



Modern trends in prevention, early diagnosis, treatment, and rehabilitation of oncological diseases of the maxillofacial region

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Abstract

Currently, oncological diseases of the oral mucosa and the maxillofacial region are characterized by a high prevalence rate, necessitating timely diagnosis and the improvement of their medical and social rehabilitation. The priority objective in this regard is to reduce morbidity and mortality while enhancing the quality of life for cancer patients through proven, evidence-based measures in prevention, diagnosis, treatment, rehabilitation, and palliative care, as well as through the identification of specific risk groups. Improving care for patients with oncological diseases requires effective interaction between the patient and the healthcare facility, and, on the part of specialists, the implementation of innovative technologies. The advancements in global medical science are accompanied by the emergence of new communication opportunities linked to artificial intelligence systems. These systems have demonstrated highly effective results in the early diagnosis of precancerous conditions, as well as in organizing treatment and preventive measures for patients with disabilities residing in remote areas, thereby increasing the rate of early patient referrals. Meanwhile, one effective method for detecting precancerous and cancerous conditions is the screening program. In the Russian Federation, however, developed screening programs are not widely implemented within the country's practical health-care system. Nevertheless, the unresolved issues concerning the early diagnosis, treatment, and rehabilitation of oncological diseases of the maxillofacial region underscore the need for further research. Such research, aimed at finding clinically effective methods and tools, represents a pressing issue in clinical dentistry.

Keywords: precancerous diseases, malignant neoplasms, causative factors, patient routing, early diagnosis, treatment, prevention, rehabilitation

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Современные тенденции профилактики, ранней диагностики, лечения и реабилитации онкологических заболеваний челюстно-лицевой области

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Резюме

На сегодняшний день онкологические заболевания слизистой оболочки полости рта и челюстно-лицевой области характеризуются высоким уровнем их распространенности, которые требуют своевременной диагностики и совершенствования их медико-социальной реабилитации. При этом приоритетной целью являются уменьшение заболеваемости, смертности и повышения уровня качества жизни онкологических пациентов с помощью действительных убедительных мероприятий по профилактике, диагностике, лечению, реабилитации и паллиативной помощи, а также по признакам специфических групп риска. Совершенствование помощи пациентам с онкологическими заболеваниями требуют взаимодействия пациента и лечебно-профилактического учреждения, а от специалистов внедрения инновационных технологий. Развитие мировой медицинской науки сочетается с появлением новых

возможностей коммуникации, связанные с системой искусственного интеллекта, которая показала наиболее эффективные результаты для ранней диагностики предраковых заболеваний, а также в организации лечебно-профилактических мероприятий у больных с ограниченными возможностями, находящихся в отдаленных местностях, повышая тем самым уровень раннего обращения пациента. Тем временем одним из эффективных методов выявления предраковых и онкологических заболеваний является скрининговая программа в России, где разработанные скрининговые программы широко не используются в системе практического здравоохранения страны. Однако, до конца не решенные вопросы ранней диагностики, лечения и реабилитации онкологических заболеваний челюстно-лицевой области диктуют необходимость проведения дальнейших исследований, направленных на поиск клинически эффективных методов и средств, что является актуальной проблемой клинической стоматологии.

Ключевые слова: предраковые заболевания, злокачественные новообразования, причинно-следственные факторы, маршрутизация, ранняя диагностика, лечение, профилактика, реабилитация

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INTRODUCTION

At present, unresolved issues related to early diagnosis, treatment, and rehabilitation of oncological diseases of the maxillofacial region necessitate further research aimed at identifying clinically effective methods and approaches, making this a highly relevant problem in clinical dentistry [1]. Malignant neoplasms of the oral mucosa and maxillofacial area are characterized by a high prevalence, requiring timely diagnosis and improvement of medical and social rehabilitation strategies [2].

It should be noted that in the Russian Federation over the past half century, there has been nearly a two-fold increase in the trend of newly diagnosed malignant neoplasms, with the overall incidence reaching up to 85%. At the same time, scientific and technological advances have contributed to a reduction in premature cancer-related mortality. Nevertheless, both incidence and mortality rates remain high, with cancer ranking second among causes of death after cardiovascular diseases in Russia [3; 4].

Recent studies indicate that, according to standardized mortality rates, the Russian Federation remains among the leading countries alongside China, as well as several European and Asian nations [3].

According to multiple authors, despite advances in medical science, up to 50% of tumors of the oral cavity and oropharynx tend to recur. Approximately 10,000 new cases of malignant neoplasms of the oral mucosa are diagnosed annually in Russia, corresponding to 29 cases per 100,000 population, with a one-year mortality rate reaching 33% [5; 6]. Over the past decade, the incidence of these diseases has increased by up to 35%, while the five-year survival rate remains low – approximately 25% in men and 38% in women – largely due to the fact that up to 70% of cases are diagnosed at advanced stages. Late presentation is often associated with the lack of comprehensive population screening and the non-mandatory nature of preventive medical examinations, which significantly contribute to disease neglect.

