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ABSTRACT

Repetition and type of oral hygiene should be done based on oral cavity examination instead of routine. A soft, small toothbrush with a neutral pH moistened with water is more effective than scrubs or sticky foams. Hydrogen peroxide diluted in a 20% solution in a ratio of 1 to 4 diluted with water or sodium bicarbonate (one-half teaspoon per 500 cc) of water can be used to remove debris and dissolve thick mucus. If there are signs of infection such as stomatitis or generitis, antimicrobial mouthwashes or toothpaste such as (Chalrhexidine gluconate 1%) can be used, but the best way to prevent infection is to clean plaque. To prevent dry lips, they should be lubricated with Vaseline or kg gel. Neutral mouthwash solution that does not cause dry mouth, as it may be very easy to use by the patient, but has not been shown to have an effect on maintaining mucosal cohesion. Limited use of glycerin and lemon water-absorbing mouthwash 2-3 times a day may help stimulate saliva secretion. Artificial saliva spray can be used if the mouth is very dry and the patient's fluid intake is limited or they have difficulty swallowing. Dentures should be removed at night, cleaned and soaked in water. Being hydrated will help relieve dry mouth.

Introduction

Healthy eyes are protected from the risk of dryness and infection by producing tears [1-3]. Tears are composed of three layers, the outer layer of lipids, the middle layer of water-soluble and the mucin layer [4-6]. The outer layer slows down the evaporation of liquids and prevents tears from flowing [7-9]. The middle layer consists of o2, electrolytes and proteins and contains antibacterial agents and keeps the inner layer of the cornea moist [10-12]. The normal rate of tear production by the lacrimal glands is about 1-2 L/min, which is propagated by the blink reflex on the cornea [13-15]. Patients who have received painkillers or are on artificial ventilation are prone to eye care problems for the following reasons:

- ✓ Reduced lack of ability to blink [16].
- ✓ Complete closing of the eyelid [17].
- ✓ Decreased tear production due to side effects of some medications such as atropine, phenothiazines, disopyramide [18-20].
- ✓ Decreased resistance to pathogens and increased risk of infection through respiratory pathogens caused by improper suctioning. In this way, the catheter passes

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through the eye through the endotracheal tube and causes the spread of droplets containing pathogenic organisms on the cornea [21-23]

Increased risk of ocular edema due to increased intrathoracic cortex resulting in decreased venous blood return in positive pressure ventilation [24-26]. This condition is exacerbated if the patient is lying flat on the back of the nurse or if the stabilizing bands of the tracheostomy or endotracheal tubes are too tightly closed, and the areas around these areas are affected and fluid enters the tissue around the eyes and membranes [27-29]. The conjunctiva enters. Dehydration reduces tear production. It is mainly related to the eye care of anesthetized or ventilated patients [30-32].

Dry eyes and contact keratopathy

Dry eyes are a problem that occurs for the following reasons:

- ✓ One or all of the previously mentioned factors [33].
- ✓ Improper positioning of the CAPA mask, which can quickly dry out the cornea, even when the blink reflex is healthy [34].

Contact keratopathy

Exposure to the air of the cornea due to the complete closure of the eyelid leads to dryness of the epithelium and ultimately corneal ulcers. In this case, the risk of infection also increases.

Eye care

If the amount of moisture in the cornea is not enough, use artificial tear drops every half hour [35-37]. If the surface of the cornea is constantly exposed to air, the eyelids should be closed with hydrogen pads, paraffin gas or eye shield. Of course, when using an eye shield [38-40], we must make sure that the eyes are closed. Closing the eyes with tape causes eyelid trauma and may be unpleasant for the patient's family [41-43]. Care should be taken to prevent droplets containing respiratory organisms from entering the surface of the cornea when removing the suction catheter [44-46]. If the eye has discharge or is clearly infected, a swab should be prepared for culture and antibiogram and topical antibiotic drops should be used [47-49].

