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# A THREE-LEVEL PALLIATIVE CARE SYSTEM FOR PATIENTS WITH DYSPHAGIA

**© Dmitry O. Ivanov, Vasily I. Orel, Maxim V. Gavshchuk**

Saint Petersburg State Pediatric Medical University. Lithuania 2, Saint Petersburg Russian Federation 194100

**Contact information:**
Maxim V. Gavshchuk — Candidate of Medical Sciences, Associate Professor of the Department of General Medical Practice.
E-mail: gavshuk@mail.ru ORCID: https://orcid.org/0000-0002-4521-6361 SPIN: 2703-3589

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**Abstract.** *Introduction.* Humanism is the foundation of modern civilization and dictates the need to provide palliative care to the terminally ill patients. A separate problem is the organization of enteral nutrition of palliative patients through gastrostomy, which is important for patients of all age groups. *The aim of the work* is to optimize the palliative care for patients with dysphagia. *Materials and methods.* Scientific methods of analysis, synthesis, analogy, deduction and induction were used to develop a palliative care system for patients with dysphagia. At the same time, data from the content analysis of documents regulating the provision of palliative care to patients with dysphagia and the materials of previous studies are taken into account. *Results.* A system has been developed for the palliative care for patients with dysphagia organization, which distinguishes three levels: the outpatient level of palliative care, inpatient hospice and the level of a specialized surgical hospital with clear routing of patients and the definition of appropriate measures for each level. *Conclusions.* The developed three-level palliative care system for patients with dysphagia makes it possible to improve the quality of care and use Fast-track surgery approaches for this group of patients.

**Keywords:** *palliative care, routing, dysphagia, gastrostomy, Fast-track surgery*

# ТРЕХУРОВНЕВАЯ СИСТЕМА ОКАЗАНИЯ ПАЛЛИАТИВНОЙ ПОМОЩИ БОЛЬНЫМ С ДИСФАГИЕЙ

**© Дмитрий Олегович Иванов, Василий Иванович Орел, Максим Владимирович Гавщук**

Санкт-Петербургский государственный педиатрический медицинский университет. 194100, г. Санкт-Петербург, ул. Литовская, д. 2

**Контактная информация:**
Максим Владимирович Гавщук — к.м.н., доцент кафедры общей медицинской практики. E-mail: gavshuk@mail.ru
ORCID: https://orcid.org/0000-0002-4521-6361 SPIN: 2703-3589

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**Резюме.** *Введение.* Гуманизм является основой современной цивилизации и диктует необходимость оказывать паллиативную помощь неизлечимым больным. Отдельную проблему представляет организация энтерального питания паллиативных больных через гастростому, что актуально у пациентов всех возрастных групп. *Цель работы* — оптимизировать оказание паллиативной помощи больным с дисфагией. *Материалы и методы.* Для разработки системы оказания паллиативной помощи больным с дисфагией использованы научные методы анализа, синтеза, аналогии, дедукции и индукции. При этом учтены данные контент-анализа документов, регламентирующих оказание паллиативной медицинской помощи больным с дисфагией, и и материалы проведенных ранее исследований. *Результаты*. Разработана система организации паллиативной помощи больным с дисфагией, выделяющая три уровня: амбулаторный уровень оказания паллиативной медицинской помощи, стационарный хоспис и уровень специализированного

хирургического стационара с четкой маршрутизацией пациентов и определением соответствующих каждому уровню мероприятий. *Выводы.* Разработанная трехуровневая система оказания паллиативной помощи больным с дисфагией позволяет повысить качество оказываемой помощи и использовать подходы Fast-track хирургии для этой группы больных.

**Ключевые слова:** *паллиативная помощь, маршрутизация, дисфагия, гастростомия, Fast-track хирургия*

## INTRODUCTION

Humanism is the basis of a modern civilization. It dictates the importance of providing palliative care to terminally ill patients. The estimated need for palliative care in the Russian Federation in 2021 was about 1 million 200 thousand people, including 92 thousand children [1].

A special problem is the organization of enteral nutrition of palliative patients through a gastrostomy, which is relevant in patients of all age groups [2–4]. The formation of a nutritional fistula is a surgical operation which performed as part of specialized medical care in the profile of "surgery". Prolonged stay of a palliative patient in a specialized surgical bed is economically inexpedient, and the peculiarities of this group of patients, expected complications and lethal outcomes negatively affect the psycho-emotional state and satisfaction with the quality of care provided to other patients of the unit. This necessitates the application of Fast-track surgery approaches [5] aimed at reducing the duration of treatment in a surgical hospital and the period of habilitation of patients with dysphagia. Of particular interest is the possibility of performing necessary surgical interventions in the conditions of an emergency unit [6, 7] with subsequent transfer to the hospice for palliative care.

