

Dietary Interventions for Gastric & Esophageal Cancer: Practical Tools for Patients



Nancee Jaffe, MS, RD

UCLA Vatche & Tamar Manoukian Division of Digestive Diseases

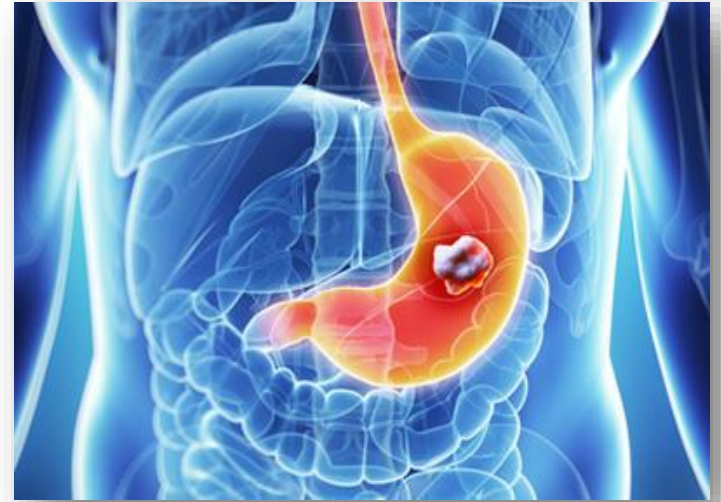


David Geffen
School of Medicine

UCLA Health

Overview

- Nutrition Facts and Figures
- Nutrition Interventions
 - Before Surgery
 - Weight Gain/Maintenance
 - Symptom Management Chemo/Rad
 - After Surgery
- Nutrient concerns (*common deficiencies*)
- Take-Aways



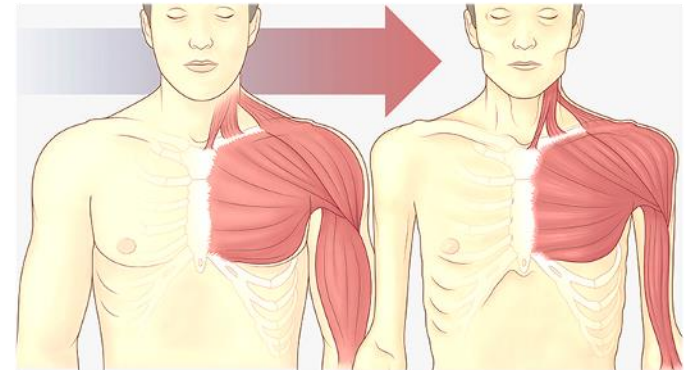
Nutrition Facts & Figures

40% of patients with cancer experience weight loss **prior to treatment:**

- 80% of upper gastrointestinal cancer patients

Malnutrition **during** treatment:

- 40-80% of patients
- Majority have head & neck, *gastrointestinal*, lung, or any advanced cancer
- 50-80% of cancer patients are cachectic (lean body mass losses)



Before Surgery

- Eat enough calories, protein, carbohydrates, fats, water, vitamins and minerals
- Nonsurgical cancer patients require:
 - *25–30 kcal/kg/day*
 - *1–1.5 g protein/kg/day*
- Surgical cancer / malnutrition patients:
 - *may go up to 35-40 kcal/kg and 1.5-2.0 g/kg*
- Focus on protein over carbohydrates and fats
 - *Excess fat and carbs = increased abdominal fat*
 - *Increased protein = increased lean body mass*



Weight Gain / Maintenance

Tips for increasing calories using healthy foods:

- Eat small meals and snacks
- Less volume, more nutrition
- Modify texture / particle size
- Use high calorie foods:



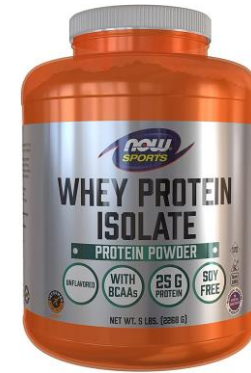
- *Olive/avocado oil and avocados if tolerated*
- *MCT oil (medium chain triglycerides)*
 - *Add to pasta, rice, mashed potatoes, cooked veggies*
- *Nut butters*
 - *Consider powdered if regular cause symptoms*
 - *Nuts whole if tolerated*



Weight Gain / Maintenance

Tips for increasing protein using healthful foods:

- Ground, lean animal meats (chicken, turkey)
- Flaky fish
- Tofu (organic)
- Nuts / nut butters / seed butters
- Dairy (yogurts, kefir, cheeses)
- Pureed beans
- Protein powders
- Protein drinks



Weight Gain / Maintenance

Tips for increasing calories using healthy foods:

- High calorie / protein drinks (shakes or waters)
 - Aim for at least 250 calories and 15 grams protein per serving
 - Use between meals, not as meal replacements
 - Unflavored unsweetened protein powders



Weight Gain / Maintenance

Basic Protein Smoothie Recipe

- 8-12 oz. milk or protein-rich milk alternative (pea, soy)
- 1 scoop protein powder (unflavored pea, lactose free whey, egg white)
- 1 tbsp. nut butter or fat-free nut butter powder
- ½ banana
- 1 tbsp. cocoa powder unsweetened if tolerated

Calories: 360

Protein: 33 grams



Symptom Management - Chemorad

Nausea / Vomiting

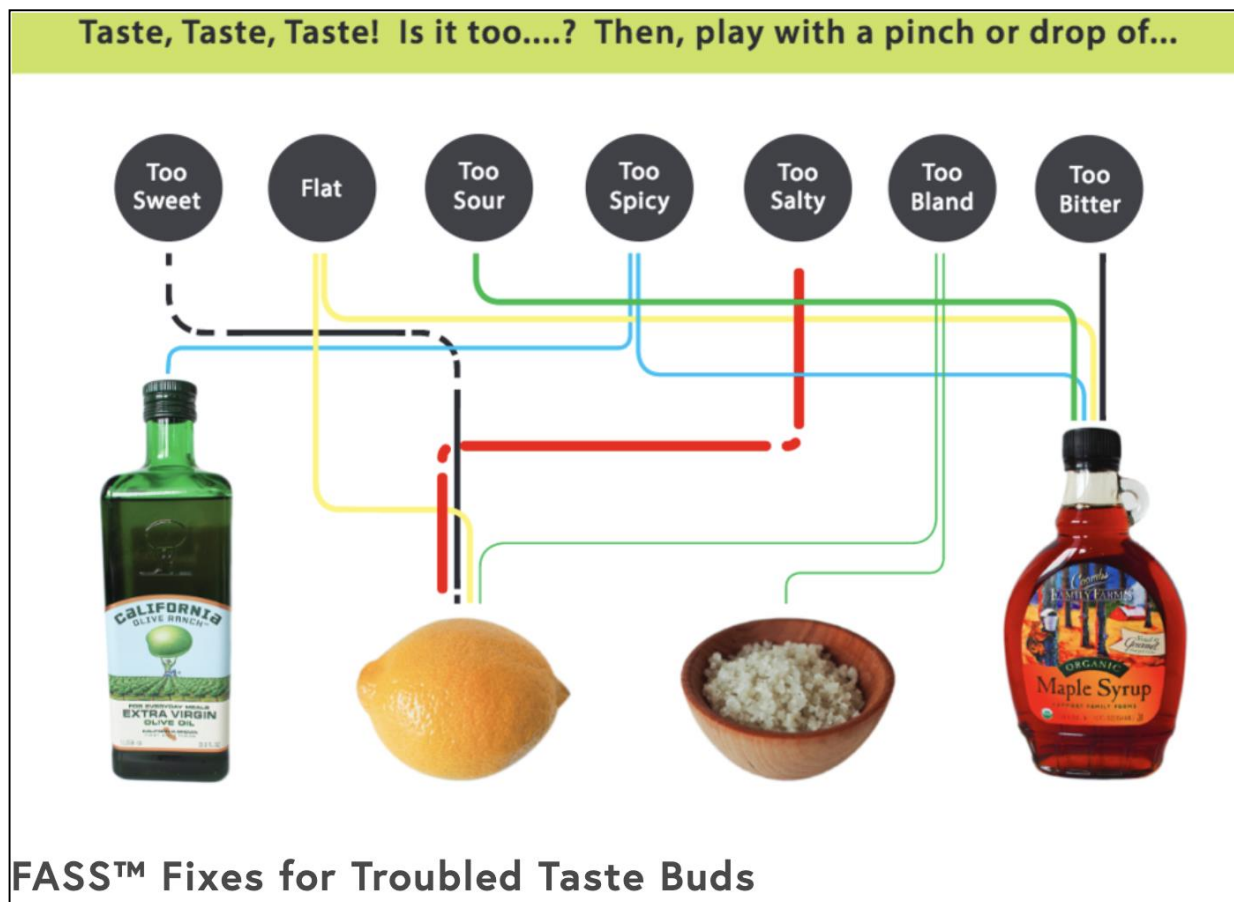
- Dry foods on empty stomach
- Separate liquids from meals
- Avoid favorite foods when nauseated
- Fluid intake important to prevent dehydration
- Eat smaller more frequent meals
- Choose bland, soft, easy-to-digest foods

Taste changes from chemo

- Avoid metal utensils
- Avoid red meat
- Choose highly seasoned foods
- FASS



Symptom Management - Chemorad



Symptom Management - Chemorad

Constipation:

- Drink warm prune juice
- Drink enough water / fluids
- Eat regular meals at same time daily
- Increase fiber intake if able

Diarrhea:

- Watch fructose, lactose and sugar alcohol intake
- Ex: apple juice, sorbitol, mannitol
- Eat smaller more frequent meals
- Consider oral rehydration solutions
- Consider potential issues with fat absorption



After Surgery: Esophageal



Most patients will be on tube feeding for 2 weeks post surgery

Once oral intake is allowed:

- Advance from clear liquids to full liquids to a soft diet
 - If underweight/malnourished - continue tube feed with oral intake
 - If maintaining weight - 1 PO protein drink = remove one can of tube feeding formula

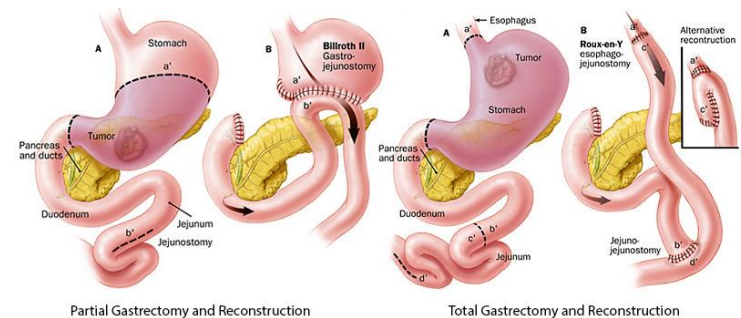
General recommendations:

- New anatomy
 - Reduced capacity to store food (smaller gastric pouch) - early fullness
 - Eat small frequent meals (4-8 per day)
 - No lower esophageal sphincter (LES)
 - Limit fluids during meals; make fluids nutrient dense
 - Never lie flat to reduce reflux and aspiration risk

After Surgery: Gastric

General Recommendations:

- New anatomy (smaller pouch, bypass top part of small intestines)
 - Early fullness
 - Eat small, frequent meals and snacks
 - Lowered fat tolerance
 - Reduce intake
 - Even fat portions during the day
 - Lactose intolerance may occur
 - Drink between instead of with meals
 - Chew food really well and eat slowly
 - Sit upright during meals and remain upright for 60 min following meal
 - Include protein with every meal and snack

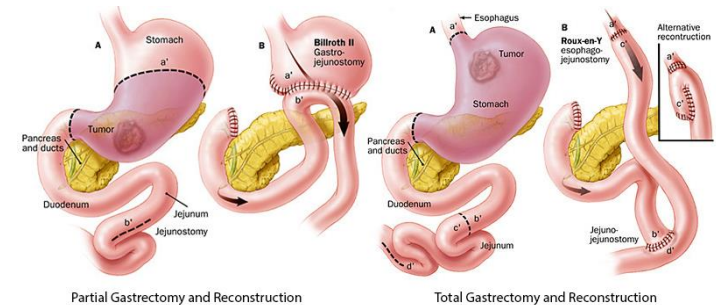


After Surgery: Gastric

Dumping Syndrome:

- *Early Dumping Syndrome (15-60 minutes after eating):*
 - feeling overly full after eating a small amount of food, nausea, vomiting, abdominal discomfort, diarrhea, dizziness
- *Late Dumping Syndrome (1-3 hours after eating):*
 - Sweating, heart palpitations, fatigue, mental confusion, dizziness, hunger, fainting

- Limit simple carbohydrates
- Drink liquids 30 to 45 minutes after meals
- Limit sugar to <10 grams per serving
- Add a protein or a fat along with the fruit or bread/starch
- Avoid alcohol
- Eat tolerated fiber rich foods



