



Perspectives on Nutrition: Connecting Food, Health and the Future

August 23, 2012

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UNDERSTAND VARIABILITY IN RESPONSES TO DIET AND FOOD

- 1) Genome- Environmental Interactions Across Age Span.
- 2) Besides Nutrients and Calories, need to Understand Role of Intestinal Bacteria (Microbiome) in Affecting Host's Metabolic Response.



MICROBIOME

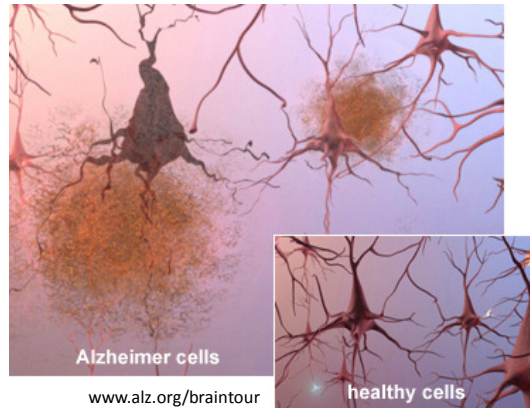


NUTRITION IN AGE RELATED DEMENTIAS

- 1) Role in Prevention
- 2) Role in Delaying Disease Progression
- 3) Role in Improving Response to Therapy
- 4) Clues: EFAs, Vitamin D, B Vitamins.
 - Flavonoids- How Do These Affect
 - Neural Biochemistry, Brain
 - Inflammation, Brain Function?



Microscopic illustrations of Alzheimer's tissue with plaques and tangles



ALZHEIMER'S DISEASE

- 5.4 MILLION Americans
- 6th leading cause of death
- Payment's for care= \$200 billion/year
- Also consider hidden costs of unpaid care, other dementia types.



INVEST IN NUTRITIONAL BIOINFOMATICS

- Incorporate nutritional (dietary, biochemical) data into “omic” databases for longitudinal follow-ups.
- Build sample repositories (blood, urine etc.) so that in depth “after the fact” studies can be carried out (e.g. metabolomic).



50 YEAR OLD FEMALE WITH CHEST PAIN

- PE. BMI= 29 (borderline obese)
- Family history of obesity and heart attacks
- Diet: High fat and empty calories.
- Blood tests: mild elevation in cholesterol, inc BP, decreased HDL.
- Microbiome analysis: inc. firmacutes
- Genome analysis: Apo C will respond to low fat diet with increase in HDL; gene cassette: salt sensitive.
- RX: designer prebiotic, low fat and salt diet, lower dose medical therapy.

