

**OBSERVATION AND MEDICAL
CARE
FOR PATIENTS WITH THE
DIGESTIVE SYSTEM DISEASES**

Minsk BSMU 2021

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МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ
БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ МЕДИЦИНСКИЙ УНИВЕРСИТЕТ
КАФЕДРА ПРОПЕДВИКИ ВНУТРЕННИХ БОЛЕЗНЕЙ

**НАБЛЮДЕНИЕ И МЕДИЦИНСКИЙ УХОД
ЗА ПАЦИЕНТАМИ С ЗАБОЛЕВАНИЯМИ
ОРГАНОВ ПИЩЕВАРЕНИЯ**

**OBSERVATION AND MEDICAL CARE
FOR PATIENTS WITH THE DIGESTIVE SYSTEM
DISEASES**

Учебно-методическое пособие



Минск БГМУ 2021

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THE TOPIC MOTIVATIONAL CHARACTERISTICS

Total class time: 3 hours.

The lesson topic. This material is considered under the several topics of practical classes, outlined in the thematic plan: “Observation of patients with the digestive system diseases. The basics of therapeutic nutrition. Types of enteral nutrition” and “Medical care for patients with of the digestive system diseases”.

The lesson purpose: to study the principles and methods of patient care related to nutrition, as well as the principles and methods of care for patients with gastrointestinal dysfunctions; to master nursing diagnostics and emergency pre-medical care for a number of gastrointestinal diseases complicated by bleeding.

Lesson objectives:

1. To familiarize students with the principles of the medical nutrition organizing process in the hospital.
2. Teach the feeding skills of the patient confined to bed.
3. Teach students the technique of the patient’s artificial (probe) feeding.
4. Master the emergency care technique on vomiting.
5. Teach students the gastric lavage technique.
6. To familiarize students with the symptoms of the stomach and duodenum bleeding; to teach the method of emergency first aid in this condition.
7. Inform students about the symptoms of intestinal bleeding and help students master the method of emergency pre-medical care in this condition.
8. Teach the technique of the colonic tube introducing.
9. Help students master the skill of the patient’s preparing for taking feces on hidden blood.
10. Teach students the technique of setting a cleansing enema.
11. Repeat with the students the bedpan supply technique for diarrhea and fecal incontinence.
12. Introduce the intestinal lavage method with the use of medications that cause osmotic diarrhea (for example of the Fortrans drug).

Requirements for the knowledge initial level. To prepare for the study, the student should know the gastrointestinal tract macroanatomy, repeat the information on patient’s care.

Control questions from related disciplines:

1. Anatomical structure of the gastrointestinal tract (from the section “Splanchnology”).
2. The rectum physiological curves.
3. Physiological norm of the intestine motor-evacuation function.

4. Person's physiological needs in nutrients and fluids in conditions of physical activity corresponding to the hospital medical and protective regime.
5. Venipuncture technique.
6. The method of setting the dropper for intravenous drip drug administration.
7. The medical staff personal hygiene.
8. Hygienic treatment of the medical personnel hands.
9. Disinfection modes in multi-profile hospital various rooms.
10. Disinfectants classification for the treatment of premises, furniture, equipment and tools in a multidisciplinary hospital.
11. The method of changing bed and underwear in a seriously ill person.
12. Issues of medical ethics and deontology in the provision of medical care in the patient care context.

Control questions on the lesson topic:

1. Methods of organizing medical nutrition.
2. Basic principles of therapeutic nutrition.
3. Basic medical rations (diets).
4. Types of nutritional mixtures for enteral nutrition produced by the pharmaceutical industry, their distinctive features.
5. The feeding method of the patient confined to bed.
6. The patient artificial feeding method.
7. Emergency care on vomiting.
8. The gastric lavage technique.
9. Clinical signs of the stomach and duodenum bleeding and emergency first aid in these conditions.
10. Clinical signs of intestinal bleeding and methods of providing emergency first aid in this condition.
11. The technique of the colonic tube introducing.
12. The method of the patient's preparing for taking feces on hidden blood.
13. Indications for giving a cleansing enema. The method of giving a cleansing enema. Hygienic treatment of the equipment used.
14. Fortrans action mechanism and application method.

**THE THERAPEUTIC NUTRITION FUNDAMENTALS.
TYPES OF ENTERAL NUTRITION SUPPLY.
DIETARY NUTRITION ORGANIZATION IN THE HEALTH
CARE ORGANIZATION**

Food is the first body vital necessity, the source of various food and taste substances necessary to ensure homeostasis and maintain vital functions at a high level under various working and everyday conditions.

Principles of rational nutrition:

– the caloric content of food should compensate the body energy consumption, depending on age, gender, type of physical or mental activity.

For women, you need 2100 (1300) kcal/day, for men — 2900 (1800) kcal/day;

– the food must contain essential ingredients;

– there should be the protein, fat and carbon rational ratio (on average, it leaves 1 : 1, 5 : 4);

– it is necessary to observe the food intake regime (the frequency of intake and the distribution of the daily diet morning-lunch-evening), additional food;

– it should be ensured that the diet corresponds to the body physiological (or pathological) status;

– in addition to proteins, fats and carbohydrates, food should contain the necessary amount of microelements and vitamins.

The required content of macro-and microelements in the daily diet:

– sodium — 2400 mg;

– potassium — 3500 mg;

– calcium — 1000 mg;

– iron — 18 mg;

– phosphorus — 1000 mg;

– iodine — 150 mg;

– magnesium — 400 mg;

– zinc — 15 mg;

– selenium — 70 mcg;

– copper — 2 mg;

– manganese — 2 mg;

– chromium — 120 mcg;

– molybdenum — 75 mcg;

– chlorine — 3400 mg.

The required vitamin content in the daily diet:

– vitamin A — 500 IU;

– vitamin C — 60 mg;

– vitamin D — 400 IU;

– vitamin E — 30 IU;

– vitamin K — 80 mg;

- thiamine — 1.5 mg;
- riboflavin — 1.7 mg;
- niacin — 20 mg;
- vitamin — B6 2 mg;
- folate — 400 mcg;
- vitamin B12 — 6 mcg;
- biotin — 300 mcg;
- pantothenic acid — 10 mg.

The organization of dietary nutrition in the healthcare organizations is regulated by the “Instructions on the procedure for organizing dietary nutrition”, approved by the Resolution of the Ministry of Health of the Republic of Belarus N 106 of November 21, 2019 (here and after referred to as the “Instructions”).

In accordance with the “Instructions”, the following terms and their definitions apply:

- **dietary nutrition** — nutrition that provides satisfaction of the patient’s body physiological needs in food and energy, taking into account the mechanisms of development, stage, features of the underlying disease course, the presence of concomitant pathology, performing therapeutic and preventive tasks to restore the human body biological and energy consumption;

- **dietary therapeutic nutrition** — a type of dietary nutrition that is used for therapeutic purposes in specially formulated medical diets and dietary regimens for patients with acute or acute chronic diseases;

- **dietary preventive nutrition** — a type of dietary nutrition according to the special diet of the patients with chronic diseases outside the period of exacerbation, aimed at preventing diseases or exacerbations by eliminating the causes and conditions of their occurrence and development, as well as by increasing the body’s resistance to the effects of factors that can cause pathological reactions;

- **additional dietary nutrition** — food that is prescribed to the patients with certain diseases requiring an increase in the nutritional value of the diet extra the food products average daily set norms according to standard diets;

- **individual dietary nutrition** — food prescribed to the patients with diseases and conditions requiring the certain foods exclusion from the diet or changes in the diet composition (hereditary metabolic diseases, celiac disease, food intolerance, enteral nutrition, medical and diagnostic procedures, etc.). Individualization of the diet nutritional value is carried out by selection.

