan o'rtacha vaqt  $t_i^\omega$  ni tuzatish tugallanadi va  $t_i^\omega$  ning olingan





kattaligi qiymatini hisobga olgan holda to'xtash bekatlari orasida harakatlanish uchun sarflanadigan vaqt  $t_{ij}^{po}$  ni tuzatishga o'tiladi.

$t_{ij}^{po}$  ning yangi qiymatlari (4.3) formula yordamida aniqlanadi, (4.4) va (4.5) formulalar yordamida olingan  $t_{ij}$  va  $\rho_{ij}^{\omega}$  larning qiymatlarida,  $\tau_{\omega}$  sifatida to'xtash bekati uchun  $i$  ning qiymati  $2t_i$  teng tariqasida olinadi. Shu boisdan,  $\omega$  yo'nalishida jamoat transporti birligi intervali (yo'nalishdagi har bir to'xtash bekati uchun alohida), noto'g'ri intervalga (haqiqiy intervaldan ortiq) o'tishi amalga oshiriladi, bu esa  $i$  to'xtash bekatidan kelayotgan jamoat transporti birligini "yashirin" shaklda hisobga olishni ta'minlaydi va  $i$  to'xtash bekatiga, shuningdek  $i$  to'xtash bekatidan turli yo'nalishlarga ularning o'tkazish qobiliyati bo'yicha yo'lovchilarni kelishini tartibga soladi.

Shu bilan modulning sanab o'tilgan elementlarining birinchi iteratsiyasi tugaydi. Keyingi iteratsiya "Transport mikrohududlari juftliklari o'rtasida yo'lovchilarning harakatlanish yo'li to'plamini aniqlash" elementidan boshlanadi.

"Tarmoqda yo'lovchilar oqimining taqsimlanish natijalarini baholash" elementi yo'lovchilar oqimlarini taqsimlanishi muvozanatli (barqaror) amalga oshirilishi shartlarini tekshirishni ta'minlaydi. Bu maqsadda keyingi ikkita iteratsiyada oqim taqsimlanishi parametrlarini taqqoslaydi. Ushbu qiymatlarning yaqinligi o'lchovi sifatida modul bo'yicha ularning farqlanish majmui, o'rtacha kvadratik chetlashishi va boshqa ko'rsatkichlardan foydalanish mumkin.

O'tkazilgan nazariy va amaliy tadqiqotlar natijasida shu narsa ma'lum bo'ldiki, 20 ta yo'nalishlar o'rganilganda o'zaro mos kelishlik ularning 30-50 foyizi iteratsiyalarda kuzatildi, ammo oqimni taqsimlanishining muvozanati sohasida sezilarli tebranish mavjud bo'lar ekan. Mazkur tebranishlarni sezilarli darajada kamaytirish uchun (4.9) formulaga ularning iteratsion amallarini mosligini tartibga solishning umumiy qoidalariga muvofiq tartibga soluvchi koeffitsientlar kiritish orqali erishiladi.

Yo'lovchi transportining yo'nalishlar tarmog'idagi tahlil qilinadigan varianti uchun kerakli muvozanatli taqsimlanadigan yo'lovchilar oqimini olishda "Yo'nalishlar tarmoqlarida o'zgarishlar variantlari xarakteristikalarini baholash" elementi alohida yo'nalishlarning xususiy xarakteristikalarini (yo'lovchilarning differensiyalashgan to'xtash bekatlari bo'yicha jamoat yo'lovchi transportini kutishning o'rtacha va umumiy vaqti, peregonlarning yuklanishi, to'xtash bekatlarida yo'lovchilar aylanmasi, yo'nalish yuklamasining notekisligi va x.k.) shuningdek to'liq xolda yo'nalishlar tarmoqlarining komplks xarakteristikalarini (juft transport mikrohududlari oralig'ida harakatlanish vaqti, bir yo'nalishda boshqasiga o'tishlar soni va h.k.).