Nutritional support

In special sections, determining the starting time, method and amount of serum and food is very important [50-52]. Under normal circumstances, the diet is preferable to the injection, as long as the level of consciousness is normal, there is no dysphagia, and the digestive system is functioning normally [53-55]. The main problem in neurological patients is dysphagia, which in addition to malnutrition exposes the person to aspiration. Most patients and others are unaware of swallowing disorders, so evaluation for dysphagia is necessary in all patients [56-58].

SSA test

Various evaluation methods have been proposed, the simplest and most sensitive of which is the SSA test [59-61].

SSA has four steps

A) General assessment: level of consciousness, control of body position, assessment of cough, sound quality and ability to swallow, drinking small amounts of liquid with a spoon. In the initial examination and evaluation [62-62], the patient suffers from loss of consciousness, excessive saliva, weak and dysphonic sound, frequent cough with eating small amounts of fluid and the patient suffers from muscle weakness and lower cranial nerve disorders, low cough strength is aspirated [66-68].

Note: Assessment of gag reflex is not useful in determining the presence of dysphagia [69].

Note: In dysphagia of neurological origin, swallowing fluids is more difficult than solids, so

be sure to check the swallowing assessment with fluid [70-72]. In suspected cases where dysphagia cannot be diagnosed with certainty. Evaluation of pulse oximetry during swallowing is very useful. In this case, a decrease in S02 within 2 minutes after swallowing confirms aspiration and the presence of swallowing disorder [73-75].

Now that we have a disease that has a swallowing disorder, what should we do?

Although the chosen method of feeding is gastric gavage, but in the acute phase, especially in the first 24 hours and in non-intubated patients, we do not insist on starting gavage. Because the risk of aspiration and gastrointestinal complications is high [76-78].

How long can a person be kept an NPO?

People have different tolerances for staying NPO. If the person is not malnourished, has no metabolic dysfunction (diabetes) or other organs, the NPO stays uncomplicated for up to 72 hours. After 24 hours to a maximum of 72 NPO and serum therapy, gavage is the preferred method [79-81].

How to start gavage diet

A) Continuous method: start with 50cc per hour and then increase by 25cc every 8 hours to reach the desired gavage rate (according to the required calories and tolerance of the digestive system) [82-85].

B) Common method: The usual method of gavage is NGTube implantation (duodenal and geogenital tube is less used) [86-88].

Unstable shock and hemodynamics are contraindications to gavage [89-91]. Also peritonitis, non-functional gastrointestinal tract (mesenteric ischemia, intestinal obstruction, gastrointestinal bleeding, no hearing of intestinal sound and no excretion of gas or feces). In relation to the fluid that is gavaged, we traditionally use solutions prepared at home or in the hospital kitchen, but in special wards and in patients with poor use of this method, the risk of infection and its energy and nutrient content cannot be controlled [92-95]. Therefore, there are special and prepared solutions (standard) that we use. We use low potassium, sodium and phosphate content for CRF, high fat content for respiratory failure, protein content for liver failure [96-98]. In the traditional method and home-made foods, we usually consider two thirds of the given volume to be absorbable and compensate for the remaining fluid by giving a separate liquid or serum [99-101].

How to gavage?

We usually start with 30cc per hour. After 24 hours, aspiration of the contents of the stomach through the NG tube (evaluation of gastroparesis or ileus). If the aspirated volume is less than 200cc, we increase the amount of gavage by 30cc in 4 hours to gradually reach the desired volume [102-105]. The amount of fluid needed by an adult under normal circumstances is calculated as follows:

30cc / kg + 24-hour urine volume + stool water (100 cc) + imperceptible excretion 800 in normal person and 400 cc in ventilator [106-108].

For each degree of fever above 37 degrees, the above volume of 500 cc is added. If the aspirated volume is above 200 cc, we first prescribe metoclopramide or erythromycin by gavage. We continue with the above method, otherwise we have to consider the tube inside the duodenum or geogenome or TPN [109-111]. A common complication at the onset of gavage is diarrhea. If the volume of diarrhea is more than 1 liter per day, it is necessary to check the medical or surgical problem by checking for enterocolitis. If no specific cause is found, antidiarrheal products such as hyoscine and diphenoxylate may be prescribed [112-114].