The “Instructions” list the dietary nutrition basic principles:

1. Providing the patient’s body with basic food items and energy, taking into account the mechanisms of development, stage, features of the underlying disease course, the concomitant pathology presence, the human body biological and energy consumption.

2. Compliance of the food products chemical composition with the patient's enzyme systems functional state.

3. Sparing effect on the enzyme systems of the patient's body damaged by the disease, introducing (excluding) specific nutrition factors.

4. Adaptation of the cooking technology and the food intake frequency to the stage, features of the underlying disease course, the concomitant pathology presence, the digestive organs function in patients.

5. Consistent transition from gentle diets to the more widespread ones.

6. Combination of introducing food (nutrients) different ways, if necessary.

According to the "Instructions", there are 2 main ways of organizing medical nutrition: traditional and centralized.

Traditional — medical food preparation is carried out in the health organization food department. Food unit (kitchen) — a production complex, warehouse, utility, administrative units with special equipment for food preparation.

Centralized — the medical nutrition preparation is carried out in established centers (technically more equipped units). To deliver ready-made medical food to patients, special gastro-containers and thermal boxes are used. Gastro-containers made of non-rusting steel are filled with ready-made food and placed inside the thermal box. The thermal box body is made of polypropylene, which allows you to maintain the temperature regime for a long time (the temperature reduction is 1.5 °C/h). The thermobox design and its thermal insulation properties allow the delivery of ready-made medical food both in the canteens of health organizations and directly in the wards. Single-use packaging is used to deliver food to patients receiving individual meals. Its contents are heated in a microwave oven before being given to the patient. Food is delivered to the kitchen dining rooms.

Kitchen dining rooms — rooms and equipment that are used for portioning and implementation (distribution) ready food products, bakery and pastry and also for making hot drinks and special technological processes conduction (ready-made food products cutting, etc.).

To analyze the patients administered diet efficiency and diet nutrition organizational support the Council on clinical nutrition is established.

BASIC THERAPEUTIC DIETS AND USE INDICATIONS

Diets and indications for use are as follows:

– B — basic (diseases and conditions that do not require special therapeutic diets; type 2 diabetes mellitus);

– P — with mechanical and chemical treatment (the digestive organs diseases; the chewing apparatus disorders; the period after surgery on internal organs);

– N (low protein) — with low protein content (chronic glomerulonephritis with rapidly and moderately severe violation of nitrogen discharge renal function and severe or moderately marked azotemia; liver cirrhosis with hepatic encephalopathy);

– M (high-protein) — with high protein content (diseases and conditions requiring increased amounts of protein: malabsorption, kidney disease with nephrotic syndrome without nitrogen discharge function disturbances, diabetes 1 diabetes type, sepsis (as well as other severe bacterial disease), severe anaemia);

– T (high-protein and high-calorie) — with increased protein content and increased caloric content (pulmonary tuberculosis, burn disease).

PORTION LIST AND REQUIREMENT MAKING

The action algorithm is as follows.

1. The doctor prescribes or cancels the patient's diet and the diet letter mark is written in the administration list.

2. The ward nurse makes a selection from the treatment sheet and compiles the post unified portion. The portion list contains information about the tables and the number of patients receiving them.

3. The room number, the patient's last name, first name, patronymic and the eating place (dining room, ward) are indicated in the dinner lady's portion book. The post portion list is given to the senior nurse in the morning.

4. The senior nurse summarizes the information from the posts and compiles a portion requirement for the department. The request is certified by the signatures of the senior nurse and the department head.

In the morning, the document is passed to the hospital dietitian to the food department.

The nurse dinner lady work is organized in accordance with the working instructions, which are approved by the chief doctor of the health care institution.

The nurse dinner lady belongs to the staff category and directly reports to the department head, the chief nurse, the department senior nurse. The dinner lady is a financially responsible person. So she is responsible for receiving, delivering and distributing dietary food.

The nurse dinner lady is responsible for participating in providing patients with dietary nutrition and compliance with the requirements of sanitary hygienic and anti-epidemic norms and rules.

CONTROL OVER THE PRODUCT STORAGE AND ASSORTMENT ALLOWED FOR THE HOSPITAL TRANSMISSION

Alcoholic beverages, sunflower seeds, watermelons, ice cream, all types of home-made and factory canned food, cakes and pastries with protein and butter cream, boiled sausages are strictly prohibited for the transmission.

Transmissions are received daily at certain hours. In addition, the products are brought on visiting days by the patient's relatives. The medical nurse should check the transmissions for the food presence that does not correspond to the diet or is prohibited for transmission. Prohibited products are excluded and returned to visitors.

Control over the sanitary condition of bedside tables, refrigerators, and the product storage periods is carried out by a nurse.

The products received by the patient are stored in the bedside table (dry products: cookies, crackers, drying) or in the refrigerator. The ward nurse should check the sanitary condition of the bedside tables and their contents on a daily basis. It is allowed to store toilet items, magazines, sweets, cookies, jam in the nightstand.

Fresh dairy products are stored in the refrigerator in the factory packaging for no more than a day, fermented milk products are stored for no more than 2 days.

Information about the list of products and their storage periods, which should be stored at low temperatures, is posted on the refrigerator door. It is forbidden to eat products with expired storage periods.

THERAPEUTIC NUTRITION IMPLEMENTATION

Feeding patients confined to bed is carried out in the case of prescribing bed regime to the patient, when he is severely weakened.

By the time of feeding, the room should be cleaned and ventilated. Conducting diagnostic and therapeutic procedures for other patients, performing physiological functions are not allowed. The room preparation for feeding includes ensuring the absence of all objects that may cause the patient being averse to food (bad-smelling medicines, urinals, spittoons, etc.).

The caregiver should be neat, wash and treat hands in the patient's presence; watch the serving and the attractive appearance presence, the food smell. The bedside table is cleaned and, if necessary, disinfected before placing the food tray. Do not place the food tray on the patient's chest or legs. The food should be warm in accordance with the cooking modes and look appetizing. If necessary, the patient should explain the diet features and the taking dietary food benefits.

Feeding in bed is carried out differently depending on the patient's condition. For example, he can sit down and take food on his own. The seriously ill or weakened are fed in the most convenient position for them. The most suitable position is an elevated half — sitting position, which is provided by the raised head of the functional bed end or by securely fastened 2–3 pillows placed under the back. In some cases, it is necessary to lift the person's head with the pillow with the left hand, and bring a spoon or drinking cup to his mouth with the right one. Less often, according to the doctor's prescription, the patient is turned on his side for feeding.

The patient's neck and chest should be protected with a folded sheet. Feeding is carried out at an optimal pace for a person, you need to wait patiently until he chews and swallows. The food in such cases is soft. It is advisable to feed with a spoon in small portions or from a drinking bowl in small sips.

The spoon should be filled to $\frac{2}{3}$ and touch it to the lower lip, so that the patient opens his mouth; then touch the spoon to the tongue and, leaving the food in the mouth, remove the empty spoon. After a few spoonful of soft food, it is necessary to offer a drink. To drink, you need to attach the "spout" of the drinking cup to the lower lip and pour the liquid into the oral cavity in small portions. If necessary, the patient's lips should be wiped with a clean napkin. When using the drinker, the food should be homogenized, have liquid consistency in accordance with the indications.

