The Gut’s Effect on Weight and Metabolism

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Low-Carb Breckenridge, 2017
Disclosures

I have no financial interest or affiliation concerning material discussed in this presentation.
Functions of Short-Chain Fatty Acids (butyrate, acetate, propionate)

- Provide extra calories extracted from fiber (6-10% daily)
- Increase satiety so YOU can consume less
- Produce energy for enterocytes
- Improve insulin sensitivity
- Enhance immune system (especially butyrate!)
The Deep South

Percentage of obesity in U.S., 2010

Antibiotic prescriptions per 1,000 people, 2010

Source: CDC


www.motherjones.com/environment/2013/11/maps-antibiotics-prescriptions-obesity-states
SCIENCE!

Experiment 1
“Fiber may decrease food intake, slow down food’s absorption in the stomach and small intestine, and then help it exit quickly through the large intestines, all of which are potentially beneficial in treating obesity.” – Dr. Jason Fung
Comprehensive Stool Evaluation after *low-fiber* ketogenic diet
Discussion

• Ancestral gut = diverse species—Should we try to replicate?
• Role of the small intestine
• Is more **better** when it comes to fiber?
  – Rare few do best on zero fiber
• Fecal microbiota transplant?
High Fiber/Low Carb Vegetables

• Artichoke
• Onion
• Garlic
• Broccoli
• Cauliflower
• Leeks
• Avocado
• Zucchini
• Cabbage
• Lettuce/Spinach
• Swiss Chard
• Asparagus
• Fennel
• Celery
• Brussel sprouts
• Mushrooms

Steps for a Healthy Gut

• Weed the garden for 4 weeks: Low Carb AND Low Fiber
• Add in vegetables high in prebiotic fiber to feed your flora
• Count net carbs, not total
• Avoid antibiotics unless necessary, including in food and water
• Avoid C-sections unless necessary and breastfeed whenever possible over formula
• Avoid a sterile environment!
References

- Hartstra AV, Bouter KEC, Backhed F, Nieuwdorp M. Insights Into the Role of the Microbiome in Obesity and Type 2 Diabetes. *Diabetes Care*. 2015; Volume 38, Issue 1:159-165.