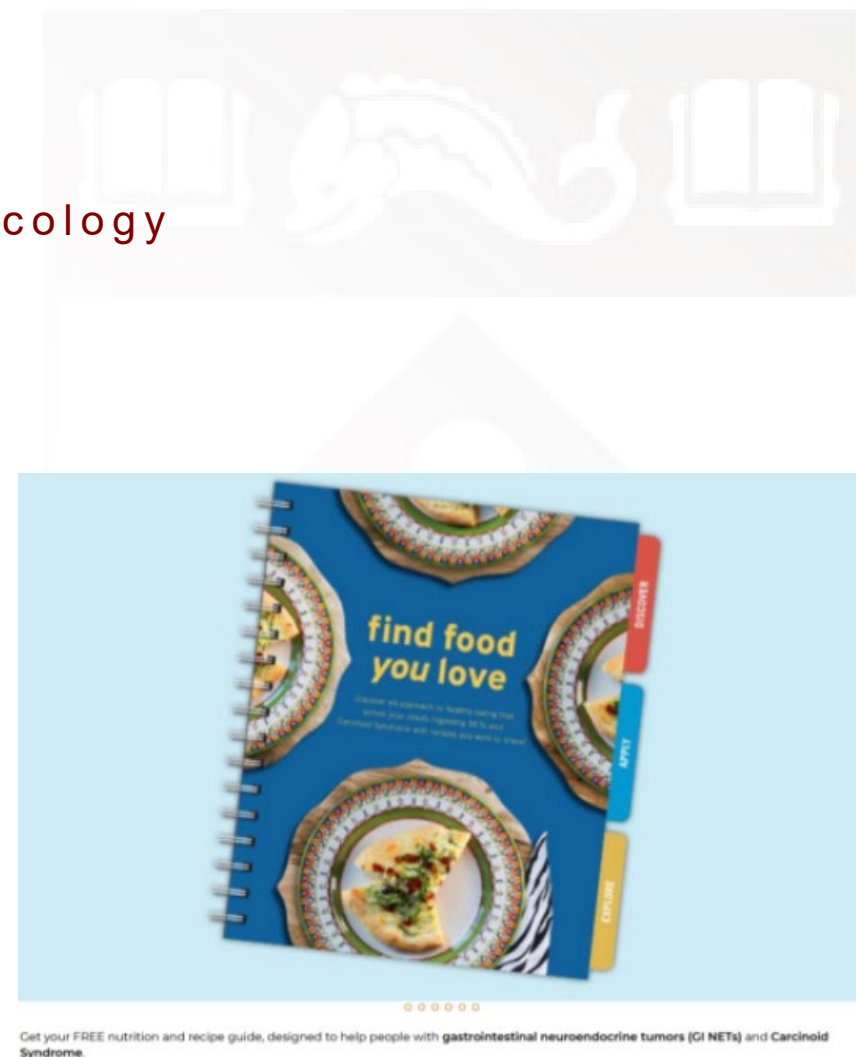


Nutrition for Neuroendocrine Cancers

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March, 2021



<https://www.foodyoulovebook.com>

One diet does not fit all.....



Photo Source: Zebra Stripes: Are Zebras Black with White Stripes or White with Black Stripes?
(scienceabc.com)



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Disclosures & Disclaimer

- ▶ Disclosures: none
- ▶ The content of this presentation is intended for general nutrition information. Will mainly focus on Neuroendocrine cancer of the gut (SI, pancreas, liver, colorectal).
- ▶ Please consult with your oncologist for treatment specific recommendations and ask for a referral to a dietitian.

What will we talk about?

- ▶ What foods should be avoided?
- ▶ Importance of maintaining weight
- ▶ Nutritional considerations for surgical resections
- ▶ What does our stool tell us?
- ▶ Summary and Resources

Foods to Avoid?

- ▶ Food Allergies
- ▶ Foods that may increase risk of food borne illness
- ▶ Food Intolerances
- ▶ Surgical resections
 - Swallowing or malabsorption issues
- ▶ What are your symptoms?
 - Nausea or Vomiting
 - Diarrhea
 - Gas/Bloating/Feeling of fullness
 - Gastroesophageal reflux disease
 - Constipation
 - Flushing with foods



Foods to limit with Carcinoid Syndrome leading to diarrhea

- ▶ Limit insoluble fiber (<10 gram fiber per day)
- ▶ Limit gas forming foods
- ▶ Limit simple sugars especially sugar sweetened beverages
 - Replace with Electrolyte replacement drinks
- ▶ Limit or avoid alcohol
- ▶ Limit fried greasy foods such as processed foods
- ▶ Limit spicy “hot” foods
- ▶ Limit acidic foods
- ▶ Limit lactose containing foods
- ▶ Limit amines