Previous studies [8, 9] demonstrated the lack of a unified system of palliative care for patients with dysphagia and related continuity disorders. In addition, the formation of a feeding fistula is required in patients with various diseases. The surgeon, who is not a specialist in the disease, does not have the legal and moral right to make predictions about the patient's life expectancy, assess the feasibility of surgical intervention and refuse palliative surgery.

## AIM

The aim of the work is to optimize the palliative care of patients with dysphagia

## MATERIALS AND METHODS

Scientific methods of analysis, synthesis, analogy, deduction and induction were used to achieve the aim. The data of content analysis of documents regulating the provision of palliative care for patients with dysphagia and the results of previous studies were taken into account [4, 6–9].

## RESULTS

It is reasonable to use Fast-track surgery approaches for this group of patients to create a three-level system of palliative care organization for patients with dysphagia, based on the level of institutions providing palliative care (Fig. 1). This approach is successfully used in the organization of the system of emergency, including specialized, medical care [10, 11] and can be applied to the organization of palliative care.

The first level is outpatient, within the framework of which palliative care is provided by a doctor on the profile of the main disease or specialized palliative care. The severity of the patients' condition makes it difficult to perform diagnostic measures and preoperative preparation on an outpatient basis. In case of dysphagia development, it is suggested to refer the patient to the next level.

The second level is a hospice with 24-hour beds, where the patient receives specialized palliative medical care. It may include clarification of prognosis and indications for palliative surgical intervention, necessary preoperative preparation of the patient. If the patient is diagnosed grade III–IV dysphagia, but the expected duration of dysphagia or life expectancy is less than one month, surgical intervention is not indicated.

The third level is a surgical or multidisciplinary hospital, where the patient should be admitted from hospice after verification of the indications for surgery, taking into account the available prognosis and preoperative preparation. After the surgical procedure is performed and there are no postoperative complications within the Fast-track approach, the patient is transferred to a 24-hour hospice for further treatment. In some cases, transfer to outpatient care is possible.

Before surgery, at the first and second levels, the patient should be consulted by a dietician. Furthermore, the patient should be provided with appropriate nutrition in accordance with Articles 78 and 79 of St. Petersburg Law N 728–132 of 22.11.2011 (revised on 30.06.2022) "The Social Code

