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

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Overview

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• Nutrition Interventions
  • Before Surgery
    • Weight Gain/Maintenance
    • Symptom Management Chemo/Rad
  • After Surgery
• Nutrient concerns (common deficiencies)
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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

Taste, Taste, Taste! Is it too....? Then, play with a pinch or drop of...

- Too Sweet
- Flat
- Too Sour
- Too Spicy
- Too Salty
- Too Bland
- Too Bitter

FASS™ Fixes for Troubled Taste Buds
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**
- effects stomach

**Subtotal (partial) gastrectomy**
- effects stomach; possibly affects esophagus and/or duodenum

**Roux-En Y (esophagojejunostomy)**
- effects stomach, esophagus, duodenum and jejunum

**Total gastrectomy (jejunojenunostomy)**
- effects 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
    - ¾ 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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