Currently, a well-defined spectrum of etiological factors contributing to malignant transformation in the oral cavity has been identified, including harmful

habits, adverse environmental exposures, and low socioeconomic status [7–9]. In addition, the incidence of oral malignancies is directly influenced by regional socioeconomic development, public health awareness, and accessibility of healthcare services [10–12].

The above highlights the critical role of dental practitioners in the early detection of malignant neoplasms of the maxillofacial region. As primary care providers, dentists play a key role in initial diagnosis, underscoring the importance of further research aimed at optimizing medical and social rehabilitation strategies.

AIM

To conduct a literature review on current trends in the prevention, early diagnosis, treatment, and rehabilitation of oncological diseases of the maxillofacial region.

MATERIALS AND METHODS

To compile a review on the prevention, early detection, treatment, and rehabilitation of oncological diseases of the maxillofacial region, a literature search was conducted using the databases Web of Science, Scopus, PubMed (MEDLINE), eLIBRARY.RU, and the Cochrane Database of Systematic Reviews. Keywords relevant to the research topic were applied, including “precancerous conditions”, “malignant neoplasms”, “causal factors”, “patient routing”, “early diagnosis”, “treatment”, “prevention”, and “rehabilitation”.

During the search process, 3,653 publications were identified. After removing 986 duplicates, 2,667 potentially relevant studies were screened. Of these, 2,405 articles did not meet the inclusion criteria and were therefore excluded. Consequently, the full texts of 262 studies were assessed in detail. Ultimately, 48 publications met the eligibility criteria and were included in the final analysis.

Studies lacking original data, as well as those that did not comprehensively address aspects of prevention, early diagnosis, treatment, and rehabilitation of maxillofacial oncological diseases, were excluded. Among the 48 selected articles, randomized controlled trials, meta-analyses, and systematic reviews were analyzed. The selected sources enabled the formulation of evidence-

based conclusions regarding current trends in the prevention, early diagnosis, treatment, and rehabilitation of oncological diseases of the maxillofacial region, highlighting the need for further research in this field.

RESULTS AND DISCUSSION

Pathogenesis

Genetic predisposition plays a crucial role in the development of oncological diseases. Increased expression of certain polymorphic genetic variants may directly trigger malignant transformation of precancerous lesions and sporadic tumor development [1; 12]. In addition, genetic influences on oncogenic processes are associated with impaired enzyme synthesis in cells, leading to genotoxic effects, while a decrease in exogenous carcinogens may disrupt the metabolic pathways of carcinogenic xenobiotics [10; 11; 13].

Currently, metabolic imbalance has been identified in patients with oral oncological diseases. In this regard, some authors recommend vitamin therapy, including vitamin A solutions and Aevit (containing vitamins A and E) in combination with glucocorticosteroids [14].

Screening and diagnosis

The primary strategy for reducing the incidence of oncological diseases includes prevention, early detection of precancerous conditions, implementation of cancer screening programs, development of digital tools for oncological detection, and provision of high-quality palliative care [8; 15–17].

At the same time, comprehensive programs that have been developed and implemented demonstrate a broad scope of impact at both international and regional levels, contributing to the improvement and monitoring of oncological care delivery [18]. Effective cancer control programs are closely linked to the outcomes of scientific research, enabling the integration of innovative technologies into preventive, therapeutic, and rehabilitation practices.

A key public health priority is based on the clinical and epidemiological characteristics of oncological diseases [9; 19; 20]. One of the major current initiatives is the European Cancer Plan, which aims to significantly reduce and ultimately halt the spread of cancer. These programs focus on the implementation of advanced medical technologies in oncological care.

An equally important objective is ensuring the availability of highly qualified multidisciplinary specialists and expanding access to specialized medical care. This domain also emphasizes the implementation of personalized medicine approaches in the prevention, early diagnosis, and treatment of malignant neoplasms of the oral cavity and maxillofacial region, as well as improving the social integration of oncology patients [7; 21–23].

It is important to emphasize that patient interview and visual examination remain the primary methods in the assessment of individuals with oncological diseases. At the same time, one of the effective approaches for detecting precancerous and malignant conditions is the implementation of screening programs in the Russian Federation. However, existing screening programs are not yet widely integrated into routine clinical practice [24].

Currently, one of the innovative methods for detecting neoplasms of the oral mucosa is autofluorescence stomatoscopy. This technique involves the use of various light filters to examine oral tissues and identify pathological changes characteristic of facultative and obligate precancerous conditions. The principal mechanism of this method is based on the application of different wavelengths of light to detect alterations in epithelial cells, particularly in the spinous layer, manifested as cellular atypia and polymorphism. Autofluorescence is widely used in oncological screening of oral pathologies not only in Russia but also internationally, demonstrating high diagnostic efficiency. This method is simple to use and exhibits high sensitivity for certain precancerous conditions, thereby increasing the likelihood of early detection of obligate precancerous lesions and malignant neoplasms at earlier stages [25].

It should also be noted that one of the effective regional components of the Unified State Health Information System in the Republic of Sakha (Yakutia) is the "RMIS" program, which functions as a large-scale healthcare IT project.