You should pay attention to whether the patient freely swallows the food, whether he has choked and coughed when trying to swallow. The patient needs to be given enough drink, except as otherwise provided by the diet; drink should be offered from a cup or glass, with inserted drink tube in the letter "G" form if its use is not contraindicated, for example swallowing difficulties in people with stroke.

After feeding, the patient should be given some water and asked to rinse his mouth; it is possible to cleanse the mouth completely; lips and chin are wiped. Next, you should remove the napkin covering the patient, help him lie down comfortably. It is necessary to remove the crumbs from the bed. The bed and clothing should be carefully arranged. The dishes are being cleaned.

For feeding a seriously ill patient, it is optimal to divide individual dishes; after feeding, it should be cleaned of food debris, washed with a degreasing agent, and decontaminated. For disinfection, you can use various items from the list of permitted ones, for example, a solution of Septodor 0.2 %. The full immersion time is still 15 minutes, after which it is thoroughly washed under running water. The dishes exposure time differs depending on disinfectant.

It is important to know the specifics of feeding patients with the nervous system lesion, in particular, with a stroke. According to some data, up to 27 % of patients who were diagnosed with a stroke have swallowing disorder —

oropharyngeal dysphagia of varying severity. About 13 % of stroke patients are in the sleep state; they will not be able to sit down to eat in the optimal body position.

In such cases, it is forbidden to simply pour food into the mouth during oral feeding; if the person does not swallow, the food ingestion into the respiratory tract can cause serious complications. Therefore, patients should identify the swallowing disorder signs before feeding, which may also occur in the disease dynamics.

In some cases, due to the concomitant speech disorder, the patient will not be able to tell directly about the symptom. It is necessary to assess the patient's condition by answering the following questions:

1. Is the patient awoken, asleep or if he can be woken up?
2. Is it possible to sit / lift the patient for feeding?
3. Will he be able to control the head position while sitting?
4. Can the patient cough if he is asked to do so?
5. Does the patient control saliva, or is salivation noticeable from the oral cavity?
6. Can the patient easily lick his lips?
7. Can he breathe freely?
8. Is the patient's voice clear or hoarse, "wet"?

Screening testing of swallowing is mandatory in patients with stroke, even if there are no obvious deviations from the test data. It is carried out as follows. A person is alternately given 3 teaspoons of water, each time after a sip, the cough presence, the voice sonority, the breath shortness appearance is evaluated. If there are no deviations, the patient should be given half a glass of water to drink. If the water is drunk freely, then the feeding procedure should be carried out, carefully watching the patient's condition. If there is a cough, choking or breath shortness, a hoarse "wet" voice at any stage, you need to inform a doctor. The doctor or specialist in swallowing (rehabilitologist) should be also informed if there are any concerns about the test results.

The swallowing act assessment of the person who has suffered a stroke should be repeated several times in the rehabilitation course in any condition worsening.

If an informed decision has been made about the patient with the central nervous system (CNS) lesion natural feeding, it is necessary to respect the following recommendations:

- feeding should be carried out in the sitting or semi-sitting position with support under the back;
- the position for the most effective and safe swallowing is chosen individually;
- the head tilts slightly, turns in a healthy direction;

– dentures, if available, should be used by watching their position during the meal;

– food in the oral cavity is given in small portions.

The feeding characteristic of the patient with a stroke is that you cannot give drinks with food. The drink is given separately. At the same time, you can use drinking cups with a spout, straws are prohibited.

Dry crumbly foods are not allowed; they should be excluded from the diet to prevent aspiration. The liquid thickeners use — gelatin, starch — is useful. With their help, it is chosen optimal food consistency: the more liquid the food, the more difficult it is for a patient with swallowing difficulty after a stroke to take a safe sip. At the end feeding, the oral cavity thorough revision is performed, all food debris are removed, and the patient is kept upright for at least 30 minutes.

The obvious swallowing disorder is manifested by the following symptoms: blurred speech, salivation, coughing during a meal, or “clearing the throat” during or after a meal. It is possible to change the voice during or after swallowing, regurgitation and even difficulty breathing or suffocation (during aspiration). You can notice the patient's indications of “getting stuck” feeling in the throat. There are anxiety visible signs about eating or drinking, increase in the duration of the eating act, and even refusal to eat it.

ENTERAL NUTRITION TYPES

On the treatment process implementing, it should be remembered that a full-fledged diet is the key to the patient's faster recovery. As already mentioned, there are diseases that create difficulties in ensuring the food intake in the body in the usual way or make such intake impossible. If the patient cannot eat in the usual way or independently, then therapeutic enteral or therapeutic parenteral nutrition is prescribed. With **the enteral** method, nutrients enter the body through the gastrointestinal mucosa, i.e., by physiological means.

According to the method of nutrient administration, there are:

– enteral liquid administration, ready-to-use nutritional mixtures in the form of drinks through a tube or sips;

– probe power through single or dual-channel (which also provides the opportunity to conduct a hollow organ decompression) nasogastric, nasoduodenal or nasoduodenal probes;

– power through a tube inserted into a surgically created opening in the abdominal wall (gastro-, duodeno- or jejunostomy).

When introducing and operating the probes, in order to avoid complications, it is necessary to carry out primary and regular checks of the probe correct location, respectively.

Enteral nutrition should provide (depending on the therapy or diet objectives) the person's needs in all the necessary nutrients and water.

The food and pharmaceutical industry produces special mixtures for enteral nutrition, which, depending on the composition and energy value, are divided into:

1. Standard isocaloric nutritional mixtures (prescribed with normal nutritional needs and continuing need for enteral nutrition with preserved gastrointestinal function).

2. Hypercaloric mixtures (prescribed for increased protein and energy requirements, or if there is a need for fluid restriction).

3. Mixtures with a high content of biologically active protein, enriched with microelements, glutamine, arginine, omega-3 fatty acids (prescribed for critical and immunodeficiency conditions).

4. Nutritional mixtures with reduced content of fats and carbohydrates, containing dietary fiber (prescribed for patients with diabetes mellitus).

5. Mixtures with high fat content and carbon low amount (prescribed for lung function disorders in the decompensation stage).

6. Mixtures with aromatic amino acids low content and branched-chain amino acids high content (prescribed for the liver function disorders).

7. Oligomeric mixtures containing dipeptides, tripeptides, amino acids certain amount and are almost completely absorbed (prescribed for impaired gastrointestinal functions (the first day after gastrointestinal surgery, the small intestine extensive resections, enzymatic insufficiency of various origins)).

8. Special immunostimulating low-volume hypocaloric mixtures with glutamine (prescribed in intensive care units in the critical conditions development first hours).

ARTIFICIAL FEEDING THROUGH A PROBE, OR THROUGH A GASTROSTOMY TUBE

Depending on the clinical situation, when feeding through the mouth is impossible or sharply difficult, feeding the patient through a probe or gastrostomy can be used. This happens, for example, with new formations of the oral cavity, esophagus, stomach; immediately after surgical interventions on these areas, as well as with the patient's unconscious state, with a violation of the swallowing act due to damage to the nervous system.

For feeding the patient through the probe, you should prepare and put it on a special table:

- sterile disposable probe of 0.5–0.8 cm in diameter;
- vaseline or glycerin;
- Janet's syringe or funnel;
- brilliant green antiseptic;

- stethoscope;
- patch;
- strong clamp;
- probe-stopper;
- a syringe;
- a glass of water with 30–50 ml and a drinking tube;
- liquid food in the amount of 600–800 ml.

In accordance with the prescribed diet, as liquid food, you can give sweet tea, fruit-drinks, raw eggs, butter, broth, mineral water without gas, cream, milk, etc. Also, special nutritional mixtures (enpits) have been created for probe nutrition — homogenized emulsions, in which the content of proteins, fats, carbohydrates, and mineral salts is balanced, depending on the need.

