

SIDE EFFECT MANAGEMENT THROUGH DIET AND NUTRITION

Jeannine B. Mills MS,RD,CSO,LD
Norris Cotton Cancer Center
Dartmouth Hitchcock Medical Center

Medical Nutrition Therapy Goals

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

© Maria Petzel

Common Side Effects

- ⦿ Diarrhea
 - ⦿ Pancreatic exocrine insufficiency*
 - ⦿ Glucose intolerance, diabetes*
 - ⦿ Nausea and/or vomiting
 - ⦿ Loss of appetite, weight loss
- (* More common with surgery)

© Maria Petzel

Common Side Effects (continued)

- ⦿ Taste changes
- ⦿ Early satiety
- ⦿ Pain with eating
- ⦿ Fatigue
- ⦿ Constipation
- ⦿ Dumping syndrome*

© Maria Petzel

Diarrhea

- Work closely with medical team (multiple causes of diarrhea):
 - Treatment Induced
 - Lactose Intolerance
 - Bacterial Overgrowth
 - Pancreatic/Digestive Insufficiency

© Maria Petzel

Nutrition Therapy for Diarrhea

Independent of cause

Limit or avoid:

- Lactose (or add lactase)
- Insoluble fiber
- Foods sweetened with sugar alcohol
- Sugar sweetened beverages

© Maria Petzel

Nutrition Therapy for Diarrhea

Independent of cause

Increase:

- Soluble fiber
- Fluids

© Maria Petzel

Probiotics for Diarrhea

- Sources of probiotics:
 - Foods
 - Dietary Supplements

© Maria Petzel

Lactose Intolerance

- ⦿ May be temporary
- ⦿ Individuals who were not previously intolerant may become intolerant
- ⦿ May be able to tolerate low lactose foods
- ⦿ Provide lactase enzymes prior to a meal—avoid limiting diet

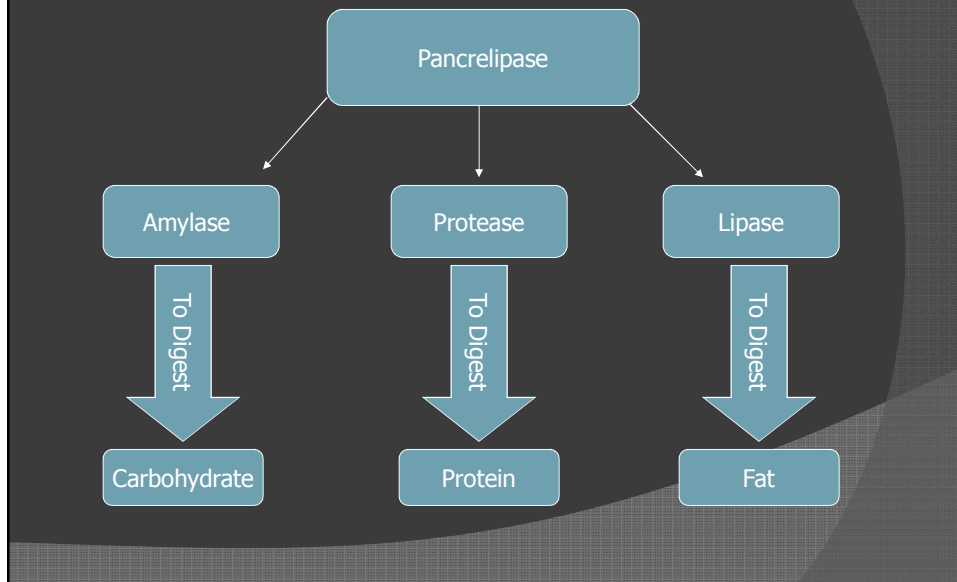
© Maria Petzel

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
- ⦿ Unexplained weight loss

© Maria Petzel

What is pancrelipase?



How to Optimize Enzymes:

- Take at the beginning and throughout the meal/snack
- Don't take at the same time as antacids or iron supplements
- If prescribed by your doctor, take acid reducing medication daily.

Finding the right enzyme and how much to take.

- Every person is different and needs different amounts of pancreatic enzymes.
- Amount needed varies depending on disease, treatment, and amount of fat in the diet/meal.
- Find the brand and the dose that works for you and stick with it.
- Start:
 - Meals: 20,000-40,000 units of lipase per meal
 - Snacks: 10,000-20,000 units of lipase per snack

© Maria Petzel

Enzyme Dosage: Titration

- Continue to increase amount of lipase per meal/snack until pancreatic insufficiency symptoms are minimized/eliminated

© Maria Petzel

Pancreatic Enzymes: Side effects of too many

- ⦿ Constipation (most common)
- ⦿ Nausea
- ⦿ Abdominal Cramps
- ⦿ Diarrhea

(Careful not to confuse with symptoms of inadequate enzyme use, chemotherapy, or radiation treatment.)

© Maria Petzel

Glucose Intolerance/Diabetes

- ⦿ Medication
- ⦿ Meet with a dietitian to customize diet.
- ⦿ Limit refined carbohydrates.
- ⦿ Eat carbohydrates in combination with protein, fiber, and fats.