Foods to limit with Carcinoid Syndrome: Amines

► Amines to Avoid

- Aged cheeses (cheddar, stilton, camembert, blue cheese, Roquefort)
- Alcohol
- Smoked, salted or pickled fish or meats
- Yeast extract “hydrolyzed” meats such as marmite/vegemite, processed, yeast extract or nutritional yeast
 - (Check ingredients in meat substitutes)
- Fermented foods such as tofu, tempeh, kimchi, sauerkraut, miso, soy or fish sauce.

► Limit

- Dark or milk chocolate, cocoa
- Caffeine
- Avocados, bananas, raspberries
- Peanuts, brazil nuts, fava beans, coconut

Maintaining Weight: Adding protein and calories

Small frequent meals

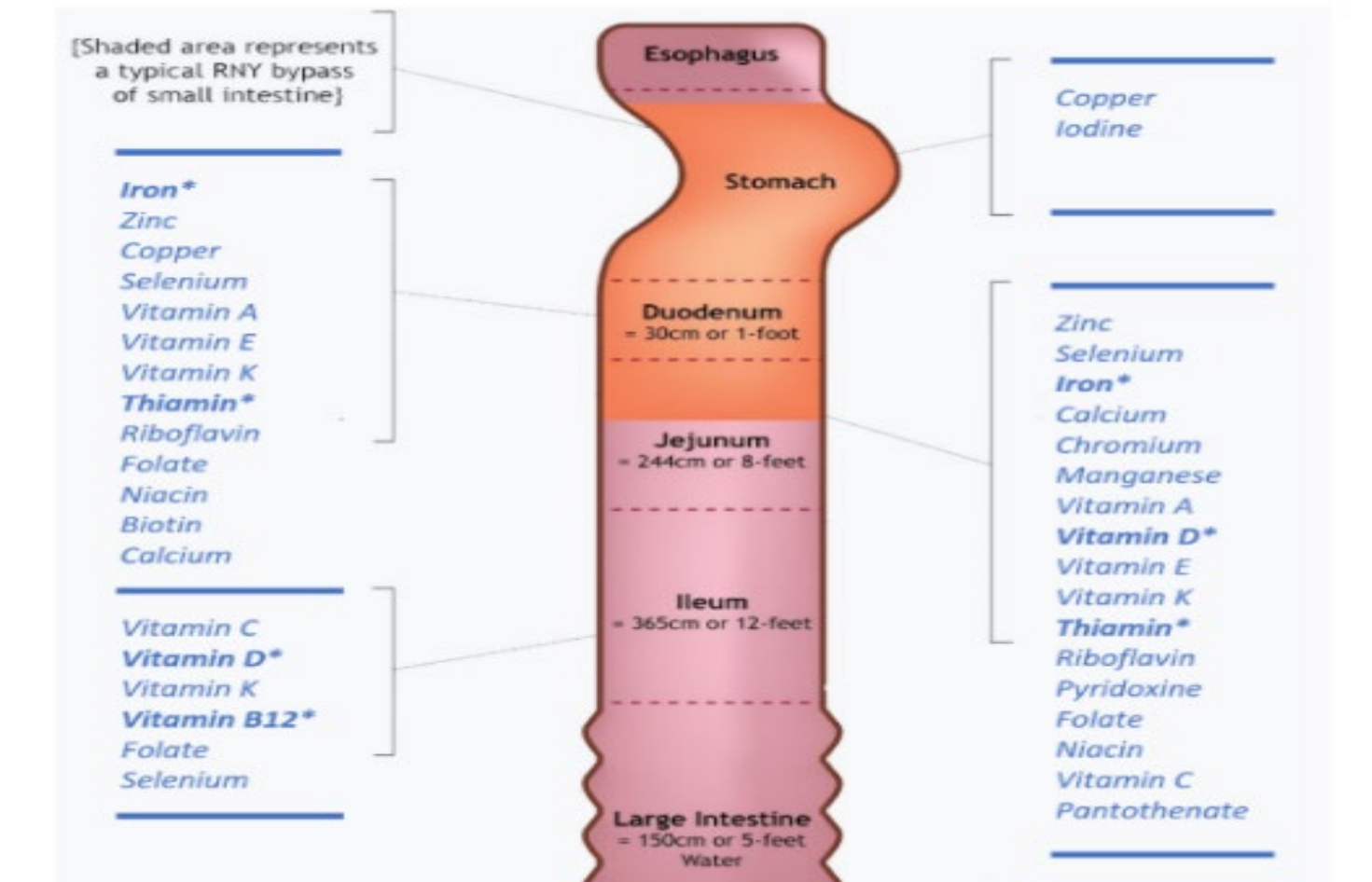
Schedule meals (Not based on appetite)