The action sequence is as follows. The probe in the package can be cooled, for that it should be put in the freezer for 1.5 hours before feeding. After having washed your hands, you need to explain to the patient the procedure course (if he is conscious) and show everything prepared for it. The probe insertion depth is then determined. To do this, 100 is taken from the height in centimeters and marked with brilliant green. The probe end to be inserted into the stomach is sponged with vaseline or glycerin. If possible, the patient is given a half-sitting position or the functional bed head end is lifted up. The patient's breast should be covered with a napkin. If the person is accessible to the contact, he should be asked to tilt his head back to minimize anatomical bends and facilitate the probe movement, after which the probe is inserted through the lower nasal passage to the 15–18 cm depth. After that, the patient should be able to take a sitting position and ask him to continue the probe swallowing, “washing down” it with water. To reduce the nausea that sometimes occurs, you can give water cooled by an ice melted piece. This is done in the contraindication absence. The probe is extended and inserted to the mark. Air is drawn into the syringe and, after placing the stethoscope over the stomach area, 30–40 ml of air is injected through the probe into the stomach. Specific sounds that indicate the one probe end correct location in the stomach are clearly heard. The probe coming out of the nasal passage is fixed with a patch on the nose back, and the outer free end is closed with a stopper and clamped to the patient's clothing safely. This should be done if you do not plan to feed the patient immediately after the probe introduction. For feeding, immediately after the probe inserting into the stomach, the free end is clamped and placed into the prepared clean tray. When using the nutritional mixture for therapeutic nutrition in the factory packaging, the bottle or bag is attached to the system for drip liquid administration or Janet syringe is used.

In the syringe, you need to inject the prepared liquid food. The syringe is connected to the gastric probe, held by the tip with the left hand; the piston

handle is directed upwards. Then the clamp is removed from the probe and moved to the position where the piston handle is directed downwards; the connection point of the probe with the syringe must continue to be held safely with the left hand. With your right hand, you should start slowly injecting the nutrient mixture. After the procedure is completed, the Janet syringe is disconnected, the probe is washed with water from another syringe. The washed probe free end is closed with a stopper and clamped on the patient's clothing.

At the end of feeding, make sure that the patient feels comfortable and help him lie down comfortably. Everything superfluous is removed. Hands should be treated in a hygienic way.

Sometimes a funnel is used for artificial feeding through a gastric tube instead of the Janet syringe. In this case, all manipulations before attaching the syringe are carried out in the same way, but the funnel is attached to the inserted probe. It should be lowered to the stomach level and, slightly tilted, pour the prepared food inside. Then, while holding the funnel straight, remove the clamp from the probe and make sure that the liquid food reaches the funnel mouth level. The food intake rate into the stomach is regulated by the funnel position height above the stomach level: the higher the funnel, the faster the food is poured out. The food next portion is placed into the empty funnel, which again falls to the stomach level. After patient's feeding, the probe is washed. The procedure is completed as described above.

Probe feeding can also be carried out with a drip in cases where a nutrient mixture in the standard package is used. After the probe introducing usual procedure earlier prepared nutrient solution, drip system, tripod and clamps are used. The system is filled in accordingly to the rules. When the bottle is empty, the clamps overlap the probe and the drip system; then the system must be disconnected. The feeding procedure is completed with the above-described manipulations.

Before the next feeding, it is necessary to make sure again that the probe is in the same place. When feeding the patient with certain food types for example, dishes made from milk, the probe should be washed every 2 hours to prevent the development of pathogenic microflora on the device inner walls.

In the any reason disposable probes absence, multiple-use devices are applied. In such cases, the rubber probe is soaked in the disinfectant with an exposure corresponding to the structure. After holding for the prescribed time, the probe is washed several times with a syringe in the same solution to the clean washing water to remove food debris. Then it is washed with tap water. After that, you need to wrap the probe in the sheet, put it into a bix, mark it "Rubber" and sterilize it with hot steam using a gentle method at 132 °C for 20 minutes.

Before the next feeding, you must again make sure that the probe is in the same place. When feeding the patient with certain types of food, for example, milk food, the probe should be washed every 2 hours to prevent the pathogenic microflora development on the device inner walls.

The patient's feeding through the gastrostomy is as follows. A nutritious mixture prescribed by the doctor is prepared with clean hands. Having explained to the patient the upcoming procedure idea, you need to sponge your hands in a hygienic way once again. A system through which a liquid nutrient mixture should be fed is attached to the outer end of the gastrostomy probe. Food is introduced into the stomach in small portions (you should follow the natural rate of food intake), or drip.

The procedure ends in the usual way — the probe is washed, the outer end is disconnected, which is clamped then, after that the probe is closed with a stopper and affixed to the patient's clothing. After making sure that the patient feels comfortable, you need to remove everything unnecessary and wash your hands.

PARENTERAL NUTRITION

Parenteral nutrition is used in cases where it is impossible to ensure the intake of the necessary amount of nutrients in the right proportion and at the proper speed. As a rule, this type of nutrition is prescribed before a large abdominal operation, as well as after it. Clear indications for parenteral nutrition are also eating refusal in anorexia, the intestine digestive process significant disorders in celiac disease, cholera, dysentery and indomitable vomiting, as well as for the treatment of patients with large-area burns, severe blood loss, sepsis.

For such feeding, special means have been created, which are administered intravenously. Special systems for intravenous infusion allow simultaneous administration of protein, fat and carbohydrate solutions heated to 37–38 °C from 3 vials. The venipuncture standard technique and the system setting for intravenous drip infusion are used.

MEDICAL CARE FOR PATIENTS WITH GASTROINTESTINAL DISORDERS

THE CARE OF PATIENTS WITH CONSTIPATION

Constipation is considered to be a delay in stools at least 3 times a week.

In addition to other therapeutic measures aimed at correcting the lifestyle, a cleansing enema is prescribed for constipation. Other indications for this procedure are preparation for a medicinal or nutritional enema, preparation for

the intestine endoscopic or X-ray examination. It is also used before abdominal surgeries and childbirth. Contraindications for the cleansing enema setting may be gastric or intestinal bleeding, the rectum malignant formations. In the hospital, the procedure is prescribed by a doctor.

To give an enema, you need: a clean Esmarch cup, a thick rubber tube 1.5 m long and 1 cm in diameter, a tap-clamp for regulating the liquid flow from the rubber tube into the intestine, a disposable sterile tip 8–10 cm long for insertion into the rectum in a package, 1–1.5 liters of water, a jug, napkins in a sterile box, vaseline or glycerin, spatula for the tip lubricating, sterile forceps or tweezers, a bucket or basin (or bedpan), an oilcloth, a sheet, couch for the patient's laying, tripod for the Esmarch irrigator holding, thermometer for the injected fluid measuring, rubber gloves, robe and apron for a medical staff, containers with disinfecting solution, a container for waste materials.

The Esmarch cup is a tank (glass, enameled, rubber) with 1–2 liter capacity; a short nipple extends from the cup bottom, on which a rubber tube is put on. The tap-clamp is put on the other tube end. The tight tip attached to the tap-clamp can be glass, ebony, or plastic; it must be whole and have smooth edges. It is preferable to use disposable handpiece (otherwise, the handpiece should be treated in a special way after use). The system is most often filled with room temperature clean water.

