

## ARTIFICIAL NUTRITION OF SERIOUSLY INFECTED PATIENTS

**Odilova Gulzina**

Surkhandarya Region Denov

Abu Ali ibn Sino Public Health Technical School

**Abstract:** This article provides information about the methods of artificial nutrition of critically ill patients, their advantages and disadvantages, as well as their effects on the patient's body. Enteral and parenteral types of artificial nutrition, conditions for their use and beneficial effects on patients are covered. The article also discusses modern methods of artificial nutrition, rules and problems of their use.

**Keywords:** artificial nutrition, enteral nutrition, parenteral nutrition, critically ill patients, clinical nutrition, nutritional therapy.

Patients who are seriously ill, especially those in a coma, suffering from stroke, trauma, or chronic diseases, naturally lose their ability to eat. Artificial feeding methods are used to provide such patients with nutrition. This article provides detailed information about the types of artificial feeding, their benefits and risks.

According to the recommended norm for a healthy person, the amount of animal protein is 100-200 g, vegetable protein 40 g, animal fats 85-90 g, vegetable oils 10-15 g, carbohydrates 400-500 g and glucose and sucrose in the form of disaccharides 50-100 g, and water 1700-2000 g. The ratio of proteins, fats, carbohydrates and various other substances in the patient's diet is changed depending on the type of disease.

For example: in diabetes mellitus, carbohydrates are reduced in the composition of food for one night.

In addition to medical personnel, kitchen staff also participate in the preparation of patients' meals in medical institutions. The doctor prescribes a specific diet based on the patient's illness. The ward nurse draws up a food order. The dietician, based on the number of patients and the type of diet, monitors the patients' meals and is responsible for their quality and type. Depending on the patient's condition, there are 3 types of feeding: active, slow and artificial.

Artificial nutrition is a combination of methods of providing the human body with necessary substances in a situation where independent nutrition is impossible. The main tasks of nutrition are both to maintain the body's water balance and to satisfy its energy and plastic needs. Principles of artificial nutrition: periodicity; deadlines; compliance with the patient's condition. Indications for artificial nutrition: unconsciousness; facial injuries; metabolic disorders; postoperative periods; sepsis; diseases of the digestive system; some psychiatric diseases; anorexia; some diseases and human condition.

Artificial nutrition is divided into two main types:

## 1. Enteral nutrition

Enteral nutrition is a method of administering special nutrients through the gastrointestinal tract. This method is usually carried out in the following ways:

Through a nasogastric tube - food is fed through the nose into the stomach or intestines.

Through a gastrostomy - feeding is carried out using a tube inserted through the abdominal wall into the stomach.

Through a jejunostomy - a tube is inserted directly into the small intestine.

Advantages:

- Preserves the function of the gastrointestinal tract.
- Fewer complications.
- Closer to natural nutrition.

Disadvantages:

- In some patients, the intestines may not function normally.
- Can cause discomfort when feeding with a tube.

## 2. Parenteral nutrition

Parenteral nutrition is a method in which nutrients are administered directly to the body through a vein.

This method is carried out as follows:

- Through a central vein (total parenteral nutrition - TPN)
- Through a peripheral vein (partial parenteral nutrition - PPN)

Advantages:

- Suitable for patients who cannot digest food.
- Provides rapid and effective absorption of nutrients.

Disadvantages:

- High risk of infection.
- Expensive method.

- Pressure on blood vessels and problems may occur.

Artificial nutrition plays an important role in the recovery process after serious illnesses.

Proper nutritional therapy:

- Improves the general condition of the patient.
- Strengthens the immune system.
- Prevents ulcers and pressure sores.
- Protects muscles from weakening.

Some complications may occur with artificial nutrition:

- Enteral nutrition - diarrhea, constipation, vomiting, aspiration pneumonia.
- Parenteral nutrition - sepsis, hyperglycemia, electrolyte imbalance.

Prevention measures are as follows:

- Compliance with hygiene rules.
- Adjusting nutrients according to the patient's needs.
- Regular medical examination and monitoring.
- Artificial nutrition is the introduction of nutrients into the body through a gastric tube (feeding tube), gastrostomy (surgical opening), enema, intravenously or intramuscularly.