TPN intravenous nutrition

The indication for TPN use is mostly non-functional gastrointestinal patients and is less commonly used in the NICU [115-117].

Monitoring the nutritional status:

In patients on artificial feeding, the quality of gavage is important, because overeating causes fatty liver, azotemia, hyperglycemia, hyperlipidemia, hypercapnia and prolongation of the process and exacerbation of heart and respiratory failure, and on the other hand, less risk of nosocomial infection raises [118-120] .

We typically use two methods to monitor the quality of nutrition:

A) Daily weighing: Fluctuation of more than 5% of weight during 24 hours is an indicator of improper intake of volume and fluids [121-123]. In the patient admitted to the intensive care unit, today there are beds that can weigh the patient, but in practice we can use the comparison of urine volume with the amount of fluid received.

Laboratory evaluation

A) Prerenal azotemia: usually due to low volume intake. If the volume received is sufficient, the main reason is the presence of high protein in the gavage fluid. Liver tests are performed daily on a daily basis for electrolyte evaluation. A high respiratory rate indicates overeating [124].

Note: The respiratory ratio is equivalent to the amount of CO2 excreted divided by the oxygen consumed by the person [125].

Gastrointestinal care

In a person with NGTube blood spirits or brown matter from the tube and in people without NGTube hematomas and melena confirms gastrointestinal bleeding [126]. Gastrointestinal bleeding should be considered due to insignificant drop in blood pressure with a drop of more than 2 grams in the amount of hemoglobin or the appearance of isthmus. In patients with liver problems, impaired level of consciousness is the first manifestation of gastrointestinal bleeding [127-129].

Prophylaxis of stress ulcers

It seems that the ultimate rate of this event is gastrointestinal hypoperfusion. Endoscopic evaluations show a prevalence of 75% within the first 24 hours, but the incidence of gastrointestinal bleeding is clinical in 6% of ICU patients [130].

The main risk factors in special wards

- ✓ Unstable and shock hemodynamics.
- ✓ Respiratory failure and mechanical ventilation in patients requiring ventilators for more than 48 hours.
- ✓ Acute hepatic renal failure [131].
- ✓ Sepsis.
- ✓ Burns.
- ✓ Trauma.
- ✓ History of peptic ulcer.
- ✓ Gastrointestinal bleeding in the last year.
- ✓ Hospitalized in the ICU for more than a week.

Special stress prophylaxis wards are used in all hospitalized patients, but the prophylactic indications are the above-mentioned risk cases.

In special wards, we usually use 3 main methods to prevent stress ulcers

A) H2 receptor antagonists: The goal of treatment is to maintain the pH of the stomach in the range of 5.4-3.5.

B) The treatment regimen includes: intravenous cimetidine (300 mg every 6 hours or 50 mg / h) and ranitidine 150 mg every 12 hours.

C) Proton pump inhibition: At least 5 times a day with deep breathing and effective coughing, for example when broadcasting commercials while watching TV coughing and deep breathing exercises should be done as a routine, even if with phlegm Deep breathing helps reduce atelectasis at the base of the lungs.

Nutrition

Since anorexia nervosa is a known complication for heart surgery patients, it is recommended that they eat whatever food they want, and smoking a half-sour lemon without pressing on the tongue can be helpful.

Sodium restriction

Only a diet with 2-3 grams of salt can prevent edema at the ends. 6 Small meals that include fresh fruits and vegetables should be considered. Maintaining adequate calories and protein with the advice of a nutritionist can not only increase strength and ability, but also heal wounds. The ingredients in milk and boiled potatoes can help heal wounds. Of course, the patient will have more than a month to control the fat reduction diet. It is important to involve all family members in the dieting process. Teaching about the content of foods is a good time, to gather the family and adjust the consumption of salt, fat and sweets in foods, the patient can be taught that by comparing the leaves or the label of the specifications of the purchased goods can be a better choice.