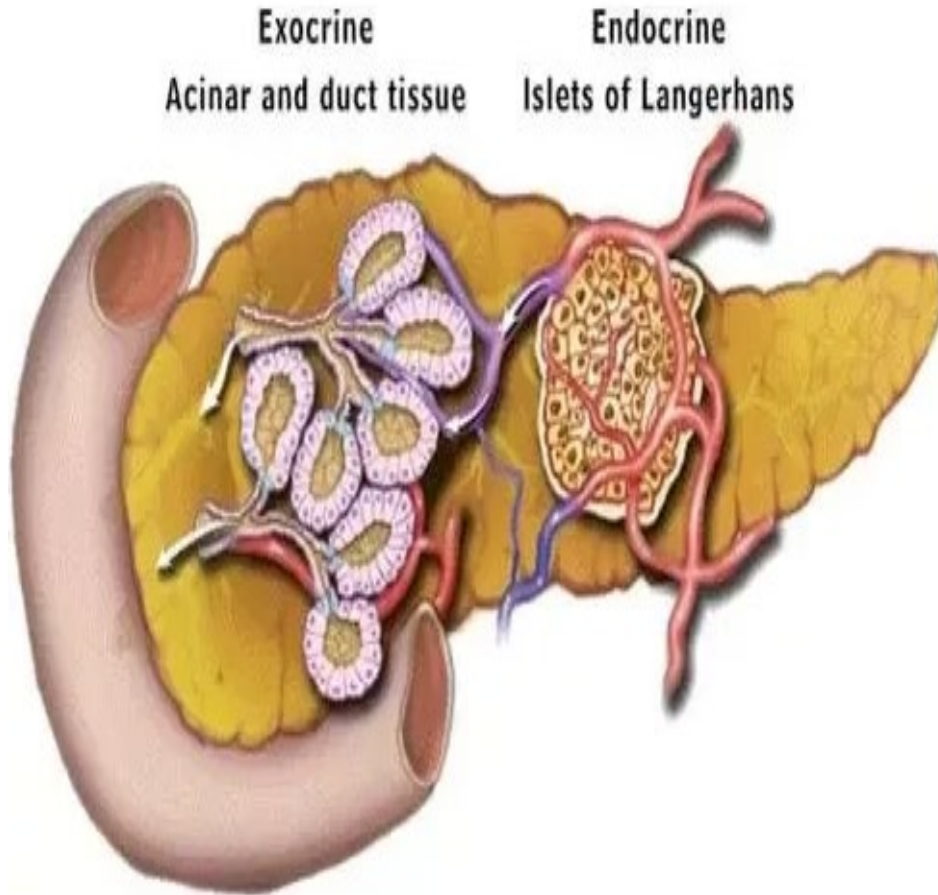
Nutritional considerations for Surgical Resections; Gut

- ▶ Check with surgeon on diet restrictions 6-8 weeks after surgery
- ▶ What part and how much was removed?
- ▶ Ask your surgeon for a referral to a GI specialist that will help monitor your micronutrients long term
- ▶ May need to have small more frequent meals to maintain weight

Micronutrient Absorption



Considerations for Surgical Resection: Pancreas



- ▶ Removal of head or tail (distal) pancreas
- ▶ Whipple or Appleby
- ▶ Removal of Head of Pancreas may lead to Exocrine Deficiency
 - May lead to floating stools
 - Light colored, foul order
 - Fat malabsorption
- ▶ Endocrine Deficiency
 - Problems with blood glucose regulation

What does our stool tell us?

- ▶ Floaters, fatty streaks
- ▶ Greasy/difficult to flush
- ▶ Color
 - Light brown or tan
 - Yellow/Orange
- ▶ Texture
 - Consistency
- ▶ Odor



Summary

- ▶ NO DIET FITS ALL
- ▶ Food safety
- ▶ Avoid amines if flushing occurs
- ▶ Importance of maintaining weight
- ▶ Keep records of surgical resections
- ▶ Track you symptoms and timing of stools

Neuroendocrine Resources



Get your FREE nutrition and recipe guide, designed to help people with **gastrointestinal neuroendocrine tumors (GI NETs)** and **Carcinoid Syndrome**.

