

Nutritional requirements and diet essay sample

[Nutrition](#)



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Nutrition is the supply of food which is essential to stay alive for each and every living being. Carbohydrates, Vitamins, fat, fiber, water are the food compounds which play vital role in the body.

Macronutrients and micronutrients are both important for the body. In human body, 70% of total mass is filled with water, and water acts as a medium where body processes can occur.

Minerals also plays an important role in the formation of tissue in our body.

Total parenteral nutrition is a process of nutrients direct delivery into the circulatory system by the help of central venous catheter or the peripheral veins. It is mainly used when the gut function is improper. It is mainly used in following conditions

- A. Insufficient consumption resulting from short bowel syndrome
- B. Gastrointestinal pipe
- C. Bowel obstruction
- D. Prolonged bowel rest
- E. Poor nutrition, remarkable weight loss or in hypoproteinemia
- F. Other disorder states or illness in which oral or enteral feeding are not an option

2. Nutritional requirements:

A. Fluid Needs: Based on the fluid balance chart informative the input and output adequacy of fluids is determined. It is used in connection with other sources such as fluids, antibiotics and blood products. In order to maintain the fluid level, the following is required:

1. 18-60 years old 35ml/kg/day
2. > 60 years old 30ml/kg/day

B. Energy: Energy needs are most commonly assessed using predictive equations. Kcal/Kg based on the following scale:

1. Normal need: 25-30 Kcal/kg/day
2. Elective surgery: 28-30 kcal/kg/day
3. Severe injury: 30-40 kcal/kg/day
4. Extensive trauma/burn: 45-55 kcal/kg/day

C. Protein: Protein requirements are ascertained by the patients, usually start with 0.83 gm/Kg and add stress and other components as needed. Some patients may require up to 2.5 g/Kg due to loss and other issues. For example, a malnourished 70 Kg man may require 84 gm protein per day (70 Kg X 1.2 gm/Kg).

D. Fat: 10% fat emulsion has 1.1 Kcal/cc

20% fat emulsion has 2.0 Kcal/cc

30% fat emulsion has 3.0 Kcal/cc

E. Electrolytes: The standard daily electrolyte requirements are:

Sodium 1-1.5 mmol/kg

Potassium 1-1.5mmol/kg

Calcium 0.1-0.15mmol/kg

Magnesium 0.1-0.2 mmol/kg

Phosphate 0.5-0.7mmol/kg.

F. Vitamins and trace elements:

Vitamins such as water soluble (Pabrinex), fat soluble (Vitlipid) and combined preparations (Cernevit Multibionta) of vitamins are obtainable.

Trace elements also administered. eg. iron, zinc, manganese, copper, chromium, selenium, molybdenum, fluoride and iodine.

G. Assessment of a Patient with TPN:

CVC/peripheral IV line: Intravenous line should remain visible and , free from infection.

Daily or biweekly weights: Monitor for evidence of edema or fluid overload.

Monitor intake and output.

Mouth care

Vital signs are more frequently monitored initially in patients with TPN. Full

Liquid Diet: Full liquid diet is liquid diet which consist of liquid (food and fluid) at normal temperature; for example, fruit Juice, plain ice cream, milk, pudding and custard, sherbet etc. The full liquid diet does not provide all the nutrients minerals, vitamins or calories which the body needs, but it is given to client who have trouble chewing or something food.

Pureed Diet: This is also another type of diet that is used for client who have trouble chewing or swallowing their food. Purees diet means to chop or grind into a thick paste and there is no need to chew, easy to swallow because it's already in pureed form and liquid can be added in this diet; example veggie mash or mashed potato, pureed fruit, yogurt, cooked cereals with smooth consistency, pudding, custard etc. it is advisable for the client who is

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undergoing this problem to have milkshakes between their meals because, it contains high calories and protein which will help the client to get enough of calories and he/she need to eat often in order to avoid weight lose due to the fact that; he/she is not able to eat a lot at once.

3. Dysphasia Diet: The dysphasia diet is a type of diet designed for people who have moderate to severe dysphasia, with poor oral phase abilities and reduced ability to protect their airway. The dysphasia diet consists of pureed, homogenous, and cohesive foods. The food should be pudding-like before administrating it to the client and foods that have coarse texture, nuts, raw vegetable or fruits are not allowed. Also, some food is excluded, mostly those that requires bolus, manipulation or mastication

d. Restricted modified Diet: This is a type of diet that limit the daily intake of appropriate food nutrients and it can control nutritional values; for example, fat, carbohydrates, protein, vitamins and minerals. This can be fiber Restricted diet, fat and carbohydrate-controlled diet, lactose restricted diet or salt-controlled diet which is prescribed by physician.

e. Gastric Bypass Diet: This is a type of diet used for people who are recovering from gastric bypass surgery to help them heal and change their eating habits. This type of diet uses clear liquid form, full liquid diet or pureed diet. The client should avoid spicy foods, whole milk and food that causes discomfort such as meat, bread, raw vegetables, high fat and sugar, fried foods and carbonated beverage.

Parental Nutrition

Description: Parental Nutrition Is also known as intravenous feeding or hyperalimentation and it is a method of getting nutrition into our body through the veins. Depending on which vein is used, parental nutrition(PN) consist of partial parental nutrition (PPN) and total parental nutrition (TPN) and the client's nutritional needs depends on the indication of the type used and the PN delivers nutrients such as; sugar, carbohydrates in the form of dextrose, proteins in the form of amino acid, lipids, fats in emulsified form, vitamins, minerals, electrolytes and water.

Indication for Use: It is used in short bowel syndrome, small bowel obstruction, ischemic colitis, malnourished patient who are unable to eat, enterocutaneous fistula. It is also beneficial to clients with multiple gastrointestinal surgeries, gastrointestinal trauma, severe intolerance to enteral feedings or who need to rest the bowel for healing.

Administration: The parental nutrition maybe administered via central venous access or peripheral venous access. (Administration of nutrient intravenously).

Five complications related to tube feeding include:

Diarrhea

Broken leakage

Broken tube

Stoma dermatitis

Removal of tube

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