Pain control

When the patient begins to move, the muscles ache, which is more common in the shoulder and back area, and if the lima artery is removed, a local pain is felt in the relevant area of the chest. If the patient has swelling and hematoma, it will usually be painful. The appropriate scale should be used to assess pain. To relieve pain and discomfort from surgery, the patient should be encouraged to take prescription analgesics with food. Wearing sternum support will be especially helpful in women. Arm exercises that move the chest muscles. Like walking, it can help reduce muscle soreness. The patient should be told to move to reduce pain and discomfort. It is valuable to use several pillows in order to create comfort and achieve a comfortable sleep.

Sleep

Complaints about sleep disorders such as insomnia and nightmares are common. Learning how to use pillows for the underside of the head and legs can be effective in reducing muscle strain and relieving pain.

Education about patient-related risk factors

It is important to talk comfortably with the patient and their family about the risk factors for coronary heart disease. The patient should know that if these factors such as nutrition and exercise are controlled, other factors such as heredity cannot be very effective. Research has shown that a person without ischemia can develop ischemia within a year.

Reminding important points about medicines

Do not use previous medications if they have not been prescribed after surgery. Do not change or stop medications without a doctor's prescription, use medications at their own time, if you miss a dose, only the next dose should be taken and not repeated. Containers for daily and weekly use of medicines can be used. Consult a doctor to use over-the-counter medications such as painkillers, syrups, herbal remedies to learn about their interactions and side effects, as well as taking medications while traveling. If you fly, take the medicine with you on the plane. Do not leave medications in the car or in the sun, contact your doctor to maintain the long-term effectiveness of medications and prevent possible side effects. Medical follow-up Patients should be advised to see their doctor in the following cases. Change in valve sound, permanent chest pain, swollen and discharged sores, 38-degree fever for 2 days, chills and excessive tiredness, major and minor surgeries, abortion, delivery, prostate treatment, dentistry.

Nutrition in Intensive Care Units (ICUs)

Advances in medicine have made clear the importance of pre- and post-operative nutritional care, and that proper management of nutritional care has reduced the rate of malnutrition, especially in the surgical ward of hospitals. These include: Assessing the nutritional status and screening of patients at risk. Providing appropriate and timely nutritional treatment options such as tube feeding. Using a variety of formulas and dietary supplements. Using treatment regimens tailored to the patient's clinical condition. It is based on nutritional care of patients and has several stages that include nutritional history and evaluation, performing anthropometric measurements in biochemical tests and clinical nutritional examinations. Regarding the dietary history of surgical patients, the focus should be on how the patient receives food rather than the admission or history of gastrointestinal diseases, gastrointestinal surgery, the presence of anemia, and how to use dietary supplements. Then, by performing anthropometric measurements using the patient's ideal weight formula, it is calculated and the patient's condition is evaluated. Biochemical tests are useful for diagnosing micronutrient and protein deficiencies. In addition, biochemical parameters play an important role in the diagnosis of nutrition-related diseases such as diabetes and cardiovascular disease. Clinical nutritional examination identifies nutritional wastes that represent depletion of nutrient reserves. Basic nutrient rumors are commonly found in the elderly, patients with energy protein malnutrition, AIDS, or chronic kidney disease. After assessing the patient's condition, nutritional needs and other nutrients should be estimated based on his condition. Determining the need for nutrients in the first step the energy required is calculated in several steps. First, the base energy is calculated. Basic energy consumption or BEE means calorie consumption in resting and stress-free fasting conditions. The Harris Benedict equation is commonly used to calculate BEE and estimate patients' caloric needs. BEE can also be calculated using 5.26 kcal per kg of male weight and 24 kcal per kg of female weight. The BEE must be multiplied by the AF activity factor and the IF injury factor to estimate the total calories needed by patients. Total calories required IF x AF X BEE. The activity factor is 1.2 in the inpatient position and 1.2 in the outpatient position. Injury factor varies in different cases. For example, in congestive heart failure and general surgery, 1.2-1.1 in the case of fever is 1.3 per degree Celsius in the case of general infection is 1.5-1.8. After calculating the amount of energy and nutrients needed, the type of diet is determined. Several diets are prescribed depending on the type of surgery, the patient's medical history or clinical condition. Preoperative nutrition many patients are able to use a diet with normal consistency and texture within 1-2 hours before surgery and then undergo an NPO diet. Whenever bowel preparation is mentioned in the preoperative program, the patient should be on a low-residue diet or clear fluids for 24-36 hours before surgery. Injury of pre-surgery malnutrition and deficiency patients. Weight loss will be followed by fatigue and constant tiredness. Therefore, supportive nutrition is necessary for these patients for at least 7 days before surgery in order to replenish nutrient reserves.

