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The following slides were presented during the *Nancy and Bill Norton Education Series* Event at the University of Michigan Food for Life Kitchen. To view this presentation and the all videos available during this program, please visit <http://bit.ly/NES2020MI>.

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Gut Matters 102: How the gut works in relation to food, nutrition basics

Amanda Lynett, RDN

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Overview

- Gain a better understanding of nutrition basics
- Macronutrients
- Micronutrients
- Recognize the relationship between different nutrients and GI symptoms



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What is Nutrition?

- Nourishment
- How foods affects the body
- Process of taking food and using it for growth, metabolism and repair



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Macronutrients

- Protein
- Carbohydrates
- Fat



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Macronutrients: Protein

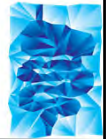
- Amino acids (essential amino acids)
- Growth and maintenance
- Repair
- Enzymes



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Macronutrients: Protein



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Macronutrients: Fats

- Provides structure and protection
- Energy reserve
- Aid in absorption of fat-soluble vitamins



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Macronutrients: Fats



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Macronutrients: Carbohydrates

- Provides energy & fuel
- Sugars
- Starch
- Dietary Fiber



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Macronutrients: Carbohydrates



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A Little more on Fiber....

Type of Fiber	Food Examples	Functions in Digestive health
Insoluble, poorly fermented, nonviscous fibers	Wheat bran, whole grains, nuts, flax	Increases stool mass, increased water secretion and peristalsis
Soluble, fermentable, nonviscous fibers	Chicory root, onion, Jerusalem artichokes, cooked and cooled potatoes and pasta	Increases stool bulk through increased biomass and fermentation by-products; metabolized by gut microbiota producing SCFA
Soluble, fermentable, viscous fibers	Berries, bananas, oats	Slow transit time, gel-forming, help normalize stool consistency
Soluble, poorly fermented viscous fiber	psyllium	Forms stool into a gel and remains viscous throughout the large intestine because it resists fermentation



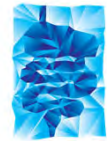
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Micronutrients: Vitamins

- Fat soluble and water soluble
- Aid in many functions:
 - Energy production
 - Build proteins, bones and cells
 - Make collagen
 - Immunity, eye and skin health
- Cooking and storage can decrease nutrient value



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Micronutrients: Minerals

- Regulation of water within the body
- Help with skeletal structure and cardiovascular health



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So why is knowing the basics on nutrients important??



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Nutrition Basics in Relation to GI Conditions

- Gastroparesis – Fiber (carbohydrate), Fat
- IBS - Short-chain carbohydrates
- Exocrine Pancreatic Insufficiency – Fat Soluble Vitamins



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Thank you!



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