A cleansing enema should be given as prescribed by a medical nurse or a well-trained junior nurse. The procedure is performed in a special room — an enema room, if the patient's condition allows. The person must explain the idea of the upcoming procedure, as well as the action sequence, and, if he is available to the contact, get consent to conduct it. The patient should be placed on the couch (less often — on the bed) closer to the edge on the left side with the legs bent and pulled up to the stomach. If a person cannot move and he cannot take the optimal position for the procedure, he should be laid on his back and a bedpan should be placed under the buttocks. Additionally, the oilcloth is placed, the free edge of which is lowered into the bucket in case the patient does not retain water; the oilcloth is usually additionally covered with a sheet. In the Esmarch irrigator, pour 1–1.5 liters room temperature water, raise it up, fix it on a tripod and lower the free tube end down, opening the tap-clamp for a short time to release a small amount of water and air. It is advisable to use 12–14 °C water for atonic constipation, 37–40 °C for spastic constipation; room temperature (20–25 °C) water is taken in other cases. It is necessary to check whether the tip is not broken, lubricate it with vaseline, put it on the distal end of the rubber tube and, pushing the patient's buttocks apart, insert it into the anal opening with light rotational movements. The movement direction: for the first 3–4 cm tip is inserted in the navel direction, then for another 5–8 cm parallel to the coccyx. The cup is set on a tripod at the 1 m height from the couch level (the tripod is 1.5 m height) and safely fastened.

Continuing to hold the tip with your hand, you should open the tap-clamp at the rubber tube lower end, after which water under pressure will flow into the large intestine. In some cases, the water intake moderate rate into the rectum is required, as its more intense expansion can cause pain. The water level in the Esmarch irrigator should be watched; if the water does not enter the intestine, the cup should be raised higher or change the tip-move position — make it deepen or, conversely, push it for 1–2 cm.

If the tip is clogged, it must be removed, cleaned, and re-inserted; the tip can also be replaced. If the rectum is filled with feces, then you need to try to wash it out with the water stream. Sometimes the fecal masses are so hard that it is not possible to put an enema. In such cases, the nursing assistant should remove the feces from the rectum with a finger, first having put a glove on the hand, and lubricating it with vaseline. In the presence of gases and the appearance of the patient's feeling of bursting in the lower abdomen, it is necessary to immediately lower the Esmarch irrigator below the bed and, after the gases have left, gradually raise it.

The water from the Esmarch irrigator must be released almost completely, leaving a little water at the bottom to prevent air entering into the intestines. The valve-clamp that regulates the liquid flow is closed, the tip is removed.

It is desirable that the patient holds the water for 10 minutes. To do this, he should be asked to lie on his back and breathe deeply. The patient is then given a bedpan or suggested to sit on the toilet. If there is no effect from the enema, it is repeated in 1–2 hours. If the enema was put on a seriously ill patient, then the patient is washed underneath according to the generally accepted method, which is described below.

At the procedure end, the Esmarch irrigator should be washed, wiped dry and covered with gauze or towel; if this container is disposable, it should be disposed of in accordance with the waste disposal rules. The reusable tip is processed in stages: it is disinfected, washed, and sterilized. According to the modern treatment protocols, the tip is disinfected by soaking it in the disinfectant for the exposure time corresponding to the given instructions. Then the tip is thoroughly washed under warm running water stream. After that, it is sterilized in the 6 % standard solution of hydrogen peroxide for a 5 h period; then it is washed again with running water and placed in a clean (but not sterile) closing container, where it is stored until the next use. Previously, a slightly different treatment method has been used, which can also be used if necessary: the tip was thoroughly washed with soap under warm water stream, decontaminated in the chloramine 3 % solution for 1 hour; after that, the tip was boiled. Single-used handpieces were de-identified and then disposed of in accordance with the waste disposal regulations.

Currently, if it is necessary to prepare the patient, for example, for colonoscopy or irrigoscopy, and if he has constipation, instead of setting

cleansing enemas, drugs for intestinal lavage are often used. For example, a package of Fortrance medicine contains 4 packages that are required for one bowel cleaning before the examination. The package contains: macrogol — 64 g; sodium sulfate anhydrous — 5.7 g; sodium bicarbonate — 1.68 g; sodium chloride — 1.46 g; potassium chloride — 0.75 g. Fortrance is an osmotic laxative. The salts contained in the preparation prevent the body water-electrolyte balance violation.

Fortrance is used internally, having previously dissolved the contents of one package in 1 liter of water. For the intestine complete emptying, about 3–4 liters of solution are required. It is used in 2 doses: half the volume in the evening and half in the morning, 3–4 hours before the examination.

There are contraindications for the Fortrance use. They include: dehydration, severe chronic heart failure, severe inflammatory diseases of the large intestine with ulcerative erosive changes in the mucous membrane, intestinal obstruction, and childhood. The dose excess side effect may be osmotic diarrhea, which stops independently in 24–48 hours.

THE CARE OF PATIENTS WITH DIARRHEA AND FECAL INCONTINENCE

Diarrhea is unformed stool that appears more than 3 times a day. Most often, it occurs in intestinal infections and inflammatory bowel diseases; sometimes it can complicate the other diseases course: diabetes mellitus, hyperthyroidism, etc.

Care in diarrhea is required for seriously ill patients. As soon as such a patient has an urge to defecate, he must be given a bedpan immediately. The disinfected bedpan must be kept absolutely clean and stored under the needing care patient's bed. For washing underneath, which is carried out, you need a rubber glove, warm water (you can use potassium permanganate light solution of 1 : 5000, rivanol solution or another disinfecting solution), a jug, a holder (tweezers or forceps), sterile cotton balls, rubber bedpan for washing.

The action algorithm is as follows.

Before giving, the *bedpan* should be warmed by pouring a little hot water into it. The patient should be laid on his back with his knees bent at the legs. The person needs to be helped to rise: the patient's sacrum is raised with the left hand. Under the buttocks and thighs, an oilcloth is placed, on which the right hand should carefully bring the bedpan, placing its wide hole under the perineum. The patient should be covered and left alone to provide psychological comfort. However, the staff should not leave it completely unattended, because the patient may faint, the person may slip off the bedpan, etc. A junior medical staff should be nearby. When defecation is complete,

the bedpan must be carefully taken out the patient and brought to the toilet, where it is emptied of its contents, washed, disinfected with bleach 1 % solution, rinsed and taken to the patient's room.

A person should be washed underneath after defecation immediately. The nurse should disinfect the hands, put on rubber gloves, and stand to the right of the patient. He is lying on his back with his knees bent and his legs slightly apart. A rubber washing bedpan is placed under the patient's buttocks, which is placed on the oilcloth covering the sheet. Concerning the left hand, a jug with water or prepared disinfectant solution heated to 30–35 °C should be taken. Water is poured on the external genitals in women or on the perineum area in men from the container. Sterile instruments are used. The areas should be washed with sterile cotton swab, clamped with forceps in the direction from the top to bottom and from the outside to inside. Tampons need to be changed several times. The skin is sponged with dry tampons in the same direction. Tampons must be decontaminated and disposed of. To avoid maceration, the skin near the anal opening should be lubricated with vaseline or protective cream, and the patient should be covered with a blanket. Or, in accordance with the condition, you need to put on dry clean underwear and then cover him with a blanket.

Fecal incontinence is considered to be the involuntary defecation due to the anus sphincter relaxation. This symptom is usually the nervous system damage sign. In such cases people relatively liquid feces constant amount flows out, polluting the bed, emitting unpleasant smell, irritating other patients. The discharge macerates the skin around the anus, which is a factor contributing to the bedsores formation.