At present, specialists successfully use stomatoscopy and vital staining methods, including Lugol's solution, for the detection of oncological diseases. Hematoxylin and toluidine blue are also applied; however, their use in routine dental practice remains limited [26]. Among screening approaches for early diagnosis of malignant neoplasms of the oral cavity, clinicians frequently rely on simple and accessible methods, including fluorescence-based techniques incorporated into state-guaranteed dental care programs [5].

Objective clinical examination remains one of the most informative diagnostic approaches. During assessment, the dentist evaluates facial changes, mouth opening, the condition of the vermilion border of the lips, the oral mucosa, color alterations, and the consistency of tissues within the lesion. In addition, identification of primary and secondary morphological elements is essential for accurate diagnosis [27–29]. According to WHO recommendations, diagnostic evaluation of oncological conditions should include both extraoral examination of the head and neck and intraoral assessment of dentoalveolar structures. However, clinical examination alone does not provide definitive differentiation between precancerous and malignant lesions or allow precise prediction of malignant transformation. To a considerable extent, diagnostic accuracy depends on the clinician's expertise and experience [2; 30; 31].

Treatment and rehabilitation

In clinical dentistry, general principles for managing precancerous lesions of the oral mucosa have been established. Topical pharmacotherapy is most commonly delivered via application methods; however, these approaches have limitations due to the lack of prolonged drug retention, as medications are diluted by saliva, reducing their effective concentration [32–35]. In this context, modified drug delivery systems with controlled release have gained importance, maintaining higher local concentrations and prolonging therapeutic effects.

These include liposomal formulations and drug-polymer conjugates such as hydrogels [36].

Surgical technologies continue to evolve, with increasing use of laser surgery, robotic techniques, and robot-assisted interventions. Photodynamic therapy is also widely used in the management of precancerous and malignant lesions. Photodynamic therapy involves laser-induced disruption of trophic processes in pathological tissues and contributes to the destruction of tumor vasculature. However, it is associated with adverse effects such as hyperemia, edema, ulceration, erosion, and bleeding, necessitating adjunctive pharmacological management [26; 37–39].

Laser ablation is considered one of the effective treatment modalities for precancerous lesions of the oral mucosa. It requires an individualized approach, including adjustment of laser power and pulse duration. Combined treatment strategies often incorporate pharmacotherapy along with cryodestruction; however, contraindications may include pronounced hyperkeratosis and lesions located in anatomically challenging areas [40–42].

In some clinical cases, conventional surgical intervention is not feasible due to contraindications such as decompensated systemic diseases or difficult anatomical localization of lesions. Additionally, recurrence of lesions has been reported even after radical treatment [2].

Currently, radiofrequency surgical devices (radio-surgical scalpels) are widely used in dental oncology. Compared to traditional methods, they offer advantages such as improved visualization of the surgical field due to effective coagulation of small vessels, reduced risk of postoperative complications, and formation of a more favorable scar [43].

Systemic therapy also plays an important role in comprehensive treatment. The use of systemic enzyme preparations has demonstrated a broad nonspecific therapeutic effect, with proven biocompatibility and safety when combined with other medications. One such preparation is Wobenzym, which has shown efficacy in promoting regeneration of erosive and ulcerative lesions, achieving complete epithelialization in up to 70% of cases within 1.5 months and absence of recurrence in 63% of patients after six months [6].

Prevention

Improvement of oncological care remains a priority in healthcare systems, taking into account climatic, socioeconomic, and medical-geographical factors [44]. Initiatives led by the World Health Assembly have re-

sulted in the development of regional programs focused on predictive and preventive strategies for oncological diseases, including those affecting the maxillofacial region [45]. These programs emphasize the implementation of clinical guidelines, raising public awareness, and developing strategies aimed at reducing cancer incidence [46].

The primary objectives of preventive programs include reducing morbidity and mortality rates, as well as improving the quality of life of oncology patients through timely implementation of measures related to prevention, early diagnosis, treatment, rehabilitation, and palliative care [24].

It should be emphasized that improving care for patients with oncological diseases requires effective interaction between the patient and healthcare institutions, as well as the implementation of innovative technologies by medical professionals. One of the modern approaches in molecular biomedicine is the timely detection of malignant neoplasms at early stages, which serves as a key indicator in reducing cancer incidence and improving prevention outcomes.

Important aspects in enhancing communication in oncology care include the improvement of dynamic monitoring and evaluation, accurate prediction of disease progression, timely diagnosis, and high-quality interpretation of clinical and laboratory findings, as well as the establishment of trust between the patient and the physician.

Furthermore, advances in global medical science have introduced new communication opportunities through artificial intelligence systems, which have demonstrated high efficiency in the early detection of precancerous conditions. These technologies also facilitate the organization of therapeutic and preventive care for patients with limited mobility or those residing in remote areas, thereby increasing the likelihood of early patient presentation and improving overall access to care [14].

CONCLUSION

Current trends in the prevention, early diagnosis, treatment, and rehabilitation of oncological diseases of the maxillofacial region involve the practical implementation of innovative and advanced digital technologies, as well as the use of artificial intelligence to support clinical decision-making. The integrated application of these approaches contributes to the improvement of comprehensive medical and social rehabilitation.