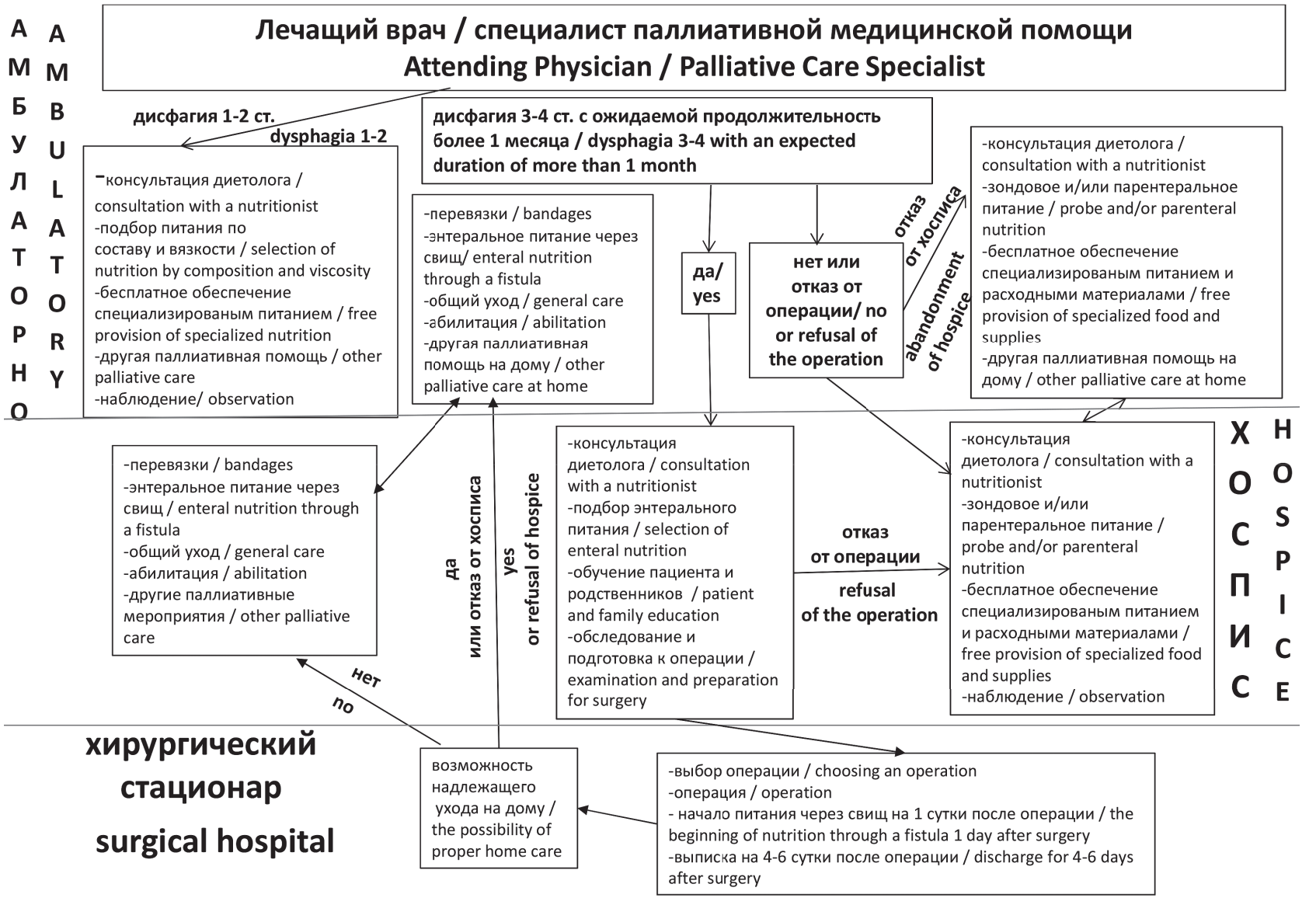


Fig. 1. Scheme of a three-level palliative care system for patients with dysphagia

Рис. 1. Схема трехуровневой системы оказания паллиативной помощи больным с дисфагией



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of St. Petersburg" and the order of the Committee for Economic Policy and Strategic Planning of the Government of St. Petersburg "On approval of standards for financing the budget expenditures of St. Petersburg for the provision of formula for enteral nutrition, drugs for parenteral nutrition, consumables and equipment for clinical enteral or parenteral nutrition at home for the current year".

Thus, the duration of expensive inpatient treatment in the surgical profile is minimized, and the continuity and quality of care for patients with dysphagia is improved.

The developed system of enteral nutrition organization for palliative patients was successfully tested from 2021 to 2023 as a pilot project with the participation of the rehabilitation department of stoma patients of the State Budgetary Institution "City Clinical Oncological Dispensary", hospice of St. Petersburg State Budgetary Institution "City Hospital N 14", St. Petersburg State Budgetary Institution "City Hospital N 26" and hospice of St. Petersburg State Budgetary Institution "City Polyclinic N 91" [12]. The algorithm was applied in 17 patients of the 4th clinical group with dysphagia of tumor genesis aged from 37 to 84 years. The average age was 61.4±14.01 years. Application of the algorithm allowed to minimize the duration of the hospital period, to increase the efficiency of training the patient and relatives in nursing measures, to optimize the habilitation process and to minimize the risk of complications caused by nursing defects. The severity of the condition and expected mortality in this group of patients does not allow the use of time indicators as criteria of effectiveness. The expediency of the algorithm application is confirmed by providing all patients with enteral nutrition, low frequency of complications due to care defects, which were observed only in 2 (11.8%) cases and were managed by conservative measures. The proposed algorithm was successfully implemented in pilot mode with a limited number of participants and can be extrapolated on a larger scale.

## CONCLUSION

The developed three-level system of palliative care for patients with dysphagia specifies routing and measures corresponding to each level, which allows to improve the quality of care and use Fast-track surgery approaches for this group of patients.

## ADDITIONAL INFORMATION

**Author contribution.** Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

**Competing interests.** The authors declare that they have no competing interests.

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## ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

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**Конфликт интересов.** Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

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