Nutrient Concerns

Endoscopic resection

- *affects stomach*

Subtotal (partial) gastrectomy

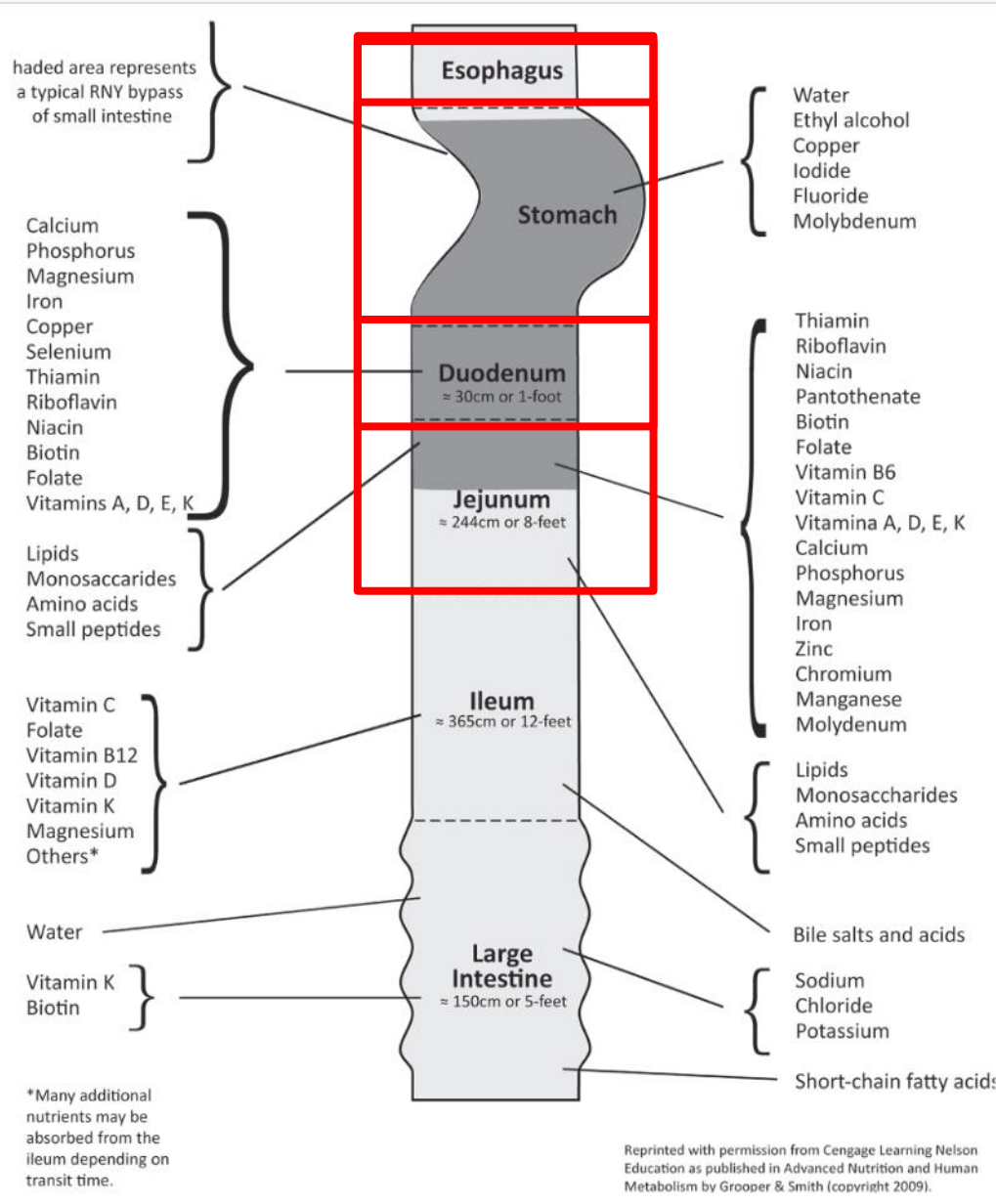
- *affects stomach; possibly affects esophagus and/or duodenum*

Roux-En Y (esophagojejunostomy)

- *affects stomach, esophagus, duodenum and jejunum*

Total gastrectomy (jejunojenunostomy)

- *affects stomach, esophagus, duodenum; may remove the spleen, pancreas, or other nearby organs*



Nutrient Concerns

- **Labs to check:**
 - For resected stomach
 - Order labs - Vit A, Vit D25-OH, Vit E, Vit K, Vit B12, Vit B1, RBC folate, zinc, RBC copper, and iron; CBC, CMP
 - *Especially copper, iron, B12*
 - For resected duodenum (top portion of small intestine)
 - *Especially B vitamins (B1, B6, folate, B12), iron, copper*
 - For resected jejunum (second portion of small intestine)
 - *Especially B vitamins (B1, B6, folate, B12)*



Nutrient Concerns

- **Supplements to consider:**
 - Liquid or powdered multivitamin and individual vits/min for repletion
 - *Watch out for sugar alcohols or fructose*
 - *B12 and iron – oral vs IV*
 - *DEXA BMD at 1 year*
 - L-glutamine (helps build body mass)
 - Oral rehydration solutions for diarrhea
 - $\frac{3}{4}$ teaspoon table salt
 - 2 Tablespoons sugar
 - Optional: Crystal Light® to taste (lemonade or orange-pineapple)



Take-Aways



- **Nutrition Treatment**

- Perioperative Nutrition Goals:

- *Stave off malnutrition, encourage recovery, manage symptoms and find and replete any nutrient deficiencies*

- Nutrient concerns

- *Look for deficiencies and replete with aid of doctor and dietitian*

- Symptom Management

- Weight gain / Weight Maintenance

- *Focus on high protein and nutrient-dense well-tolerated foods*



Thank You!

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