REFERENCES / СПИСОК ЛИТЕРАТУРЫ

- Gorbatova E.A., Kozlova M.V., Lobacheva E.V. Detection of malignization processes in precancerous lesions in the oral mucous. *Kremlin Medicine Journal*. 2020;(3):33–37. (In Russ.) Available at: <https://kremlin-medicine.ru/index.php/km/article/view/1494> (accessed: 01.02.2026). Горбатова Е.А., Козлова М.В., Лобачева Е.В. Выявление малигнизации предопухолевых заболеваний слизистой оболочки рта. *Кремлевская медицина. Клинический вестник*. 2020;(3):33–37. Режим доступа: <https://kremlin-medicine.ru/index.php/km/article/view/1494> (дата обращения: 01.02.2026).
- Mukhanov A. A. Prevention of malignant tumors of the mucous membrane of the oral cavity. *Nauchnyi Elektронnyi Zhurnal Meridian*. 2020;(2):153–155. (In Russ.) Муханов А.А. Профилактика злокачественных новообразований слизистой оболочки полости рта. *Научный электронный журнал Меридиан*. 2020;(2):153–155.

3. Merabishvili V.M., Solovyev V.I., Luzhetskii V.A., Vasilyev A.B., Merabishvili E.N., Chepik O.F. Epidemiology and survival of patients with malignant tumors of the nasal cavity, middle ear and accessory sinuses according to the stage of disease and histological structure of tumors. *Siberian Journal of Oncology*. 2016;15(4):5–13. (In Russ.) <https://doi.org/10.21294/1814-4861-2016-15-4-5-13>
- Мерабишвили В.М., Соловьев В.И., Лужецкий В.А., Васильев А.Б., Мерабишвили Э.Н., Чепик О.Ф. Эпидемиология и выживаемость больных злокачественными новообразованиями полости носа, среднего уха и придаточных пазух с учетом стадии заболевания и гистологической структуры опухоли. *Сибирский онкологический журнал*. 2016;15(4):5–13. <https://doi.org/10.21294/1814-4861-2016-15-4-5-13>
4. Afanasyeva L.N., Klimova T.M., Alexandrova O.Yu., Kogonia L.M., Nikolaeva T.I., Belolyubskaya T.E. et al. Screening of malignant neoplasms in the population of the Republic of Sakha (Yakutia). *Yakut Medical Journal*. 2022;(4):48–51. (In Russ.) <https://doi.org/10.25789/YMJ.2022.80.13>
- Афанасьева Л.Н., Климова Т.М., Александрова О.Ю., Когония Л.М., Николаева Т.И., Белолюбская Т.Е. и др. Скрининг злокачественных новообразований у населения Республики Саха (Якутия). *Якутский медицинский журнал*. 2022;(4):48–51. <https://doi.org/10.25789/YMJ.2022.80.13>
5. Krikheli N.I., Pozdniakova T.I., Bulgakova N.N., Prokudina E.Yu. Results of autofluorescence somatoscope lichen planus as a screening method for detecting pre-cancerous and cancerous changes of the oral mucosa. *Russian Journal of Stomatology*. 2016;9(4):13–17. (In Russ.) <https://doi.org/10.17116/rosstomat20169413-17>
- Крихели Н.И., Позднякова Т.И., Булгакова Н.Н., Прокудина Е.Ю. Результаты аутофлюоресцентной стоматоскопии плоского лишая как скринингового метода выявления предраковых и раковых изменений слизистой оболочки рта. *Российская стоматология*. 2016;9(4):13–17. <https://doi.org/10.17116/rosstomat20169413-17>
6. Lunitsyna Yu.V., Ziablitskaia K.V., Tokmakova S.I., Bondarenko O.V., Chudova L.V., Shteinke E.A. Methods of diagnosis and treatment of oral mucosal leukoplakia (literature review). *Actual Problems in Dentistry*. 2022;18(3):49–56. (In Russ.) <https://doi.org/10.18481/2077-7566-2022-18-3-49-56>
- Луницына Ю.В., Зяблицкая К.В., Токмакова С.И., Бондаренко О.В., Чудова Л.В., Штейнке Э.А. Методы диагностики и лечения лейкоплакии слизистой оболочки рта (литературный обзор). *Проблемы стоматологии*. 2022;18(3):49–56. <https://doi.org/10.18481/2077-7566-2022-18-3-49-56>
7. Lukina G.I., Abramova M.Ya., Belyaeva Yu.G. Comprehensive methods in the treatment of precancerous oral mucosal diseases. *Russian Journal of Stomatology*. 2020;13(3):34–35. (In Russ.)
