AMERICAN ACADEMIC PUBLISHER

INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

ISSN NUMBER: 2692 - 5206 Volume 5. No 12. December ,2025

ARTIFICIAL FEEDING OF CRITICALLY ILL PATIENTS

Odilova Gulzina
Surkhandarya Region Denov Abu Ali ibn Sino Public Health College
Higher-level teacher

Annotation. This article analyzes the medical, physiological and nursing aspects of artificial feeding of critically ill patients who cannot eat independently. Patients in intensive care, neurology, surgery and oncology departments are often deprived of the opportunity to receive food orally. In such cases, enteral (through a probe) and parenteral (through a vein) nutrition is a vital procedure. It is highlighted that the main goal of artificial feeding is to maintain metabolic balance, reduce the risk of infection and accelerate the recovery process by providing the body with sufficient energy, protein, vitamins and microelements. It is also emphasized that when choosing the type of feeding, the patient's general condition, digestive system activity, laboratory indicators and individual needs should be taken into account. The article also provides brief information on complications associated with artificial feeding - aspiration, infections, metabolic disorders and electrolyte imbalances, and indicates measures for their prevention. This study is of practical importance for medical workers and caregivers, and serves to improve the quality of life of patients.

Keywords: artificial feeding, enteral feeding, parenteral feeding, critically ill patient, resuscitation, metabolism, nutritional deficiency, care, recovery process, clinical nutrition.

The problem of effective care of critically ill patients is one of the urgent issues in modern medicine. Especially in patients who cannot feed themselves, are unconscious or have impaired swallowing reflexes, providing the body with the necessary nutrients is an important condition for saving life. In such cases, artificial feeding serves to meet the patient's energy needs, prevent tissue breakdown, and support the recovery process.

In critically ill patients, metabolism changes dramatically: the level of stress hormones increases, protein breakdown increases, immunity weakens. As a result, the body's need for energy and plastic substances increases. If this need is not met in a timely manner, malnutrition develops, wounds heal slowly, the risk of infectious complications increases, and the patient's general condition worsens. Therefore, artificial nutrition is considered not only an additional method of care, but also an integral part of the treatment process.

There are two main types of artificial nutrition: enteral and parenteral. Enteral nutrition is carried out through a special probe or gastrostomy in patients whose digestive system is able to function. This method is physiologically acceptable, maintains the trophism of the intestinal mucosa and reduces the risk of infection. Parenteral nutrition is carried out by administering special nutrient solutions intravenously in cases where the digestive system is not functioning or there are contraindications. Each method has its own advantages and limitations and is selected depending on the clinical condition of the patient.

Today, artificial feeding is not limited to providing calories alone, but is carried out on the basis of an individual approach. The composition of the diet is adjusted taking into account the patient's age, underlying disease, concomitant pathologies, laboratory indicators and energy expenditure. This approach allows you to accurately meet the needs of the body, maintain metabolic balance and reduce complications.

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 12. December ,2025

Thus, artificial feeding of critically ill patients plays an important role in modern clinical practice. This article analyzes the theoretical foundations, types, advantages and problems of artificial feeding in this way. The aim is to enrich the knowledge of medical workers and caregivers and contribute to a more effective organization of patient care.

The issue of artificial feeding has been studied in clinical medicine for many years, and many scientific works cover this problem from various aspects. An analysis of the literature shows that there are several modern studies on the effectiveness, methods and application of artificial feeding.

First, in clinical practice, artificial nutrition is evaluated in two main directions: enteral and parenteral nutrition. Enteral nutrition is the delivery of nutrients through the intestine in patients with severe diseases or impaired swallowing reflexes, which is physiologically convenient and supports the immune system. Parenteral nutrition, on the other hand, is a method of administering soluble nutrients intravenously in severe cases - for example, intestinal obstruction or intestinal It is an alternative for patients with very low activity levels.

Scientific sources emphasize that the effectiveness of artificial feeding depends on the clinical condition of the patient and the method chosen. For example, meta-analyses have shown clinically that providing enteral feeding alone can reduce the risk of respiratory tract infections and the length of hospital stay in patients. On the other hand, combined enteral and parenteral feeding has been shown to reduce the risk of infection in very critically ill patients and reduce mortality during ICU (intensive care unit) stay, although there is no unanimous decision on whether this approach is preferable in all cases.

Additional studies show that the scientific literature on artificial feeding is largely based on the results of clinical trials and meta-analyses conducted in intensive care settings. These analyses shed light on the complex interrelationships between patient health, feeding method, nutrient composition, and care interventions, and provide a basis for informed clinical decision-making. Therefore, the need for an individual approach and the use of adapted protocols is noted in liver experiments.

