

Diet and Nutrition with Pancreatic Cancer

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Nutrition Goals

- Prevent or reverse poor nutrition
- Maintain dose and schedule of cancer treatments
- Manage symptoms
- Maintain or improve weight and strength

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We are all individuals...

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Key Points

- Symptom/Side-effect Management
- Enzymes
- General Eating Recommendations
- Supplements
- Changes in Nutrition After Surgery

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Common Symptoms/Side-effects

- Nausea and/or vomiting
- Loss of appetite, weight loss
- Taste changes
- Pain with eating
- Diarrhea
- Constipation
- Fatigue
- Pancreatic exocrine insufficiency

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Symptoms of Pancreatic Exocrine Insufficiency

- Feelings of indigestion
- Cramping after meals
- Large amounts of gas
- Foul smelling gas or stools
- Floating stools or greasy/fatty stools
- Frequent stools
- Loose stools/diarrhea

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Possible Causes of Diarrhea

Panc. Insufficiency

- Feelings of indigestion
- Cramping after meals
- Large amounts of gas
- **Foul smelling gas or stools**
- **Floating stools or greasy/fatty stools**
- Frequent stools
- Loose stools

Lactose Intolerance

After a meal containing dairy:

- Feelings of indigestion
- Cramping after meals
- Large amounts of gas
- Loose stools

Bacterial Overgrowth

- Feelings of indigestion/cramping
- Foul smelling stools
- Frequent stools
- Loose stools

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Possible Treatments of Diarrhea

Panc. Insufficiency

enzymes

Lactose Intolerance

After a meal containing dairy:

Lactose free dairy or lactase

Bacterial Overgrowth

antibiotics

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Nutrition Management of Diarrhea

- Discuss with your medical team which medications may be appropriate. Pancreatic enzymes? Lactase enzymes? Anti-diarrhea?
- During diarrhea (of any cause) limit/avoid:
 - Lactose containing dairy products (yogurt and buttermilk are okay)
 - High fiber foods: whole grains, raw fruits with thick peels, raw vegetables
- Get plenty of fluids

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Nutrition Management of Pancreatic Insufficiency

Pancreatic Enzymes

The basics:

- Patients who have pancreatic insufficiency due to disease, treatment, or surgery should take supplemental pancreatic enzymes.
- Pancreatic enzymes contain lipase, protease, and amylase to digest fat, protein, and carbohydrate.
- Regular use of an acid reducing medication likely enhances enzyme activity.

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Pancreatic Enzymes: Dosage

- Every person is different and needs different amounts of pancreatic enzymes. Amounts needed may vary depending on disease and treatment.
- Most people start by taking 1 pill with snacks and 2 with meals and increasing as needed. (Generally: 10,000-12,000 U of lipase per pill.)
- One brand/batch may work better than another so it is best to start with one brand and stick with it.

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Pancreatic Enzymes: How to Use

- For best results you should take with every meal and snack that contains fat:
 - Meat
 - Dairy
 - Bread, crackers, cereal
 - Snacks
 - Desserts

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Pancreatic Enzymes: How to Use

- It is very important that enzymes be taken at the beginning of the meal or snack. To best mimic the body's natural digestion, take throughout the meal. Enzymes generally do not work well if forgotten and taken at the end of a meal.

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Pancreatic Enzymes: Side effects

- Constipation (most common)
- Nausea
- Diarrhea

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Lactase: The Other Enzyme

- Lactase: the enzyme that breaks down lactose (natural sugar from milk/milk products).
- Individuals who were not previously lactose intolerant may be after surgery or antibiotic use.
- Lactase (Lactaid®): If intolerant of lactose you may benefit from additional enzyme.
 - over the counter
 - help with the digestion of lactose (in milk, ice-cream, cheese, and other dairy products).

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What should I eat?

- Protein:
 - Lean cuts of meat
 - Beans, peas, lentils
 - Low-fat or fat-free dairy, eggs
 - Nuts, seeds, nut-butters (as tolerated)
 - Protein powders

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What should I eat?

- Calories:
 - Fats: (as tolerated)
 - Olive, canola, peanut oil
 - Nuts, seeds, nut-butters
 - Avocado
 - Olives
 - Fruits, vegetables, complex carbohydrates

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What should I drink?

Most patients require 6 to 12 cups per day of non-alcoholic, non-caffeinated fluid per day to maintain adequate hydration.

