Chapter 4 Liquid Diets

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Clear Liquid Diet Foods Allowed

- Fruits juices: strained.
- Soups: Fat free, strained.



- Sweets: Gelatin, Jell-o, popsicles, fruit ice made without milk, sugar, honey, syrup, hard candy, and sugar substitutes.
- Fluids: Coffee, tea, soft drinks, fruit drinks.
- Resource Boost Breeze, Enlive, NuBasics: all of these are dietetic foods or formulas specially prepared for special disease conditions.

Strained Liquids



Strained Lemon Juice

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Clear Liquid Diet Foods



Apple Juice

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Jell-o

Honey



Clear Liquid Diet Foods



Popsicles



Hard Candy



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Clear Liquid Diet Dietetic Foods or Formula



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Clear Liquid Diet Dietetic Foods or Formula





Contain high-quality protein and essential nutrients

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Clear Liquid Diet Indication

- Post-operative procedures.
- Acute inflammation of the GI tract.
- Acute stages of many illnesses especially those with fever.
- When necessary to minimize fecal matter.

Clear Liquid Diet Goals

- Designed to:
 - Provide fluids.
 - Relieve thirst.
 - Slow down digestion.
 - promote gradual return to normal diet.

Given in small servings every 2-3 hours.

Clear Liquid Diet Adequacy

- Inadequate in all nutrients.
- Should be used up to a maximum of 3 days if without supplements.
- Commercial formulas can be used if for more than 3 days because these formulas are usually supplemented with nutrients.

Full Liquid DietorBlenderized Liquid Diet

- Diet guidelines:
 - Includes:
 - \circ $\,$ Foods that pour.
 - Foods that are liquid at body temperature.
 - Contains milk and milk containing liquids such as cream soups, thin sahlab, milk, laban up.
 - If patient has high blood lipid levels, use low fat milk and products.
 - If patient is diabetic, modify CHO content.



Full Liquid Diet Foods Allowed

- Milk group
 - Milk, milk shakes.
 - Eggnog made with pasteurized eggs and not raw eggs.
 - Buttermilk.
 - Thin yogurt without seeds or fruit pieces.
 - Soft custard, ice-cream, cream soup.
 - Thin white sauce.
 - Malted milk [a powdered food product made of malted barley + wheat flour + dry whole milk].

Full Liquid Diet Foods





Buttermilk







Full Liquid Diet Foods



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Germinating barley



www.shutterstock.com · 33767392 Sprouted barley

Malted milk powder: contains wheat flour, malted barley, dry whole milk, salt, sodium bicarbonate.





Malted Milkek Drink Uploaded By: anonymous

Full Liquid Diet Foods Allowed

- Meat and Beans [2-7 oz.]
 - Pureed meat made thin with liquid or added to cream soup or white sauce.
 - Eggs in eggnog using commercially prepared pasteurized eggs, not raw eggs.

Blenderized Food Full Liquid Diet



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Full Liquid Diet Foods Allowed

- Fruits [at least 1 c]:
 - Juices, nectar like pureed fruits [no seeds].
- Vegetables [at least 1 c] including:
 - Mild flavored vegetables like carrots and green beans that are:
 - \circ $\,$ Well cooked, strained and added to cream soup or broth.
 - Vegetable juices.
- Make sure you give sources of:
 - Vitamin "C" daily, and
- Vitamin "A" at least once every other day. STUDENTS-HUB.com

Full Liquid or Blenderized Liquid Food



Nectar



Vegetable, Juice 19 mous



Strained Soup

Squash Soup STUDENTS-HUB.com

Full Liquid Diet Foods Allowed

- Starch:
 - Cooked Grains, no lumps, thinned with milk or yogurt.
 - Starchy vegetables such as: Potato strained and thinned in cream soup.
- Oils/Fats:
- Sweets and desserts: anything that is in liquid form such as soft custard, ice-cream.
- Fluids: all allowed in clear liquid diet.



Potato Cream Soup



Thin Pudding





 Dietetic Full Liquid Formula such as Ensure can be given for patients on Full Liquid Diet



Dietetic Foods or Formulas



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Full Liquid Formula

Full Liquid Diet Indication

- After clear liquid diet.
- Post operations.
- Acute illnesses.
- Some Dysphagia patients who can handle thin foods = Patients who cannot (chew or swallow pureed or soft foods) but can handle thin foods (liquids).
- To supplement tube feeding.

Full Liquid Diet Adequacy

- Tends to be inadequate in: Protein, Calories, Fe, Thiamin and Niacin.
- Should be used temporarily.
- Multivitamins and minerals should be given if this diet is used for more than 5-7 days.

Post Surgical Diet Soft Diet

What is a soft diet?

• A soft diet is made up of foods that are soft in texture, and easy to chew and swallow.