Currently, the best way to care for fecal incontinence is to use diapers for adults. This measure, however, does not exempt the caregivers from washing the patient, which is carried out in the manner described above. Diapers are chosen according to the size, taking into account the patient's weight. Having convinced a person of the using diapers necessity, they should be put on as follows. After preparing the diaper, the patient should be turned on his side, with his back to the nurse. The diaper unfolds, the nurse determines where it is located, corresponding to the buttocks and abdomen areas. There are Velcro fasteners in the abdominal area. The diaper is placed under the patient's buttocks from the lumbar area. Next, the patient should be turned on his back, and then face the nurse, straightening the diaper. After that, the patient should be returned to the initial position — on his back. You need to ask the patient to bend his legs at the knees and slightly spread them, then put the diaper in the perineum and abdomen areas, straighten them in the hip area. The diaper lower part must be tucked under the upper one and fastened with a Velcro fastener on the left and right. Between the diaper changes, the patient needs to be treated the genitals and buttocks areas.

Nevertheless, it is necessary to know and carry out the patient's caring for procedures in case if there are some reasons for not being possible to use a diaper.

The junior nurse should watch for this patient's bed and bed linen and replace them as needed. Under the person's buttocks an oilcloth is placed on the sheet, which is covered with a sheet — if they are dirty, they can be easily changed, while the sheet remains clean. A rubber bedpan is placed directly under the patient's sacrum — this measure is also used to prevent injuries (the bedpan is inflated with a special pump, and the container should not be inflated too much).

In case of contamination, the bed linen and underwear are changed immediately in accordance with one of the generally accepted methods. It is optimal to have several people participate in the procedure. So, you can change the sheet without lifting the person. To do this, it must be carefully turned on its side, moving as far as possible to the very bed edge; to the same edge, it is necessary to collect the changed sheet, rolling it along the person's torso length. In the vacant place, a clean sheet is straightened, half of which is also pre-rolled along the length; the roller of the rolled sheet is brought close to the changed one. Then the patient should be carefully moved to the clean sheet and finish re-laying: remove the old sheet, and roll out the fresh one and tuck the free side edges under the mattress.

If the patient is more immobile, it is advisable to use a different method. A clean sheet is rolled in the transverse direction of the patient's torso, the body upper part is gently lifted and held in this position for a while. The pillow is removed. The dirty sheet rolls down from the headboard side to the patient's lower back. A rolled-up clean sheet is placed on the bed vacated part. It spreads out to half. A pillow is placed on the clean sheet, and the patient's head is lowered from above.

Next, ask the patient to bend his knees, rest his feet on the bed, and lift his pelvis (if this is difficult for the patient, the assistant should put his left hand under the patient's sacrum and help him lift the pelvis). The dirty sheet is moved, followed by the rolling out of the clean one, after which the patient should be asked to lower the pelvis (or the assistant should gently lower the patient's pelvis). Then it is necessary to lift and held the patient's legs in the lower leg area, continuing to move the dirty sheet and straighten the clean one. At the end, the patient's legs are lowered, the sheet edges are tucked under the mattress.

You can also replace the sheet by rolling the old one from the head and leg ends under the lumbar lordosis; a fresh one, also rolled up from both ends, is placed next to it. The used sheet is removed, and the clean sheet is rolled out in both directions.

In case of fecal incontinence, the patient should be washed as necessary, at least 4 times a day. In the flatulence presence, a gas outlet tube should be used: by reducing the gas accumulation severity, it is possible to limit the liquid discharge frequency from the anal opening.

EMERGENCY CARE IN VOMITING

To perform the procedure, the medical staff will need a basin or bucket, an oilcloth, a towel or large cloth napkin, and warm water for mouth rinsing.

If the patient has removable dentures, they must be removed. The person should be seated on a stable chair, cover the chest with an oilcloth or towel. You should ask to spread the legs, put a basin or bucket on the floor between the legs, then tilt the head forward and hold it with your hand until the stomach is completely emptied. When the vomiting stops, you need to give a little water to rinse the patient's mouth. Then the patient should be asked to go to bed, and for some time watch his condition — it is necessary to make sure that the vomiting has stopped.

A dangerous situation is the appearance of vomiting in the patient's bed, for example, when the person is weak or unconscious. In such cases, the patient should be surely turned on his side or gently turned his head on the side and lower it down a little. These techniques are necessary to prevent vomit aspiration. An oilcloth covered with a towel or a four folded sheet is placed under the face. After the vomiting attacks end, oral care is carried out in accordance with the standard procedure, depending on the patient's condition, for example, a small rubber balloon filled with water or 3 % sodium bicarbonate solution is used, and the mouth is gently washed with a jet. You can treat the oral cavity with the cotton or gauze swab moistened with water, firmly fixed on a spatula or tweezers. For the oral cavity treating, you can also use 2 % boric acid solution.

THE GASTRIC LAVAGE TECHNIQUE

Gastric lavage is performed in cases where it is necessary to remove from it the accepted substandard food or poisons. Gastric lavage is a therapeutic and diagnostic procedure. Contraindications are convulsions, esophageal obstruction, severe biliary bleeding. The connecting vessels principle is the method physical basis.

For the procedure optimal performance, it is necessary to use a thick gastric tube 1–1.5 m long with a funnel-shaped upper end (or disposable versions); a glass tube with volume about 1 liter and the tubular part lumen at least 8 mm (or a large-capacity syringe-for example, a Janet syringe); a container with a room — temperature water or medicinal substance

(potassium permanganate light solution, 2 % sodium bicarbonate solution, a plastic apron for the patient, a bucket or basin for draining the flushing water, a hard chair with a straight back for the patient.

The patient must be informed about the prescribed procedure, about its purpose and get consent. The procedure process is explained to the person. In addition, he should be warned that the probe introducing can cause nausea and even vomiting, but this procedure is painless and safe. To relieve the urge to vomit, the patient should make swallowing movements while the probe is moving through the esophagus; deep breathing through the nose is also useful for this purpose. It is necessary to explain that you cannot squeeze the probe lumen with the teeth, try to pull the probe out.

The insertion depth calculating formula: the distance from the navel to the patient's incisors plus 5–10 cm. It is usually 50–60 cm. The insertion depth mark on the probe is placed before the procedure, using brilliant green solution.

The patient, who can sit, should be asked to sit on a chair straight, leaning tightly against the back. To minimize anatomical bends and facilitate the probe movement, the head should be tilted forward. The patient needs to spread his knees; on the floor between his legs, he puts a prepared container for washing water — a basin or bucket. Before the washing procedure, the nurse needs to treat the hands in a hygienic way. If the patient has removable dentures, they are removed in compliance with hygienic rules. The patient's chest is covered with the oilcloth apron.

The probe is wetted with water to facilitate sliding. The patient should be asked to open his mouth wide, utter the sound “a-a-a” and breathe deeply through his nose. The nurse standing to the patient's right should quickly insert the probe behind the tongue root, after which the patient is allowed to close his mouth and make several swallowing movements, while the nurse pushes the probe through the esophagus. If the probe is dropped, the insertion is repeated. If the probe has collapsed, it should be removed and, after calming the person, inserted again. The larynx probe entering symptom is the cough appearance in the patient; he starts to choke. Cyanosis may appear and the cough timbre may change. In such cases, the probe must be removed immediately and carefully inserted again.

When the probe is set, a funnel is attached to it. It is placed the patient's knees level and, slightly tilted to prevent air from the stomach entering, the prepared solution should be slowly poured into it; the funnel should be gradually raised above the mouth level. The fluid is usually quickly infused; air may be pumped into the stomach, which is undesirable. Therefore, it is necessary to ensure that liquid certain amount is left in the funnel entrance. After that, the funnel should immediately be lowered to the patient's knees level; in this position, it is held until it is filled with the stomach contents (washing water). Then it should be overturned over a basin or bucket. As soon

as the liquid ceases to flow out of the funnel, it is necessary to pour the solution back into it and repeat the procedure until clean washing water comes out of the stomach. The procedure may require 8–10 liters of water, although sometimes the smaller volume is consumed.