After treatment/surgery complete:

- ⦿ Follow a carbohydrate controlled diet.
- ⦿ Consume high fiber carbohydrate foods as tolerated. Limit refined carbohydrates.

© Maria Petzel

Nausea/Vomiting

- ⦿ Eliminate offending odors
- ⦿ Dry crackers/toast
- ⦿ Avoid overly sweet, greasy/fried, or highly spiced foods
- ⦿ Use room temp foods
- ⦿ Oral care
- ⦿ Eliminate stress
- ⦿ Medication

© Maria Petzel

Poor Appetite

- ⦿ Avoid overly sweet, greasy/fried, or highly spiced foods
- ⦿ Eat small amounts frequently
- ⦿ Schedule meals/snacks
- ⦿ Use liquid supplements/smoothies
- ⦿ Light exercise
- ⦿ Alcoholic beverage before meal
- ⦿ May benefit from medication

© Maria Petzel

Early Satiety

- ⦿ Alleviate gas and bloating
- ⦿ Liquids between meals
- ⦿ Small servings, more often
- ⦿ Limit high fat or fried foods
- ⦿ High fiber foods may be problematic
- ⦿ Medications

© Maria Petzel

Taste Changes

- ⦿ Rinse mouth
- ⦿ Metallic taste: use plastic utensils and serving ware
- ⦿ Enhance dull taste use tart flavors
- ⦿ Try new foods or foods previously disliked
- ⦿ Zinc

© Maria Petzel

Pain with Eating

- ⦿ Avoid high fiber foods.
- ⦿ Chew food well.
- ⦿ Take pain medication proactively.

© Maria Petzel

Fatigue

- ⦿ Be active
- ⦿ Choose foods that are less cumbersome to chew and swallow
- ⦿ Do not increase caffeine use

© Maria Petzel

Constipation

- Hot fluids
- Include high fiber foods
- Limit gas forming foods, carbonated beverages, straws, chewing gum

© Maria Petzel

Dumping: symptoms

- Flushing
- Sweating
- Feeling of low blood sugar
- Loose BM

Generally occur within 2 hours of eating.

© Maria Petzel

Dumping

- ⦿ Limit portion sizes
- ⦿ Drink liquids between meals
- ⦿ Avoid foods high in sugar
- ⦿ Avoid hot liquids
- ⦿ Add soluble fiber, guar gum

© Maria Petzel

What should I eat?

- ⦿ Protein
- ⦿ Fruits, vegetables, complex carbohydrates
- ⦿ Fats (as tolerated)

© Maria Petzel

Protein Foods

- ◉ Lean cuts of meat
- ◉ Beans, peas, lentils
- ◉ Low-fat or fat-free dairy
- ◉ Eggs
- ◉ Nuts, seeds, nut-butters (as tolerated)
- ◉ Meat alternatives (tofu, veggie burgers, etc.)
- ◉ Protein powders

© Maria Petzel

Carbohydrate Foods

- ◉ Fruits
- ◉ Vegetables
- ◉ Bread, cereal, pasta, rice, potatoes
 - If fiber is not a problem, try to use whole grain products more often

© Maria Petzel

Sources of Fat

- Variety of vegetable oils
- Nuts, seeds, nut-butters
- Avocado
- Olives
- Salmon

© Maria Petzel

Liquid Nutritional Drinks

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Regular <ul style="list-style-type: none"> • Boost • Ensure • Mix1 • Orgain | <ul style="list-style-type: none"> • Diabetic <ul style="list-style-type: none"> • Glucerna • Boost Glucose Control |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
- Home made smoothies
 - Mix in blender
 - Liquid: juice, yogurt, milk, soymilk, etc
 - Fruit and/or cooked vegetables
 - Protein: protein powder, tofu, cottage cheese

© Maria Petzel

Eating Long Term: after all treatment complete

Plant based diet

- ⦿ 2 ½ cups of fruits and vegetables per day.
 - Even better: 3 ½ - 4 ½ cups per day.
 - If raw vegetables hard to digest, use cooked or juiced
- ⦿ Healthy Fats
- ⦿ Limit red meat

© Maria Petzel

After All Treatment Completed

- ⦿ Be active
- ⦿ Take enzymes
- ⦿ Take acid reducing medication (if prescribed by your surgeon).
- ⦿ Follow with primary doctor for diabetes management and bone health.

© Maria Petzel

After All Treatment Completed

- “One a day” multiple vitamin and mineral supplement
- Calcium with vitamin D
- Fish oil/Omega-3

© Maria Petzel

Acknowledgements

Julie Meddles, RD, LD
The Ohio State University Medical Center

Maria Petzel RD, CSO,LD, CNSC
MD Anderson Cancer Center

Heather Bell, MS, RD, CSO, LD
Moffitt Cancer Center

Pancreatic Cancer Multidisciplinary Team
The University of Texas M.D. Anderson Cancer Center

Questions?