Necessary materials:

1. sterile thin rubber probe
2. Vaseline or glycerin
3. funnel or syringe
4. liquid food (sweets, eggs, boiled soup, mineral water, milk, etc.) in a volume of 600-800 ml.
5. Water (30-50 ml) and a tube for drinking
6. Stethoscope, adhesive plaster, safety clamp, syringe with a stopper for the probe.

In addition, special preparations (solutions) are prepared for feeding the patient. Nutrients are administered fractionally 5-6 times a day or drip slowly over a long period of time.

Method of artificial feeding of patients through a gastric tube.

1. 1-1.5 hours before feeding, the tube in the case is placed in the refrigerator.
2. Hands are washed.
3. The patient is explained the procedure and the necessary items are placed on the table.
4. The distance to which the tube is inserted is determined (100 is subtracted from the height).
5. The tip of the tube is treated with glycerin.
6. The patient is helped to take a half-sitting position and a towel or white cloth is placed on the chest.
7. The tube is inserted through the lower nostril by 15-18 cm (the patient's head is tilted back).
8. We help the patient to take a sitting position.
9. The patient is asked to drink water and swallow the tube. To reduce nausea, ice cubes are attached to the probe.
10. Air is drawn into the syringe and attached to the probe.
11. The head of the stethoscope is placed in the stomach area and air is sent into the stomach through the probe.

In addition, when feeding the patient through a probe using a Jani syringe, the following steps must be performed.

1. Prepare all the necessary items and check the place where the probe will be inserted.
2. The patient is given a semi-sitting position.
3. A stethoscope is placed in the stomach area, 30-40 ml of air is injected through the probe using a syringe. Make sure that the probe is in the stomach by listening to certain sounds.
4. Clamp the probe with a clamp, placing the free end in the tray.
5. Liquid food is drawn into the Jani syringe and the syringe is connected to the gastric probe. Holding the syringe with the left hand, remove the clamp from the probe.
6. The syringe is inserted into the probe to change its balance.

7. The place where the syringe is connected to the probe is held with the left hand, and the food is slowly injected with the right hand.

8. After feeding the patient, the probe should be washed with water using another syringe and the syringe should be disconnected. Before the next feeding, it is necessary to make sure that the probe is in place. To do this, air is again blown through the probe and heard with a stethoscope. The composition and energy value of food. The body needs energy from proteins, fats, carbohydrates, mineral salts and other substances for normal life.

Proteins are the basis of cells and cell-cell interactions. They are part of enzymes, hormones, participate in the transmission of genetic information, in cell respiration, in muscle contraction and relaxation, and are a source of oxygen

Protects the body from microorganisms and viruses. Proteins are part of animal products (milk, meat, fish) and plant products (bread, nuts, cereals, legumes). They are made up of amino acids, some of which cannot be replaced. Therefore, 60% of the daily diet should be animal protein, 40% plant protein. Proteins make up 14% of the daily diet. They are a source of proteins, amino acids in food.

The body does not have protein reserves. After complex operations, large burns, and serious illnesses, the daily need for proteins is 1.5-2 g.kg. Fats are an important source of energy for the body and are an important component of cell membranes, nervous tissue, and the adrenal glands. Without fats, the body cannot absorb proteins, some mineral salts, and fat-soluble vitamins. The daily diet should contain 70% animal fat and 30% vegetable fat. Fats are found in milk, cottage cheese, full-fat yogurt, cheese, meat, poultry, and fish eggs. Carbohydrates account for more than half of the energy needed for normal life in the human body. They are mainly abundant in plant products. Carbohydrates improve the functioning of the muscles, nervous system, and heart during normal absorption of fats. The daily need of an adult for carbohydrates is 400-500 g. Water makes up 60% of body weight. Since vital processes in cells or intercellular fluids occur in an aqueous environment, life without water is unimaginable. The daily need of an adult is 2.5 liters. Mineral substances are important for the normal functioning of all organs and systems. For example: calcium is part of bone and muscle tissue.