In debilitated patients, gastric lavage should be performed in bed. Having given a standard explanation about the procedure and got the person's consent, it is necessary to turn him on the side to the bed edge, his head lay low, and gently turn on the side not to let the washing liquid flow into the larynx. The probe inserting and gastric lavage procedure is performed in a standard way.

Sometimes it is necessary to perform gastric lavage in those conditions when the necessary accessories are not available, for example, at home. You need to get the person's consent. The patient should be explained the procedure process, which consists of the following. Having been sit on a chair, as described above, a patient is asked to drink 1–2 liters of the water and drinking soda warm solution. If nausea or vomiting occurs, the liquid is temporarily suspended, and the patient should be asked to hold his breath or breathe through his nose, closing his mouth. When all prepared liquid is drunk, it is necessary to cause the vomiting in patient, irritating the tongue root. You can repeat the procedure several times. The stomach contents complete removal, as a rule, does not occur in this method, and this option is advisable to be chosen only in cases when it is impossible to wash the stomach properly.

COLONIC TUBE INTRODUCING TECHNIQUE

The colonic tube is used for severe flatulence — bloating, which is caused by the accumulation of the intestine gas large amount.

For the procedure, it is necessary to prepare a rubber bedpan, a sheet, a spatula, vaseline, a colonic tube. Usually, in hospital conditions, a disposable colonic tube is used. It is usually soft, elastic, 30–50 cm long and 3–5 mm in diameter; the tube end inserted into the intestine is rounded, the other is obliquely cut.

The patient should be placed on the left side and spread the buttocks. Slowly insert the colonic tube into the anal opening for 20–30 cm using rotational movement. If a person can not be moved, then he lies on his back, slightly spreading and bending his legs at the knees. The tube outer end is lowered into the bedpan or into the four-folded sheet and left in the intestine until the gases are completely removed, or no more than 2 hours. The latter is necessary to prevent the intestinal wall bedsore formation. After removing the tube, the anus circumference is wiped with cotton wool. If necessary, you can use the colonic tube several times during the nite.

If the tube is used repeatedly (for example, in the same patient at home), after the procedure, it must be washed with warm water and soap, wiped, soaked in the 3 % chloramine solution for 1 hour; before the next procedure, the tube must be boiled.

EMERGENCY FIRST AID IN GASTROINTESTINAL BLEEDING

BLEEDING FROM THE STOMACH OR DUODENUM

Profuse bleeding from the stomach or duodenum most often appears as a complication of the gastrointestinal tract these parts ulcers. Typical clinical signs are vomiting in the “coffee grounds” form, less often-blood clots; melena, changes in hemodynamic parameters, manifested by the blood pressure decrease and heart rate increase.

The “coffee grounds” appearance is caused by the interaction of blood with hydrochloric acid and the hydrochloric acid hematin formation. Melena, or tarry stool, is black color sticky discharge; the symptom appears with simultaneous blood loss and 200 ml or more blood passing through the intestines. Melena — a relatively late sign — appears within 6 to 24 hours after the bleeding has taken place/started. Obvious changes in the hemodynamics parameters in a person not having other diseases will be detected with a blood loss of more than 500 ml. Especially noticeable is the heart rate increase and blood pressure decrease in changing the body position from horizontal to vertical. In less marked bleeding, lasted for several previous days, breath shortness, weakness, fainting, and weak filling frequent pulse previously uncharacteristic for the examinee are determined. It is likely to detect the epigastric area pain complaints, indicating the possible bleeding cause; soreness, resistance or the anterior abdominal wall muscular tension may be revealed in this area superficial palpation.

The patient with gastric bleeding should be laid down with a small roller under his feet to lift them. He needs to be told that eating, drinking, and smoking are forbidden. On the epigastric area, an ice water bottle is immediately placed — a wide-mouthed container, plastic or rubber, filled with crushed ice $\frac{3}{4}$ and closed with a screw cap; the bubble is wrapped in a towel or four-folded cotton cloth before applying. On the upper abdomen, the ice water bottle is held for 30 minutes periods, making 15-minute breaks. If necessary, the melted ice in the container is replaced. In case of repeated vomiting, appropriate assistance is provided to prevent aspiration by keeping the patient lying down, but turning him on his side.

If the bleeding occurred outside of a medical institution, then in parallel with the emergency first aid provision, an ambulance team is called for further first aid and transportation to a specialized institution on a stretcher cart or stretchers horizontally.

BLEEDING FROM THE INTESTINE

Intestinal bleeding is possible, for example, in hemorrhoids, intestinal tumors, the small intestine angiodysplasia. Typical manifestations of severe intestinal bleeding are bloody stools and changes in hemodynamic parameters. The of latent intestinal bleeding sign is iron deficiency anemia.

Bloody stools are considered to be the intake of dark maroon faeces mixed with blood from the rectum, or bloody diarrhea. Pure blood, blood clots, and blood, covering the faeces, may be released from the rectum in case of intestinal bleeding.

If the severe intestinal bleeding source location is not known, then emergency pre-medical care consists of the patient's rest providing horizontally with an ice water bottle giving (in accordance with the procedure above), which is placed on the parotid region. In the bloody diarrhea presence, the patient is given appropriate help — a bedpan. It is set on the oilcloth under the person's buttocks. A patient with severe intestinal bleeding is brought to the appropriate medical institution on the stretcher cart with emergency medical team help. If there is an infectious disease reasonable suspicion case, all necessary disinfection procedures must be followed as part of ensuring infectious safety.

PREPARING THE PATIENT FOR THE FECAL OCCULT BLOOD TEST

In cases where latent gastrointestinal bleeding is suggested, doctors use hidden blood faeces examination. In this condition, there is no clinical picture of acute bleeding described above, and there are no obvious blood signs in the feces. The clinical manifestation of latent intestinal bleeding is also called iron deficiency anemia.

To detect latent chronic bleeding from the gastrointestinal tract, an immunological study or the guaiacol test various modifications are currently used.

The guaiacol test requires patient preparation to rule out a false positive or false negative result.

The feces false positive reaction to hidden blood can be caused by those food products that contain pseudoperoxidase. First of all, it is red meat, but also raw turnips, broccoli, radish, parsnips, cauliflower, muskmelon. False negative test results are described against the taking ascorbic acid background, as well as with improper diagnostic cards storage, with the hemoglobin destruction by the colon flora. This result may be associated with the bleeding absence period during the analysis. It is useful to remember that oral iron supplementation does not lead to false positive results of the occult blood test. From this, it logically follows that the guaiacol test positive results, made on the iron preparations

maintenance therapy basis, should be evaluated as the gastrointestinal bleeding presence confirmation.

The patient, as usual, should be explained the test making rules in accordance with the instructions. Usually it is required at least for 3 days before the analysis making to exclude the red meat and vegetables use containing peroxidase; it is also forbidden to take vitamin C, aspirin and non-steroidal anti-inflammatory drugs. For the study, it is necessary to take 2 fecal samples during 3 consecutive defecation acts. To get a test positive result for occult blood, it is enough to pour 2 ml of blood into the intestine. Accordingly, the test can show a positive result in bleeding gums some cases when brushing teeth, as well as in nasal bleeding, if the blood is swallowed. It should be taken into account on collecting anamnesis and choosing a diagnostic protocol.