- Лукина Г.И., Абрамова М.Я., Беляева Ю.Г. Комплексные методы в лечении предраковых заболеваний слизистой оболочки полости рта. *Российская стоматология*. 2020;13(3):34–35.
8. Matulić N., Bago I., Sušić M., Gjorgievska E., Kotarac Knežević A., Gabrić D. Comparison of Er:YAG and Er,Cr:YSGG laser in the treatment of oral leukoplakia lesions refractory to the local retinoid therapy. *Photobiomodul Photomed Laser Surg*. 2019;37(6):362–368. <https://doi.org/10.1089/photob.2018.4560>
9. Selvam N.P., Sadaksharam J., Singaravelu G., Ramu R. Treatment of oral leukoplakia with photodynamic therapy: A pilot study. *J Cancer Res Ther*. 2015;11(2):464–467. <https://doi.org/10.4103/0973-1482.147703>
10. Likhacheva D.S., Soloviev V.I. The need to develop skills in the diagnosis of oral tumors in dental students. *Smolensk Medical Almanac*. 2020;(4):88–92. (In Russ.)
- Лихачева Д.С., Соловьев В.И. О необходимости формирования навыков ранней диагностики опухолей полости рта у студентов стоматологов. *Смоленский медицинский альманах*. 2020;(4):88–92.
11. Shihadeh A., Saleh R. Polycyclic aromatic hydrocarbons, carbon monoxide, “tar”, and nicotine in the mainstream smoke aerosol of the narghile water pipe. *Food Chem Toxicol*. 2005;43(5):655–661. <https://doi.org/10.1016/j.fct.2004.12.013>
12. Rana M., Gellrich N.C., Rana M. Comparison of health-related quality of life of patients with different precancer and oral cancer stages. *Clin Oral Investig*. 2015;19(2):481–488. <https://doi.org/10.1007/s00784-014-1265-7>
13. Celik A., Diler S.B., Eke D. Assessment of genetic damage in buccal epithelium cells of painters: micro-nucleus, nuclear changes, and repair index. *DNA Cell Biol*. 2010;29(6):277–284. <https://doi.org/10.1089/dna.2009.0996>
14. Dzhuraeva Sh.F., Chistenko G.N., Terekhova T.N., Ikonnikova A.V. Oral cancer: risk factors and screening. *Sovremennaya Stomatologiya*. 2020;(2):3–7. (In Russ.) Available at: <https://www.mednovosti.by/journal.aspx?article=9050> (accessed: 17.02.2026).
- Джураева Ш.Ф., Чистенко Г.Н., Терехова Т.Н., Иконникова А.В. Рак полости рта: факторы риска и скрининг. *Современная стоматология*. 2020;(2):3–7. Режим доступа: <https://www.mednovosti.by/journal.aspx?article=9050> (дата обращения: 17.02.2026).
15. Postnikov M.A., Gabrielyan A.G., Trunin D.A., Kaganov O.I., Kirillova V.P., Khamadeeva A.M. et al. Refinement of non-invasive methods for diagnosing precancer and cancer of oral mucosa in general dental practice. *Bulletin of Russian State Medical University*. 2021;(1):65–71. <https://doi.org/10.24075/brsmu.2021.005>
- Постников М.А., Габриелян А.Г., Трунин Д.А., Казанов О.И., Кириллова В.П., Хамадеева А.М. и др. Совершенствование неинвазивных методов диагностики предраковых и злокачественных заболеваний слизистой оболочки рта на приеме у стоматолога. *Вестник Российского государственного медицинского университета*. 2021;(1):71–77. <https://doi.org/10.24075/vrgmu.2021.005>
16. Mikhalev D.E., Baydik O.D., Mukhamedov M.R., Sysolyatin P.G. Prevalence and organization problems of medical care to patients with precancer oral cavity mucosa diseases (on the Tomsk Region example). *Head and Neck Tumors*. 2022;12(1):79–85. (In Russ.) <https://doi.org/10.17650/2222-1468-2022-12-1-79-85>
- Михалев Д.Е., Байдик О.Д., Мухамедов М.Р., Сысолятин П.Г. Распространенность и проблемы организации медицинской помощи пациентам с предраковыми заболеваниями слизистой оболочки полости рта (на примере Томской области). *Опухоли головы и шеи*. 2022;12(1):79–85. <https://doi.org/10.17650/2222-1468-2022-12-1-79-85>
17. Nosratzahi T. Oral lichen planus: an overview of potential risk factors, biomarkers and treatments. *Asian Pac J Cancer Prev*. 2018;19(5):1161–1167. <https://doi.org/10.22034/APJCP.2018.19.5.1161>