Participates in muscle contraction and relaxation. Phosphorus is part of bone, nerve, muscle tissue and participates in providing cells with energy. Sodium participates in the transmission of nerve impulses to various organs. Potassium participates in muscle contraction and relaxation.

Vitamins are an important and irreplaceable component of the diet. They ensure the normal functioning of the body, participate in the absorption of nutrients. Vitamins should be present in sufficient quantities in the daily diet. However, vitamin deficiency may occur due to monotonous nutrition or impaired absorption in the digestive tract. The diet of a healthy person or those who need to eat a special diet should not only have sufficient energy value. Proteins, fats, carbohydrates should be in a ratio of 1:1:4. Patients' products should be rich in carbohydrates, vitamins, proteins and fats.

Diet therapy is a therapeutic diet. It primarily involves the use of one type of product instead of another to prevent chemical and mechanical damage to the diseased organ, the use of other types of products to restore impaired functions, or the introduction of essential nutrients that the patient's body lacks. Each diet is described in detail, and the following indicators are reflected in it. The purpose of the appointment is indicated, the general description, chemical composition and its calories, diet, list of permitted and prohibited products and dishes.

It is compiled in the following order: protein, fat, carbohydrate, seasoning products and drinks. According to the approved nomenclature, diets from 1 to 15 are used.

Also, Gastrostomy (from the Greek. gastrom - stomach and somo - opening, passage) is a surgical procedure that consists in creating an artificial entrance to the stomach cavity through the abdominal wall to feed the patient when it is impossible to eat food through the mouth. This is the most common palliative operation used for esophageal obstruction both in Russia and abroad. Depending on the pathological process (tumor, stricture, etc.), this operation can be performed for various purposes: for feeding patients, for retrograde esophageal varices, for plastic surgery of the esophagus, for the use of radiation and combination therapy.

It should also be said that the patient's nutrition. Artificial feeding of the patient The nurse should know:

1. Basic principles of rational nutrition;
2. Basic principles of clinical nutrition;
3. Features of treatment schedules;
4. Feeding patients in the hospital;
5. Types of artificial nutrition, indications for its use;
6. Contraindications to the introduction of a gastric tube;
7. Problems that may arise when feeding the patient.

In any case, the slower the nutritional mixture is introduced, the better it is absorbed and the fewer side effects develop. Therefore, the usual practice is to administer it continuously at the same rate for 24 hours, regardless of the intended volume. The decision to suspend or withdraw artificial nutrition and hydration raises intellectual, philosophical and emotional conflicts for many people. In physiology and medicine, it is often useful for people who are faced with difficult decisions related to artificial nutrition and hydration at the end of life.<sup>1</sup>

---

<sup>1</sup> Singer, P., & Blaser, A. R. (2021). Modern Approaches to Nutritional Support in Intensive Care Units. *Clinical Nutrition*, 41(1), 45-67.

In conclusion, artificial nutrition of critically ill patients is an important method for maintaining their health and accelerating the recovery process. Enteral and parenteral nutrition are selected depending on the medical conditions and the patient's condition. Doctors and nurses should monitor this process and provide nutrition in a way that is appropriate for the needs of the patient's body.

#### References

1. Arora, Z., & Rockey, D. C. (2019). Enteral vs. Parenteral Nutrition in Critically Ill Patients: An Evidence-Based Review. *Journal of Clinical Nutrition*, 36(2), 123-135.
2. Heyland, D. K., & Dhaliwal, R. (2020). Best Practices in Nutritional Support for Critically Ill Patients. *Critical Care Medicine*, 48(5), 730-741.
3. McClave, S. A., et al. (2016). Guidelines for Nutrition Therapy in Critically Ill Patients. *Journal of Parenteral and Enteral Nutrition*, 40(2), 159-211.
4. Singer, P., & Blaser, A. R. (2021). Modern Approaches to Nutritional Support in Intensive Care Units. *Clinical Nutrition*, 41(1), 45-67.