Nutrition after surgery Clear liquid diet

This diet is recommended in order to remove food debris from the intestine before surgery or as the first food after surgery. This diet includes fluids such as clear fruit extracts and broth. This diet does not provide enough calories and nutrients and should be prescribed to the patient for less than 4 days. Complete liquid diet this diet includes all the nutrients of the clear liquid diet plus milk and boiled and mixed eggs. Patients who are able to tolerate this diet will

also be able to tolerate solid foods, unless they have difficulty swallowing and chewing. Because the fiber content of this diet is low, it should be used by the patient for less than 5 days. Low Residue Diet This regimen is commonly recommended for patients with inflammatory bowel disease, radiation-induced intestinal inflammation, diuretics, or Crowther disease. In this diet, all the nutrients that remain in the gastrointestinal tract are created. Like high-fiber foods, milk and dairy products, vegetables and fruits are restricted. Nutritional supplements for surgical patients currently in medical centers abroad, a variety of formulas and nutritional supplements are used to feed patients admitted to the ICU, and nutritional supplements in malnourished patients to improve weight gain and fullness. Protein stores are used in well-nourished patients to maintain nutrition while increasing metabolic stress. They are also used for patients with swallowing and chewing problems and in need of a diet whose consistency and texture have been improved. Formulas, like regular foods, are made up of carbohydrates, fats, proteins, micronutrients and water, but with the difference that they are chemically broken down and have smaller particles and are more easily absorbed. Their carbohydrates are mostly caltodextrin and modified starch, fats from plant sources such as corn, soybeans and canola, which contain long-chain triglycerides. Some formulas also contain MCTs that are easier to absorb. The protein source of these formulas is casein and whey protein and soy protein isolate. These large proteins keep the solubility of the solution low. Smaller proteins are obtained by hydrolysis of these proteins and are more easily absorbed, but increase the osmolality of the formula. Free amino acids are also found in these formulas. Micronutrients such as vitamins and minerals are also present in these formulas. Other compounds in these formulas are fiber. The insoluble fiber used in these compounds is obtained from soy polysaccharides, which reduces constipation and diarrhea in such patients, and the soluble fiber used in these formulas includes gum arabic, guar gum and pectin, which improves glucose and glucose tolerance. Cholesterol is reduced.

Types of formulas and nutritional supplements

A standard or polymeric formula that can be used by most patients, except those with special physiological needs. High-calorie formula for use by patients with limited fluid intake. Used as congestive heart failure. High protein formulas for those patients who have high protein needs. Like people with burns or large wounds and septic patients, a sweet-based supplement is prescribed for patients with a fully active intestine who have no history of lactose intolerance, and its benefits include cheapness.

Polymeric supplements, lactose free

These supplements are the most commonly recommended supplements and are for oral administration for tube feeding. These supplements are usually more calorie-dense or supplemented with fiber and regulate bowel movements.