18. Lim Y., Totsika M., Morrison M., Punyadeera C. Oral microbiome: a new biomarker reservoir for oral and oropharyngeal cancers. *Theranostics*. 2017;7(17):4313–4321. <https://doi.org/10.7150/thno.21804>
19. Gazhva S.I., Stepanyan T.B., Goryacheva T.P. Prevalence of stomatologic diseases of the mucous membrane of the oral cavity and their diagnostics. *International Journal of Applied and Fundamental Research*. 2014;(5-1):41–44. (In Russ.) Available at: <https://applied-research.ru/article/view?id=5273> (accessed: 17.02.2026).
Гажва С.И., Степанян Т.Б., Горячева Т.П. Распространенность стоматологических заболеваний слизистой оболочки полости рта и их диагностика. *Международный журнал прикладных и фундаментальных исследований*. 2014;(5-1):41–44. Режим доступа: <https://applied-research.ru/article/view?id=5273> (дата обращения: 17.02.2026).
20. Kukushkin V.L., Sokolova E.N., Kukushkina E.A. Epidemiological aspects of mucosal diseases of oral cavity. *Transbaikalian Medical Bulletin*. 2013;(1):156–159. (In Russ.)
Кукушкин В.Л., Соколова Е.Н., Кукушкина Е.А. Эпидемиологические аспекты заболеваний слизистой оболочки полости рта. *Забайкальский медицинский вестник*. 2013;(1):156–159.
21. Aleksandrova G.A., Polikarpov A.V., Golubev N.A., Ogryzko E.V., Kadulina N.A., Belyaeva I.M. et al. *Socially significant diseases of the population of Russia in 2016: statistical materials*. Moscow; 2016. 64 p. (In Russ.) Available at: https://mednet.ru/images/materials/CMT/szz_2016.pdf (accessed: 01.02.2026).
Александрова Г.А., Поликарпов А.В., Голубев Н.А., Огрызко Е.В., Кадулина Н.А., Беляева И.М. и др. *Социально-значимые заболевания населения России в 2016 году: статистические материалы*. М.; 2017. 64 с. Режим доступа: https://mednet.ru/images/materials/CMT/szz_2016.pdf (дата обращения: 01.02.2026).
22. Soloviev M.M. Cancer of the oral mucosa and tongue (reserves for improving the results of treatment). *Practical Oncology*. 2003;4(1):31–37. (In Russ.) Available at: https://rosoncweb.ru/library/journals/practical_oncology/arh013/05.pdf (accessed: 17.02.2026).
Соловьев М.М. Рак слизистой оболочки полости рта и языка (резервы улучшения результатов лечения). *Практическая онкология*. 2003;4(1):31–37. Режим доступа: https://rosoncweb.ru/library/journals/practical_oncology/arh013/05.pdf (дата обращения: 17.02.2026).
23. Pushalkar S., Ji X., Li Y., Estilo C., Yegnanarayana R., Singh B. et al. Comparison of oral microbiota in tumor and non-tumor tissues of patients with oral squamous cell carcinoma. *BMC Microbiol*. 2012;12(1):144. <https://doi.org/10.1186/1471-2180-12-144>
24. Shukhorova Yu.A., Tkach T.M., Burakshaev S.A., Postnikov M.A. Cancer awareness in the practice of a dentist at an outpatient appointment. *Institut Stomatologii*. 2020;(3):20–22. (In Russ.) Available at: <https://instom.spb.ru/catalog/article/15283/?view=pdf> (accessed: 17.02.2026).
Шухорова Ю.А., Ткач Т.М., Буракшаев С.А., Постников М.А. Онконастороженность в практике врача-стоматолога на амбулаторном приеме. *Институт стоматологии*. 2020;(3):20–22. Режим доступа: <https://instom.spb.ru/catalog/article/15283/?view=pdf> (дата обращения: 17.02.2026).
25. Rykhlevich A.A., Sandakov Ya.P. Malignant and potentially malignant diseases of the oral cavity, problems and methods of their detection (overview). *Health care Standardization Problems*. 2021;(9-10):26–33. (In Russ.) <https://doi.org/10.26347/1607-2502202109-10026-033>
Рыхлевич А.А., Сандаков Я.П. Злокачественные и потенциально злокачественные заболевания полости рта, проблемы и методы их обнаружения (обзор). *Проблемы стандартизации в здравоохранении*. 2021;(9-10):26–33. <https://doi.org/10.26347/1607-2502202109-10026-033>
26. Rybak O.G., Luchsheva L.F., Kravchenko V.A. Autofluorescence stomatoscopy – a method for examining the condition of the oral mucosa. *Public Health of the Far East*. 2019;(4):40–42. (In Russ.)
Рыбак О.Г., Лучшева Л.Ф., Кравченко В.А. Аутофлуоресцентная стоматоскопия – метод исследования состояния слизистой оболочки рта. *Здравоохранение Дальнего Востока*. 2019;(4):40–42.
27. Trizna N., Kaliadich Z., Zhaleika E., Evmenenko A. Dynamics of quality of life of patients as a method for evaluating surgical treatment outcome in oral and oropharyngeal cancer. *Oncology and Radiology of Kazakhstan*. 2021;(1):31–35.
Тризна Н.М., Колядич Ж.В., Жалейко Е.А., Евмененко А.А. Динамика качества жизни пациентов как метод оценки результатов хирургического лечения рака полости рта и ротоглотки. *Онкология и радиология Казахстана*. 2021;(1):31–35.
28. Naumova V.N., Turkina S.V., Maslak E.E. Association between oral and general diseases: review of the literature. *Volgograd Journal of Medical Research*. 2016;(2):25–28. (In Russ.) Available at: <https://old.volgmed.ru/uploads/journals/articles/1483040854-bulletin-2016-2-2783.pdf> (accessed: 17.02.2026).
Наумова В.Н., Туркина С.В., Маслак Е.Е. Взаимосвязь стоматологических и соматических заболеваний: обзор литературы. *Волгоградский научно-медицинский журнал*. 2016;(2):25–28. Режим доступа: <https://old.volgmed.ru/uploads/journals/articles/1483040854-bulletin-2016-2-2783.pdf> (дата обращения: 17.02.2026).
29. Zharkova I.V., Kabirova M.F. Condition of hemodynamics of the mucous membrane of the mouth and periodontium in patients with type 1 diabetes mellitus. *Parodontologiya*. 2018;23(2):43–45. (In Russ.) <https://doi.org/10.25636/PMP.1.2018.2.7>
Жаркова И.В., Кабировва М.Ф. Состояние гемодинамики слизистой оболочки рта и пародонта у пациентов с сахарным диабетом I типа. *Пародонтология*. 2018;23(2):43–45. <https://doi.org/10.25636/PMP.1.2018.2.7>
30. Trizna N., Zhukavets A., Kaliadzich Zh. Medical rehabilitation of patients with oral cavity and oropharyngeal cancer. *Oncological Journal*. 2021;15(1):57–62. (In Russ.)
Тризна Н.М., Жуковец А.Г., Колядич Ж.В. Медицинская реабилитация пациентов с опухолями полости рта и ротоглотки. *Онкологический журнал*. 2021;15(1):57–62.
31. Soldatova Yu.A., Bulgakov A.I., Gantseva Kh.Kh., Khismatullina F.R. Investigation of the effect of smoking on oral health indicators and the relationship amount of carbon monoxide from smoking experience. *Parodontologiya*. 2016;21(1):26–29. (In Russ.) Available at: <https://www.parodont.ru/jour/article/view/224> (accessed: 17.02.2026).
Солдатова Ю.О., Булгакова А.И., Ганцева Х.Х., Хисматуллина Ф.Р. Исследование влияния табакокурения на показатели стоматологического здоровья и взаимосвязи количества выделяемого угарного газа со стажем курения. *Пародонтология*. 2016;21(1):26–29.