TASK FOR INDEPENDENT WORK

After having conducted the theoretical questioning, it is optimal to train a number of care activities in accordance with the lesson topic on dummies, if available. It is possible to simulate the emergency care giving on vomiting, as well as gastric and intestinal bleeding in the classroom on dummies. After the training, it is possible to organize patient care activities under the clinical hospital average medical staff supervision and with the patients consent. Students may be present during the care provided by the clinic staff. If there are appropriate medical administration, students can instruct patients to be prepared for the fecal occult blood test in the nurse's presence. The teacher watches the students' practical skills carrying out.

THE TOPIC MASTERING SELF-CONTROL

- 1. In accordance with the “Instruction” N 106 of the Ministry of Health of the Republic of Belarus dated 2019, there are:**
 - a) dietary nutrition;
 - b) dietary therapeutic nutrition;
 - c) dietary surgical nutrition;
 - d) individual dietary nutrition;
 - e) additional dietary nutrition.
- 2. In accordance with the “Instruction” N 106 of the Ministry of Health of the Republic of Belarus dated 2019, there are:**
 - a) basic dietary nutrition;
 - b) dietary therapeutic nutrition;
 - c) dietary preventive nutrition;
 - d) additional dietary nutrition;
 - e) additional dietary nutrition.

- 3. In accordance with the “Instruction” N 106 of the Ministry of Health of the Republic of Belarus dated 2019, the main therapeutic diets are distinguished:**
- a) B, P, M, N, T;
 - b) B, B, C, P, T;
 - c) B, C, C, P, T, F;
 - d) B, P, N, M, T;
 - e) O, D, P, A.
- 4. Portioning of ready culinary products for medical nutrition is carried out in:**
- a) the hospital kitchen;
 - b) the department procedure room;
 - c) the patient’s bedside room;
 - d) manipulative;
 - e) the hospital department canteen-dining room.
- 5. A standard feature (ready-made) nutritional mixtures for the patients with liver diseases enteral nutrition is:**
- a) branched amino acids low content;
 - b) aromatic amino acids low content;
 - c) increased calcium content;
 - d) branched amino acids high content;
 - e) aromatic amino acids high content.
- 6. On the patient’s bed feeding , the food tray is placed on:**
- a) a stool;
 - b) chair;
 - c) bedside table;
 - d) the next bed;
 - e) a stretcher cart.
- 7. On the seriously ill person’s bed feeding, you should:**
- a) help him to reach the dining room;
 - b) help him sit down at the table in the ward;
 - c) lower the patient’s head;
 - d) give a half-sitting position;
 - e) be sure to lower the feet to the floor.
- 8. On the patient’s naturally bed feeding, use:**
- a) a drinking bowl;
 - b) Esmarch’s irrigator;
 - c) the kettle;
 - d) thick gastric tube;
 - e) funnel.
- 9. On the patient’s naturally bed feeding, one of the following is used:**
- a) Jean’s syringe;
 - b) spoon;
 - c) duodenal probe;
 - d) thin gastric tube;
 - e) thick gastric tube.

10. On the seriously ill person's bed feeding in case of giving him an elevated position, do not apply:

- a) placing several pillows under the back;
- b) the bed head end regulating;
- c) the patient's support with the nursing person's left hand;
- d) the patient's active movements;
- e) the patient's support by the nursing assistant.

11. The swallowing disorder signs in patient with the CNS lesion feeding do not include:

- a) salivation;
- b) the blurred speech appearance;
- c) cough;
- d) regurgitation;
- e) gastric dyspepsia.

12. The swallowing disorder signs in the patients with CNS lesions feeding do not include:

- a) epigastric pain;
- b) refusal to eat;
- c) anxiety about eating;
- d) suffocation;
- e) nasal voice.

13. The indication for the seriously ill person natural feeding is:

- a) the esophagus tumor;
- b) pneumonia;
- c) the operation performed in the oral cavity;
- d) the patient's unconsciousness;
- e) swallowing disorders in the central nervous system.

14. The probe diameter for artificial feeding procedure:

- a) 1 cm;
- b) 0.5–0.8 cm;
- c) 0.2–0.4 cm;
- d) 1.5 cm;
- e) 1.3 cm.

15. On artificial feeding, the probe is inserted, calculating the introduction depth according to the formula:

- a) patient's height — 10;
- b) the patient's height — 80;
- c) patient height — 64;
- d) patient height — 25;
- e) the patient's height is 100.

16. On the seriously ill patient artificial feeding, the patient's preferred position is:

- a) lying on his back;
- b) lying on the left side;
- c) lying on the right side;
- d) half-sitting;
- e) sitting.

- 17. To make sure that the probe is located in the stomach on artificial feeding, use:**
- a) X-ray examination;
 - b) auscultation with the air introduction into the stomach;
 - c) radiography;
 - d) percussion;
 - e) ultrasonic testing.
- 18. What kind of the seriously ill person care is used for uncomplicated constipation?**
- a) siphon enema;
 - b) cleansing enema;
 - c) medicinal enema with laxative;
 - d) the intestine lavage with the Fortrans drug help;
 - e) dosed walking.
- 19. For the cleansing enema formulation, use (from the above):**
- a) distilled water;
 - b) room temperature clean water;
 - c) bidistilled water;
 - d) magnesium sulfate solution
- 20. For the cleansing enema setting, it is preferable to use:**
- a) a rubber tip;
 - b) the rubber hose end;
 - c) the ebony tip;
 - d) disposable handpiece.
- 21. On the cleansing enema setting, the active patient is in the position:**
- a) on the left side, the legs are brought to the stomach;
 - b) on the right side, the legs are brought to the stomach;
 - c) on the back, legs straight;
 - d) on the back, legs bent at the knees.
- 22. On the cleansing enema setting, the seriously ill patient is in the position:**
- a) on the left side, the legs are brought to the stomach;
 - b) on the right side, the legs are brought to the stomach;
 - c) on the back, legs straight;
 - d) on the back, legs bent at the knees.
- 23. For the cleansing enema setting, the liquid volume will be required:**
- a) 6 l; b) 4 liters; c) 3 l; d) 1 l; e) 0.5 liters.
- 24. The Esmarch irrigator is placed on the tripod height from the floor:**
- a) 180 cm; b) 150 cm; c) 80 cm; d) 75 cm; e) 60 cm.

25. The Fortrans use is possible:

- a) for intestinal obstruction;
- b) in severe heart failure;
- c) in severe dehydration;
- d) in cholera;
- e) to prepare for colonoscopy.

26. The seriously ill person with fecal incontinence care excludes:

- a) the diapers use;
- b) the patient's washing;
- c) the gas colonic tube setting;
- d) the cleansing enema use before colonoscopy;
- e) laxatives regular use.

27. The Fortrans drug is administered:

- a) inside;
- b) intravenously;
- c) in a cleansing enema;
- d) in a medicinal enema;
- e) electrophoresis.

28. To wash out a seriously ill person, it is not necessary to prepare:

- a) a rubber probe;
- b) sterile cotton wool;
- c) the oilcloth;
- d) bedpan;
- e) forceps.

Answers: 1 — a, b, d, d; 2 — b, d; 3 — d; 4 — d; 5 — b, d; 6 — b; 7 — d; 8 — a; 9 — b; 10 — d; 11 — d; 12 — a; 13 — b; 14 — b; 15 — d; 16 — d; 17 — b; 18 — b; 19 — b; 20 — g; 21 — a; 22 — g; 23 — g; 24 — b; 25 — d; 26 — d; 27 — a; 28 — a.

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