Peptide-based mental supplements

These formulas are used only for intestinal nutrition, because they contain hydrolyzed macronutrients that facilitate the absorption of nutrients for patients with diseased intestines. Disease-specific supplements there are a number of formulas specific to specific diseases, such as diabetes, lung disease, kidney and liver trauma, and AIDS. Immune-boosting supplements there are several products containing immune-boosting nutrients such as RNA, arginine, glutamine, antioxidants and omega-3 acids that have recently been introduced to the intestinal nutrition market. Studies have shown that the rate of

postoperative infections in patients receiving these formulas has been significantly reduced and the length of their hospital stay in the intensive care unit has been shortened.

Wound healing formulas

These compounds are high in protein, Vit C, Vit A and zinc. They are isotonic and contain 60 grams of protein per liter. The use of formulas and nutritional supplements for patients admitted to the ICU, in addition to meeting their physiological needs, is very effective in reducing the duration of hospitalization and their recovery.

Heart surgery

A thorough evaluation, quick observations, and timely action will make the difference between life and death for patients who have had excessive or excessive bleeding after open heart surgery. More than 640,000 patients undergo open heart surgery in the United States each year. In adults, CABG is the most frequent and successful surgical procedure. Excessive bleeding refers to the time when blood loss reaches an average of 100 to 200 cc per hour for the first 4 hours or more than 2 liters in the 24 hours after surgery. Patients who have previously had heart surgery, and especially those who have had more complex surgeries such as CABG with valve repair, are more likely to bleed than those who have had CABG alone.

Conclusion

The patient should be encouraged to walk 2 to 4 times a day and perform activities with safety as much as possible by the patient himself and increase the walking time by 1 minute each day if you tolerate and achieve the recommended activity for the patient be.

A) Public activities: Public activities are restrictions on the use of stairs. Patients should use the stairs only when necessary and instruct the patient to climb the first leg, which is less painful, and vice versa to descend the painful leg first. Patients should also refrain from dragging themselves on the fence due to sternal damage. These activities should be based on surgical limitations, tolerable level of activity, and attention to heart surgery. It usually includes not carrying equipment weighing more than 4 kg, as well as pushing, pulling objects and vacuuming. The patient can start home activities from the lowest level.

B) Side activity: This activity can be possible when the patient is physically comfortable. Maintaining a proper position is essential to prevent impact and pressure on the operating area. Many patients and their companions ask the nurses about this and its limitations, and the nurses should encourage them to express their problem easily. Most patients who receive beta-blockers usually have decreased libido and will not realize it until they recover, and they think that their decreased appetite is related to heart failure and surgery. However, many patients find it easier to discuss this issue at home with a nurse than in a hospital or doctor's office. Nursing attention to wound care. And applied lotion to the wound. A dry dressing can be applied to areas where there is discharge and changed daily after bathing. The patient's foot is usually swollen and has interstitial serum, and the patient should be advised to place his foot above the level of the heart to prevent edema in the wrist area and to use the appropriate size anti-embolic socks permanently and only in Days must be considered. Because by reducing swelling, it also helps to heal the surgical wound faster. It is essential not to wear closed-toe shoes on the foot where the vein has been removed and to avoid getting the nail from the bottom. These neighborhoods should be reviewed at each visit and the patient should be educated. In the sternum at the site of the chest tube where the pacemaker wire and sutures are sutured, surgery can usually be performed on days 7-10 if the wound healing process is appropriate. If

absorbable threads are used, there is no need to pull the stitches, and if the knots are uncomfortable, only the stitch knot is shortened or only the knot is untied when necessary. It is better for the patient to take a shower before the stitches are removed. If there is air bubbles or discharge, inform the patient surgeon. Symptoms of a wound infection should be explained to the patient. Mouth temperature 38, discharge of purulent discharge, increased redness around the surgical site, heat of the wound site and attention to the early symptoms of mediastinitis, including any air bubbles coming out of the sternal wound, should be taken seriously and follow up on a surgical visit.

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