- Режим доступа: <https://www.parodont.ru/jour/article/view/224> (дата обращения: 17.02.2026).
32. Rizaev Zh.A., Gafurov G.A. The impact of somatic pathology on dental health. *Parodontologiya*. 2017;22(1):11–14. (In Russ.) Available at: <https://www.parodont.ru/jour/article/view/155> (accessed: 17.02.2026).
Ризаев Ж.А., Гафуров Г.А. Влияние общесоматической патологии на стоматологическое здоровье. *Пародонтология*. 2017;22(1):11–14. Режим доступа: <https://www.parodont.ru/jour/article/view/155> (дата обращения: 17.02.2026).
 33. Edelman M.J. Neoadjuvant chemotherapy in early-stage non-small cell lung cancer. *Expert Rev Anticancer Ther.* 2001;1(2):229–235. <https://doi.org/10.1586/14737140.1.2.229>
 34. Sepetdjian E., Abdul Halim R., Salman R., Jaroudi E., Shihadeh A., Saliba N.A. Phenolic compounds in particles of mainstream waterpipe smoke. *Nicotine Tob Res.* 2013;15(6):1107–1112. <https://doi.org/10.1093/ntr/nts255>
 35. Brennan M.T., Madsen L.S., Saunders D.P., Napenas J.J., McCreary C., Ni Riordain R. et al. Efficacy and safety of a novel mucoadhesive clobetasol patch for treatment of erosive oral lichen planus: A phase 2 randomized clinical trial. *J Oral Pathol Med.* 2022;51(1):86–97. <https://doi.org/10.1111/jop.13270>
 36. Karpenko A.V., Sibgatullin R.R., Boyko A.A., Kostova M.G., Nikolayeva O.M., Trunin E.M. Dynamics of quality of life of head and neck cancer patients after treatment. Clinical significance. *Head and Neck Tumors*. 2018;8(4):39–47. (In Russ.) <https://doi.org/10.17650/2222-1468-2018-8-4-39-47>
Карпенко А.В., Сибгатуллин Р.Р., Бойко А.А., Костова М.Г., Николаева О.М., Трунин Е.М. Динамика качества жизни у пациентов с раком полости рта, перенесших комбинированное/комплексное лечение, и его клиническая значимость. *Опухоли головы и шеи*. 2018;8(4):39–47. <https://doi.org/10.17650/2222-1468-2018-8-4-39-47>
 37. Pursanova A.E., Kazarina L.N., Gulyan U.G., Serkhel E.V. Evaluation of effectiveness of treatment of precancerous diseases of the oral mucosa with autofluorescence diagnostics. *Modern Problems of Science and Education*. 2018;(4):151. (In Russ.) Available at: <https://science-education.ru/article/view?id=27754> (accessed: 17.02.2026).
Пурсанова А.Е., Казарина Л.Н., Гулян У.Г., Серхель Е.В. Оценка эффективности терапии предраковых заболеваний слизистой оболочки рта при помощи аутофлюоресцентной диагностики. *Современные проблемы науки и образования*. 2018;(4):151. Режим доступа: <https://science-education.ru/article/view?id=27754> (дата обращения: 17.02.2026).
 38. Maksimovskaia L.N., Abramova M.Ya., Erk A.A. Implementation of the national program of cancer screening of oral precancerous and oncological diseases in the Russian Federation. *Stomatology*. 2019;98(4):44–47. (In Russ.) <https://doi.org/10.17116/stomat20199804144>
Максимовская Л.Н., Абрамова М.Я., Эрк А.А. Реализация национальной программы онкоскрининга предраковых и онкологических заболеваний слизистой оболочки рта у населения Российской Федерации. *Стоматология*. 2019;98(4):44–47. <https://doi.org/10.17116/stomat20199804144>
 39. Dalirsani Z., Seyyedi S.A. Treatment of Plaque-like oral lichen planus with CO₂ laser. *Indian J Dermatol.* 2021;66(6):698–703. https://doi.org/10.4103/ijd.ijd_1170_20
 40. Kosheleva I.V., Shadyzheva L.I., Pereverzina N.O., Kliivitskaya N.A. Plasmatherapy: methods and fields of application. *Lechaschi Vrach*. 2018;(1):59. (In Russ.) Available at: <https://journal.lvrach.ru/jour/article/view/435> (accessed: 17.02.2026).