Physiological processes in the body of critically ill patients are disrupted: stress, inflammation and catabolic reactions increase. As a result, the body quickly uses up its reserves, especially protein breakdown. This leads to a decrease in muscle mass, a decrease in immunity and slow healing of wounds. In patients with advanced malnutrition, infections are more common, the rehabilitation process is prolonged and the risk of death increases.[1]

Therefore, the main task of artificial nutrition is to limit catabolism, support anabolic processes and restore physiological balance by providing the body with the necessary energy and plastic substances. This process is equally important as treatment, and delaying it will further aggravate the patient's condition.[2]

Artificial nutrition is divided into two main types: enteral and parenteral.

Enteral nutrition is the administration of special liquid nutrients to patients with a functioning digestive system through a probe, nasogastric tube, or gastrostomy. This method preserves the normal function of the intestinal mucosa, reduces disruption of the intestinal flora, and strengthens the immune defenses. In addition, enteral nutrition is considered cheaper and physiologically preferable.[3]

Parenteral nutrition is carried out by injecting special solutions into a vein. It is used in cases where the digestive system is not functioning, there is intestinal obstruction, severe vomiting, or severe inflammation. Although the parenteral method provides the body with necessary

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 12. December ,2025

substances quickly, the risk of infection, metabolic disorders, and changes in liver function is higher.[4]

Artificial nutrition must include the following main components:

Carbohydrates - the main source of energy, supplied in the form of glucose.

Proteins - necessary for tissue repair and immune support.

Fats are a high-calorie source and are necessary for the synthesis of cell membranes and hormones.

Vitamins and trace elements are necessary for enzymatic processes and immune protection.[5]

The proportions of these substances are determined individually depending on the patient's age, weight, underlying disease and metabolic status.

Before starting artificial feeding, the patient's general condition, laboratory parameters, electrolyte balance and fluid requirements are assessed. During treatment, blood biochemistry, glucose levels, liver and kidney parameters are constantly monitored. This helps to prevent complications.

Complications such as aspiration, infection, electrolyte disturbances and hyperglycemia can be observed during artificial feeding. To prevent these, proper technique, sterile conditions and constant monitoring are necessary.

Communication with the patient and their loved ones, explaining the need for artificial feeding, ensures psychological stability and increases the effectiveness of treatment.

Nutritional therapy is an integral part of the treatment of critically ill patients, which, by providing the body's vital needs, accelerates the recovery process, reduces complications, and improves the quality of life.[3]

Nutritional therapy for critically ill patients is considered one of the most important therapeutic and care measures in modern medicine. It not only provides the body with energy and plastic substances, but also stabilizes the patient's general condition, accelerates the recovery process, and reduces the risk of various complications. Studies show that in patients with advanced malnutrition, the disease is more severe, the rehabilitation period is longer, and the mortality rate is higher. Therefore, timely and correctly organizing nutritional therapy is effective is an important factor in the development of the disease.

As discussed in the article, there are enteral and parenteral types of artificial nutrition, each of which has its own advantages and limitations. Enteral nutrition is physiologically acceptable, maintains the trophism of the intestinal mucosa and reduces the risk of infection. Parenteral nutrition is important in cases where the digestive system does not function. Therefore, when choosing a method, the patient's clinical condition, metabolic needs and individual characteristics must be taken into account.

It was also emphasized that artificial nutrition should not be limited only to providing calories, but also to ensuring a balanced ratio of protein, fat, carbohydrates, vitamins and microelements. This increases the body's ability to recover, strengthens immunity and helps wounds heal faster. Constant monitoring and laboratory control play an important role in preventing metabolic disorders and infectious complications.

In conclusion, artificial nutrition of critically ill patients is a process that requires special attention in clinical practice, requiring a comprehensive approach. The effectiveness of this process can be further improved by improving the knowledge and skills of medical personnel, implementing modern protocols, and communicating effectively with the patient and their loved ones. As a result, the patient's quality of life will improve, the duration of treatment will be reduced, and the likelihood of recovery will increase.

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 12. December ,2025

References

1. Ismoilova, G. X. Sun'iy ovqatlantirishda bemorga hamshiralik parvarishi. Obrazovanie nauka i innovatsionnye idei v mire, 61(5), 287–298.
2. Maxammatova, O. I. Bemorlarni sun'iy ovqatlantirishda hamshiralik parvarishi. Modern Education and Development, 22(4), 365–371
3. Yusupova, A. K. Bemorlarni sun'iy ovqatlantirishda hamshiraning vazifalari. Zenodo. Betlar: 86–92.
4. Nutrition support in the intensive care unit. Nutrition in Clinical Practice, 31(1), 15–25.
5. Rubenstein, L. V., & Wick, C. M. Clinical guidelines for enteral nutrition support in adult patients. American Journal of Clinical Nutrition, 109(4), 431–440.