(8 oz = 1 cup)

- Water
- Decaffeinated tea/coffee
- Popsicles
- Broth/Soup
- Sports drinks, children's electrolyte drinks
- Juice
- Caffeine-free soft drinks
- Gelatin
- Liquid nutrition shakes

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Liquid Nutritional Supplements

Non-diabetic: such as Boost Plus®, Ensure Plus®, Carnation® Instant Breakfast.

Diabetic: Boost Glucose Control®, Glucerna®.

Specialized (Cancer Induced Weight loss): Prosure®, Resource Support®.

Note: products above are examples of products available and lists are not all-inclusive.

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Nutrition Management of Poor Appetite and/or Nausea

- Eat small frequent meals (6-8 per day), avoid greasy, spicy, and fried foods.
- Plan your meals and meal times the day before.
- Stay well hydrated.
- Take your anti-nausea medication at the first sign of nausea.
- If poor appetite and weight loss persist discuss possible medicinal management with your medical team.

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Nutrition Management of Taste Changes

- Rinse mouth with baking soda & water solution or water with lemon (if no mouth sores).
- Metallic taste: use plastic or glass utensils and serving ware.
- To enhance dull taste use tart flavors: pickles, lemons, vinegar, etc.
- Try new foods or foods previously disliked.

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Nutrition Management of Pain with Eating

- Plan small frequent meals.
- Avoid high fiber foods.
- Avoid fried food and other high fat foods.
- Chew food well.
- Take pain medication proactively.

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Nutrition Management of Constipation

- Get plenty of fluids. (Include hot fluids such as tea, coffee, and prune juice.)
- Be active.
- Include high fiber foods (as tolerated) in your diet such as fruits, vegetables, legumes, and whole grains.
- Talk with your medical team about laxatives, stool softeners, or use of medicinal fiber.

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Nutrition Management of Fatigue

- Schedule meals and snacks (6-8 times per day)
- Be active:
 - Try for a total of 30 minutes per day of activity.
 - Walking is great.
 - Break activity into small increments (5 or 10 minutes at a time, totaling 30 minutes per day).

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Herbal/Vitamin/Mineral Supplements

General:

Discuss with your medical team.

Resources:

ConsumerLab: independent product testing

www.consumerlabs.com

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Herbal/Vitamin/Mineral Supplements

Resources continued:

The National Institutes of Health Office of
Dietary Supplements-

<http://dietary-supplements.info.nih.gov>

M.D. Anderson Complementary/Integrative
Medicine Education Resources-

www.mdanderson.org/departments/cimer

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Herbal/Vitamin/Mineral Supplements: Fish Oil

- Some evidence that fish oil may decrease cancer induced weight loss. Specifically eicosapentaenoic acid (EPA), a building block of fish oil has been show beneficial.
- Studies show optimal dose of 2000 mg/day of EPA.
- Maybe obtained from:
 - liquid nutritional drinks: (2 cans per day)
 - Prosure ® (Ross Products Division ®)
 - Resource Support ® (Novartis Medical Nutrition®)
 - capsule form:
 - Review www.consumerlabs.com for reports of safety and potency.

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Nutrition After Whipple Procedure (short term)

Immediately following surgery:

- May or may not have a jejunostomy feeding tube. If you have a j-tube, feeding will generally be cycled to night time
- Start oral diet with clear liquids and advance to "regular"
- Generally: smaller meals, avoid greasy and fried foods, avoid raw fruits and vegetables (to start)

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Nutrition After Whipple Procedure (long term)

- Avoid fried, high fat, and greasy foods
 - Types of fats consumed should be from healthy sources: olive/canola/peanut oil, nuts, seeds, avocado
- Aim for 5-9 serving fruit and vegetables per day as tolerated.
- Take enzymes. Take acid reducing medication.
- Exercise at least 30 minutes per day most days. Weight training/lifting start as advised by your surgeon.

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Nutrition After Whipple Procedure

We are often not able to achieve normal fat absorption after a Whipple.

Goals:

- Eliminate diarrhea
- Restore adequate nutrition
- Prevent weight loss
- Decrease symptoms

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Resources

- Registered Dietitian: request a consult at your cancer center, if none available contact PanCAN or the American Dietetic Association (www.eatright.org)
- Call PanCAN or visit website for tip sheets, booklets, recipes, etc.

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Resources: continued

Cookbooks:

- Eating Well Through Cancer (by Clegg and Miletello)
- The American Cancer Society's Healthy Eating Cookbook
- *Betty Crocker's Living With Cancer Cookbook* (by Ghosh, Carson and Cohen)
- *Month of Meals: Meals in Minutes* (by American Diabetes Association and American Dietetic Association)

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