Кошелева И.В., Шадыева Л.И., Переверзина Н.О., Кливитская Н.А. Плазмотерапия: методики и области применения. *Лечащий врач*. 2018;(1):59. Режим доступа: <https://journal.lvrach.ru/jour/article/view/435> (дата обращения: 17.02.2026).
 41. Chissov V.I., Daryalova S.L. (eds). *Oncology*. Moscow: GEOTAR-Media; 2007. 560 p. (In Russ.) Available at: <https://djvu.online/file/6U3Jn57kn5pga> (accessed: 17.02.2026).
Чиссов В.И., Дарьялова С.Л. (ред.). *Онкология*. М.: ГЭОТАР-Медиа; 2007. 560 с. Режим доступа: <https://djvu.online/file/6U3Jn57kn5pga> (дата обращения: 17.02.2026).
 42. Coughlin A., Resto V.A. Oral cavity squamous cell carcinoma and the clinically n0 neck: the past, present, and future of sentinel lymph node biopsy. *Curr Oncol Rep.* 2010;12(2):129–135. <https://doi.org/10.1007/s11912-010-0090-7>
 43. Aliyeva G.H., Damirchiyeva M.V., Kerimli N.K. Overview of prevention methods of oral leukoplakia. *Vestnik Nauki i Obrazovaniya*. 2021;(6-1):85–88. (In Russ.) Available at: <https://scientificjournal.ru/images/PDF/2021/109/obzormetodov-profilak.pdf> (accessed: 17.02.2026).
Алиева Г.Г., Дамирчиева М.В., Керимли Н.К. Обзор методов профилактики лейкоплакии полости рта. *Вестник науки и образования*. 2021;(6-1):85–88. Режим доступа: <https://scientificjournal.ru/images/PDF/2021/109/obzormetodov-profilak.pdf> (дата обращения: 17.02.2026).
 44. Tesevich L.I., Sosnovskaya L.A. Tactical aspects of diagnostics and cancer vigilance in case of treatment of precancer diseases of the oral cavity mucous membrane, lips and skin of maxillofacial area taking into account dynamics of the index of coincidence frequency before and postoperative diagnoses. *Dentistry. Aesthetics. Innovations*. 2018;2(2):266–275. (In Russ.)
Тесевич Л.И., Сосновская Л.А. Тактические аспекты диагностики и онконастороженности при лечении предраковых заболеваний слизистой оболочки полости рта, губ и кожи челюстно-лицевой области с учетом динамики показателя частоты совпадения пред- и послеоперационного диагнозов. *Стоматология. Эстетика. Инновации*. 2018;2(2):266–275.
 45. Sandakova D.Ts. From precancer to cancer: just one step. In: Pinelis I.S. (ed.) *Clinical cases of oral cancer diagnosis. theory and practice of modern dentistry: collection of scientific papers of the regional scientific-practical conference of dentists, Chita, May 20, 2022*. Chita: Chita State Medical Academy; 2022, pp. 241–245. (In Russ.)
Сандакова Д.Ц. От предрака до рака один шаг: клинические случаи диагностики рака полости рта. В кн.: Пинелис И.С. (ред.) *Теория и практика современной стоматологии: сб. науч. тр. Регион. науч.-практ. конф. врачей стоматологов, г. Чита, 20 мая 2022 г.* Чита: Читинская государственная медицинская академия; 2022. С. 241–245.
 46. Varakina A.S. Factors increasing the risk of oral cancer. In: Ivanovskaya I.I., Posnova M.V. (eds) *Science, society, culture: problems and prospects of interaction in the modern world: collection of articles of the 6th All-Rus-*

sian scientific and practical conference, Petrozavodsk, January 6, 2022. Petrozavodsk: Novaya nauka; 2022, pp. 251–255. (In Russ.)

Варакина А.С. Факторы, повышающие риск развития рака полости рта. В кн.: Ивановская И.И., По-

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