- ▶ The Find Food You Love book by Lexicon Pharmaceuticals is a great resource on symptom management and developing meal plans. Here's the link to order a free copy:
- ▶ <https://www.foodyoulovebook.com/>

Additional Reading/Web resources

- General information on nutrition for NET's (Oncology Nutrition Practice Group)
 - <http://www.oncologynutrition.org/erfc/eating-well-when-unwell/carcinoid-syndrome-and-diet/>
- Oncolink General Net and Nutrition
 - [Nutrition for People with Neuroendocrine \(Carcinoid\) Tumors | OncoLink](#)
- Oncolink: Pancreatic enzymes handout/webinar
 - [Pancreatic Enzyme Replacement Therapy \(PERT\) | OncoLink](#)
 - [Pancreatic Enzymes for Exocrine Pancreatic Insufficiency | OncoLink](#)
- Pamphlet written by Net group in the UK
 - http://s3-eu-west-1.amazonaws.com/files.royalfree.nhs.uk/Patient_resources/NETs/Food_and_NETs.pdf
- ▶ PowerPoint programs on nutrition for NET's:
- ▶ Leigh Ann Burns
 - https://youtu.be/5vLPIQT_4BY
- ▶ Carcinoid Cancer Foundation's nutrition information by Monica Warner MS RD:
- ▶ <https://www.carcinoid.org/for-patients/general-information/nutrition/nutritional-concerns-for-the-carcinoid-patient-developing-nutrition-guidelines-for-persons-with-carcinoid-disease/>

Additional Reading/Recipes: General Nutrition

- Academy of Nutrition and Dietetics (to find dietitian in your area)
 - www.eatright.org
- American Institute for Cancer Research
 - <http://www.aicr.org>
- Cancer Survivor's Nutrition and Health Guide by Gene Spiller and Bonnie Bruce DR Ph., RD
- Eating well through cancer by Holly Clegg and Gerald Miletello, MD
- Cancer Fighting Kitchen by Rebecca Katz

References

- ▶ The Find Food You Love book by Lexicon Pharmaceuticals is a great resources on symptom management and developing meal plans. Here's the link to order a free copy:
- ▶ <https://www.foodyoulovebook.com/> Accessed 2/28/21
- ▶ Partnership for Food Safety Education [The Partnership for Food Safety Education | Fight BAC!](#) Accessed 2/28/21
- ▶ Oncology Nutrition, a practice group of the Academy of Nutrition and Dietetics Carcinoid and Diet Accessed [Carcinoid Syndrome & Diet - Oncology Nutrition DPG](#) Accessed 2/28/21
- ▶ Oncolink Nutrition for persons with Neuroendocrine (Carcinoid) cancer [Nutrition for People with Neuroendocrine \(Carcinoid\) Tumors | OncoLink](#) Accessed 2/28/21
- ▶ Clinical Trials.gov Phase II clinical trials of enterade in Neuroendocrine cancer [Enterade in Carcinoid/Non-Carcinoid Syndrome Neuroendocrine Tumor Patients With Quality of Life Limiting Bowel Frequency - Full Text View - ClinicalTrials.gov](#) Accessed 2/28/21
- ▶ Carcinoid.org Neuroendocrine Conference, 2017 Burns, Leigh Ann, RD New Jersey Deciphering Diarrhea https://youtu.be/5vLPIQT_4BY Accessed 3/1/21
- ▶ The Carcinoid Cancer Foundation, 2008, Warner, Monica RD Additional resources about nutrition and diet <https://www.carcinoid.org/for-patients/general-information/nutrition/nutritional-concerns-for-the-carcinoid-patient-developing-nutrition-guidelines-for-persons-with-carcinoid-disease/> Accessed 3/1/21
- ▶ Altieri B, Barrea L, Modica R, Muscogiuri G, Savastano S, Colao A, Faggiano A. Nutrition and neuroendocrine tumors: An update of the literature. Rev Endocr Metab Disord. 2018 Jun;19(2):159-167. doi: 10.1007/s11154-018-9466-z. PMID: 30267297.
- ▶ Kikut J, Jasińska A, Pobłocki J, Brodowski J, Małgorzata S. Assessment and State of Nutrition of Patients with Gastroenteropancreatic Neuroendocrine Neoplasms. Nutrients. 2020 Jun 30;12(7):1961. doi: 10.3390/nu12071961. PMID: 32630081; PMCID: PMC7400319.

Questions



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