 These foods may be ground, mashed, pureed, and moist.

Soft Diet Indication

- Certain types of surgery, such as head, neck, or stomach surgery such as gastrectomy & bariatric surgery.
- Cancer treatment:
 - Chemotherapy and radiotherapy can make the GIT sore and inflamed.

• Have problems with teeth or mouth that make it hard to chew or swallow food.

Post Surgical Diet Soft Diet (Mechanical Soft Diet) Allowed Foods

- Soft foods such as:
 - Soft cooked eggs.
 - Scrambled eggs.
 - Cottage cheese.
 - Well cooked soft or pureed vegetables.
 - Avocado.
 - Tomato paste.
 - Tomato catsup.
 - Tomato puree.

• All juices, fruit nectar.

- Soft canned fruits.
- Applesauce.
- Soft fresh fruits such as: Bananas, Cantaloupe, Melon (seeded), Grapefruit sections (without membranes), Berries, Apple (peeled), Pear (peeled).

Soft Diet

Foods to Avoid

- Fresh fruits with membranes or tough skins.
- Dried fruits.
- Raw vegetables.
- Vegetables with tough skins or membranes.
- Stringy or fibrous vegetables, such as celery or pineapple.
- Chewy, fatty meat.
- Fish with bones.
- Nuts, seeds.

Soft Diet Grain Group Foods

Allow

- Toast.
- Rolls.
- Biscuits.
- Cornbread.
- Cooked cereals.
- Dry cereals with milk.
- Muffins.
- Waffles.
- Pancakes.

- Baked, boiled, mashed potatoes.
- Refined cooked cereals.
- Crackers with beverage.
- Cooked noodles.
- Rice.

Avoid

- Bread with hard crust.
- Hard rolls.
- Bread sticks.
- Bagels.
- Popcorn.
- Corn on the cob.
- Crisps.

Post Surgical "Soft Diet" Foods



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Soft Diet





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Soft Cooked Egg

Soft Diet



Scrambled Eggs





Cooked Greanded Wheat 32 mous



Enteral Alimentation (Feeding) Tube feeding Indication

Tube feeding is indicated as a means of nourishment when:

- Normal swallowing is inhibited or interfered with as in:
 - Difficulty with sucking and/or swallowing with demonstrated risk of aspiration.
- Patients with Anomalies such as:
 - Cleft palate, esophageal atresia.
 - Tracheoesophageal fistula: an abnormal opening between two hollow organs.

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Anomalies



Cleft Palate



Cleft palate



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Cleft lip and cleft palate



esophageal atresia



atresia (8%)



Atresia with double fistula (1%)

Tracheoesophageal fistula



Isolated tracheoesophageal fistula (H type) (4%)



Atresia with proximal fistula (1%)

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Enteral Alimentation (Feeding) Tube feeding Indication

- Other GI problems & anomalies.
- Neurological disorders.
- Head and neck surgery.
- Mandibular fractures.
- Severe comatose or unconscious states.
- Trauma or paralysis of oral pharyngeal cavity.

Enteral Alimentation (Feeding) Tube feeding Indication

- When nutrient needs cannot be met orally:
 - Anorexia.
 - Weight loss.
 - Growth failure.
 - Inadequate nutrient intake.
 - Hyper-metabolic states.
 - Chronic non-specific diarrhea.
 - Short gut syndrome (short bowel syndrome):
 - malabsorption due to surgical removal of half or more of their small intestine.

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Enteral Feeding Products

- Information about ingredients and nutrient content:
 - On packaging, or
 - From manufacturer.
- Products come in different compositions:
 - Some lactose free.
 - Some for people with digestive or absorption problem.
 - Some are made for people with renal problems.
 - etc. etc.
- Choice depends on need.

Tube Feeding Formulas

Туре	Characteristics	Indications
Standard Isocal (trade name)	Similar to average diet	Normal digestion
High nitrogen	Protein >15% of total kcal	Catabolism Wound healing
Calorie dense	2 kcal/ml	Fluid restriction Volume intolerance Electrolyte imbalance
Fiber content (controlled)	Fiber 5-15 g/L	Regulation of bowel function
Partially hydrolyzed	One or more nutrients are hydrolyzed.	Impaired digestive and absorptive capacity





Moderately <u>Hi</u>-Nitrogen Formula

Standard Formula/ Powder

Standard Formula/ Liquid

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Tube Feeding Formulas

Туре	Characteristics	Indications
Diabetic	Low carbohydrates	Diabetes mellitus
Renal	Less protein, low electrolyte content	Renal failure
Immune-enhancing	Arginine, glutamine, omega-3 fatty acid, antioxidants	Metabolic stress Immune dysfunction





For Renal disease patients

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For Diabetic patients STUDENTS-HUB.com

Enteral Alimentation (Feeding) Tube feeding

Administered by physician.