Shunday qilib, amaldagi yo'nalishning ayrim xarakteristikalarini qisman o'zgartirish varianti tahlil qilinsa, u holda ularga o'zgartirishlar kiritish maqsadga muvofiqligini baholashni aniqlash mumkin. Yo'nalishlar tarmoqlari variantlariga o'zgartirishlar kiritish imkoniyatlari bo'yicha mazkur usul orqali ularning nisbiy ijobiy va salbiy jihatlari to'g'risida ma'lumotlar olish mumkin bo'ladi.

### Foydalanilgan adabiyotlar

1. Abdumuminov B.R., Eminov R.I., & Gulomov K.K. (2023). UNDERSTANDING FETAL CIRCULATION AND THE TRANSITION TO POSTNATAL CIRCULATION: SHUNTS, PLACENTA, AND CONGENITAL HEART DEFECTS. *Экономика и социум*, (6-1 (109)), 14-21.
2. Gulomov, K. K., Juraev, S. B., Khamdamov, R. A., Kholikov, B. M., & Meliboev, R. A. (2025, February). IMPROVING THE TREATMENT OF COMPLICATIONS IN ENDOUROLOGICAL OPERATIONS FOR UROLITHIASIS. In *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY* (Vol. 2, No. 1, pp. 31-33).
3. Gulomov, K. K., Kholikov, B. M., Sh, P. S., & Yokubov, D. Y. (2025). NEUROLOGICAL ASSESSMENT OF POSTOPERATIVE PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING (CABG). *ZAMONAVIY ILM-FAN VA INNOVATSIYALAR NAZARIYASI*, 2(2), 6-10.
4. Juraev, S. B., Khamdamov, R. A., Meliboev, R. A., & Yokubov, D. Y. (2025). NEW TREATMENT APPROACHES FOR PEDIATRIC UPPER GASTROINTESTINAL OBSTRUCTION IN FERGANA VALLEY. *ZAMONAVIY ILM-FAN VA INNOVATSIYALAR NAZARIYASI*, 2(2), 4-6.
5. Juraev, S. B., Kholikov, B. M., & Sh, P. S. (2025, February). PREVENTIVE MEASURES FOR COMPLICATIONS AFTER GASTROINTESTINAL SURGERY. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 11-12).
6. Kh, F. N., & Juraev, S. B. (2025, January). PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 4-6).
7. Kh, F. N., & Juraev, S. B. (2025, January). PREVENTION OF TROPHIC ULCERS IN PATIENTS WITH ATHEROSCLEROSIS OF THE FOOT ARTERIES. In *INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY STUDIES AND EDUCATION* (Vol. 2, No. 1, pp. 4-6).





8. Khamraev, A. Z., Eminov, R. I., & Rakhmonov, D. B. (2023). Osobennosti lecheniya detey s gemorroem. *Russian Journal of Pediatric Surgery, Anesthesia and Intensive Care*, 13, 196.
9. Kholikov, B. M. (2025, February). POSTOPERATIVE DELIRIUM IN CABG PATIENTS: IDENTIFYING RISKS AND OPTIMIZING PERIOPERATIVE MANAGEMENT. In *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY* (Vol. 2, No. 1, pp. 14-16).
10. Ugli, A. A. K. (2024). AI-DRIVEN METAGENOMIC ANALYSIS TO UNCOVER MICROBIAL INFLUENCES ON CANCER DEVELOPMENT. *ORIENTAL JOURNAL OF MEDICINE AND NATURAL SCIENCES*, 1(6), 43-54.
11. Ёкубов D. On differential diagnostics of spinal cord pathology of organic and functional genesis / Д. Ёкубов, А. Мазалова. – Актуальные вопросы фундаментальной медицины: сегодня и в будущем. – 2024. – № 1. – С. 36.
12. Кузибоев, Ш. (2025). АНАЛИЗ ОСЛОЖНЕНИЙ ПОСЛЕ ГЕМОРРОИДЭКТОМИИ: КЛИНИЧЕСКИЙ СЛУЧАЙ. *Экономика и социум*, (1-2 (128)), 697-701.
13. Хамраев, А., & Эминов, Р. (2023). Особенности клинического течения геморроя у детей. *Актуальные вопросы детской хирургии*, 1(1), 53-54.





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