Practical Tips for Common Nutrition Problems after Esophagectomy

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Common Nutritional Problems after Esophagectomy

- Dysphagia (difficulty swallowing)
- Gastroparesis OR Dumping Syndrome
  - Depending on whether vagotomy and pyloroplasty was performed/successful
- Reflux
- Lactose intolerance
- Vitamin B12 malabsorption/B12 anemia
- Iron malabsorption/Iron deficiency anemia
Soft, moist foods will be most easily tolerated if you have difficulty swallowing, but with some modifications, you should be able to eat foods from all the food groups.

Use gravies, sauces and cooking liquids to help moisten foods.

Food ideas by food group:

- **Grains/starches**: hot cereals, low-fiber cold cereals well-soaked in milk (e.g., Rice Krispies), polenta, French toast, mashed potatoes/mashed sweet potatoes with sour cream/butter/gravy.
- **Dairy**: cottage cheese, yogurt, ricotta cheese, puddings, custards.
- **Meat/proteins**: Fish, tuna salad/egg salad/chicken salad (no celery/onion bits), meatloaf w/ gravy, hummus/refried beans, tofu, scrambled eggs, quiche.
- **Vegetables**: Soft-cooked veggies ("fork tender"), Creamed spinach, butternut squash puree, mashed cauliflower, pureed veggie soups (e.g., carrot, butternut squash, cream of broccoli, tomato...), avocado.
- **Fruits**: ripe banana, applesauce, canned fruits, soft peeled fresh fruits (e.g., peaches, kiwi, melon), raspberries, fruit juice/nectars.
Delayed stomach emptying often resulting from vagotony

Remedy: focus on liquid, pureed or soft-textured foods, which tend to clear the stomach faster
- Sip a small amount of liquid with all of your meals
- Chew all foods very thoroughly
- Choose softer-textured versions of favorite foods (e.g., ground meat in sauce or gravy instead of whole-muscle meat like steak or grilled chicken).
- If you are not hungry for a regular meal, try a small snack with a liquid or smooth/pureed texture, such as yogurt, pudding, applesauce, mashed potatoes, soup, smoothie or meal-replacement beverage.

Avoid high-fiber foods and snacks, as fiber can delay stomach emptying
- Choose lower-fiber cereals (<3g/serving), such as Puffed Rice, Corn Flakes or Farina/Cream of Wheat.
- Choose canned fruit without skins, applesauce, fruit juice and peeled raw fruits (only if tolerated).
- Choose soft, well-cooked vegetables without skins instead of raw vegetables.

Liquid sources of fat (e.g., smoothies/milkshakes, meal replacement drinks) may be better tolerated than solid fat (e.g., fried foods)

Taking a brisk walk after meals can stimulate movement of the digestive tract and may help improve stomach emptying.
Dumping Syndrome

- Results from rapid stomach emptying into the intestines through a widened pyloric opening after pyloroplasty
  - This “dumping” of food into the intestines attracts water in to dilute it, and can cause diarrhea, dizziness/faintness, sweating
- Remedy: emphasize foods that are higher in protein and low in sugar, since sugars are most likely to draw water into the gut
  - Sweets/desserts, sweetened beverages, flavored yogurts, sweetened cereals, snack/energy bars, juices, all contain high amounts of sugar
  - Avoid products with Splenda (sucralose), sugar alcohols (e.g., xylitol, sorbitol, erythritol, etc..). These are often found in “diet” or reduced sugar versions of common foods.
  - Safe, sugar-free sweeteners include Stevia (Reb–A) and aspartame
  - Good choices include: protein foods (meats/fish/eggs), cheeses, plain greek yogurt, nuts/nut butter, vegetables, small portions of fresh fruit, whole grain breads/cereals
- Drink liquids only in between meals (wait at least 30 minutes, and ideally 60 minutes, after eating before starting to drink)
Interventions are behavioral rather than diet-based
- Common “reflux diets” do not apply to reflux after esophagectomy, since the LES is no longer intact
- Foods and drinks such as citrus, tomato products, peppermint, chocolate, coffee, onions/garlic should have no effect on symptoms

- Remain upright after eating for 2 hours
- Avoid clothes that fit tightly around the waist
- Eat small amounts of food frequently rather than 3 large meals/day
Esophagectomy in and of itself does not increase incidence of lactose intolerance
  ◦ However, preference for protein–rich, easy-to-swallow foods often results in increased dairy intake may accentuate symptoms from pre-existing lactose intolerance

Increasing number of low-lactose and lactose-free yogurts now available
  ◦ Lactose-free: Green Valley Organics yogurt & kefirs, Yammi yogurt, Lactaid, La Yogurt
  ◦ Low lactose: Greek/European style yogurts that do not contain added milk protein, Goat’s milk yogurt
    • Good choices: Fage/Total, Chobani, Siggi’s
    • Watch out for added–protein in Cabot, Yoplait brands… likely higher lactose
  ◦ If dumping is a problem, choose plain or lower sugar flavors (e.g. Vanilla) instead of fruit flavors
  ◦ Lactaid also makes a lactose–free Cottage Cheese

If you use protein shakes/powders avoid products with Whey Protein Concentrate
  ◦ Look for Whey Protein Isolate or non–dairy protein sources (Soy, Hemp, Rice, etc..)

Over-the-counter lactase supplements are available to take with lactose–containing foods
Vitamin B12 Deficiency

- Results from your post-surgical stomach’s insufficient production of a compound called “intrinsic factor,” which is required to absorb Vitamin B12 in the intestines

Remedy:
- 500 mcg Sublingual Vitamin B12
- This high dose bypasses the gut’s primary absorption mechanism and enables appropriate daily value to be taken up

- The B12 in fortified foods may also be easier to absorb than the B12 in animal foods, since its not protein bound.

Some B12–fortified foods/drinks include:
- Certain breakfast cereals
- Some brands of non–dairy milk (e.g., Rice Dream ricemilk)
- B–12 fortified nutritional yeast
- Energy drinks (not preferred)
Iron Deficiency

- Results from your post-surgical stomach’s insufficient production of acid, which is required to convert dietary iron into an absorbable form.
- May also result from dietary changes toward softer foods that, often, tend to have less iron.
- Remedies:
  - Bifera iron supplement (1–2/day): a more absorbable iron supplement with fewer GI side effects.
  - Iron-fortified foods:
    - Farina, Instant Oatmeals (e.g., Quaker, McCann’s), Cheerios/Multigrain Cheerios, Total, Product 19…
    - Pair iron-fortified foods with Vitamin C-rich foods (citrus, strawberries, kiwi, red peppers, broccoli/cauliflower…)
  - Naturally iron-rich foods:
    - Meat/fish: red meat, chicken liver, dark meat turkey, clams, oysters, shrimp, light tuna.
    - Vegetarian: quinoa (soaked overnight to increase bioavailability), amaranth, teff flour/teff, lentils, white beans, collard greens, prunes, raisins.
    - Note: despite spinach’s reputation as a good source of iron, its iron is very poorly absorbed.