Monitored by Nurse.

Quantities Allowed by Dietitian.

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Enteral Formula Delivery

Enteral Formula: is delivered through the tube:

- By gravity flow, or
- By using a metered pump.
- Concentration, Rate and Volume of Enteral Formula: depend on need and tolerance.
- Generally start with Low rate & Concentration, and increase as tolerated.

Enteral Feeding (Alimentation) Administration

 Enteral feeding is administered through a tube that is inserted into the GI tract.

- Short-term:
 - Nasogastric.
 - Nasoduodenal.
 - Nasojejunal.

Enteral Alimentation Methods Nasogastric Tube Feeding





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Nasoduodenal Tube Feeding

Nasoduodenal tube (NDT)



Nasoduodenal tube 47 Uploaded By: anonymous

Nasojejunal Tube Feeding



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Enteral Feeding Administration

- Long-term: Surgically placed tube including:
 - Gastrostomy: is a surgical opening through the abdomen into the stomach.
 - Jejunostomy: is the surgically created opening (fistula) through the skin at the front of the abdomen and the wall of the jejunum (part of the small intestine).
 - Esophagostomy: surgical creation of an artificial opening into the esophagus.
 - All above refer to: artificial opening into the stomach , jejunum or esophagus
- Performed with formal surgery. STUDENTS-HUB.com

Enteral Feeding Administration

- Can be performed endoscopically.
- Endoscopically placed tube including:

○ PEG - Percutaneous endoscopic gastrostomy.

○ PEJ - Percutaneous Endoscopic jejunostomy.

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Gastrostomy Tube Placement

Before







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Jejunostomy



percutaneous jejunostomy feeding tube Copyright © CancerHelp UK



Enteral Feeding

Complications might occur due to:

- Speed of Advancement.
- Poor positioning of tube or patient who should be at 30-45° angle.
- Bacterial contamination.

Enteral Feeding

- Complications can lead to any of the following:
 - Nausea/Vomiting and Diarrhea.
 - Aspiration.
 - Electrolyte imbalance.
 - Dehydration.
 - Hyperglycemia.
 - Azotemia: is a medical condition characterized by abnormally high levels of nitrogen-containing compounds in the blood, such as urea, creatinine.

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Enteral Feeding

- Patients on Enteral feeding need:
 - Frequent monitoring of:
 - Stools.
 - o Urine.
 - o Blood.
 - Physical Signs such as clogged feeding tube, leakage.

Parenteral Nutrition

- Delivery of nutrients solutions directly into a vein.
- Bypasses the GIT.
- Provides: water, amino acids, glucose and fat emulsions to provide essential fatty acids, electrolytes, trace elements, vitamins and minerals.

Parenteral Nutrition PN (Definition)

Delivery of nutrients intravenously, e.g. via the blood stream:

- Central Parenteral Nutrition: often called Total Parenteral Nutrition (TPN); delivered into a central vein.
- 2. Peripheral Parenteral Nutrition (PPN): delivered into a smaller or peripheral vein.



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Catheter Insertion for Parenteral Nutrition



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Calculation of Protein Content in TPN Solution

To calculate the grams of protein supplied by a TPN solution:

 Multiply the total volume of amino acid solution (in ml*) supplied in a day by the amino acid concentration (% amino acid content).

Example Protein Calculation:

- 1000 ml of 8% amino acids solution.
- 1000 ml x 8 g/100 ml = 80g protein in 1000 ml of solution.

Carbohydrate in Parenteral Formulas

- Glucose (also called dextrose) provides the carbohydrate content of parenteral nutrition.
- Glucose is the body's main source of energy, and a daily minimum of about 2g/kg body weight is required to meet the needs of cells (e.g. brain, kidney, erythrocytes) that cannot readily use other fuels.
- The glucose/dextrose component is usually expressed as a % percentage (weight per volume of total solution).
- For example, a 5% dextrose solution contains 5g dextrose per 100mL solution, so 1 liter of 5% dextrose provides 50g carbohydrate.

Fat in Parenteral Formulas

 Lipid emulsions are soluble forms of fat that allow them to be infused safely into the blood.

 Lipid emulsions are generally composed of omega-3 poly, omega-6 poly, omega-9 mono, saturated, MCTs.

 For example, a 10% lipid emulsion contains 10 g fat per 100mL solution, so a liter contains 100g fat.

Contraindication of Parenteral Nutrition PN

 Parenteral nutrition should not be used routinely in patients with an intact GI tract.

- Compared with enteral nutrition, it:
 - ✓ Causes more complications.
 - Does not preserve GI tract structure and function as well, and
 - \checkmark Is more expensive.

End of Chapter