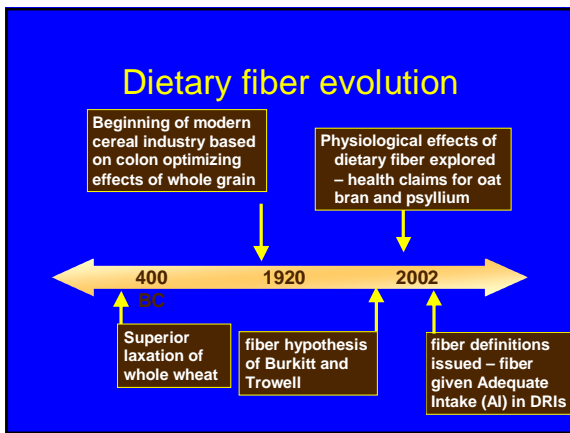
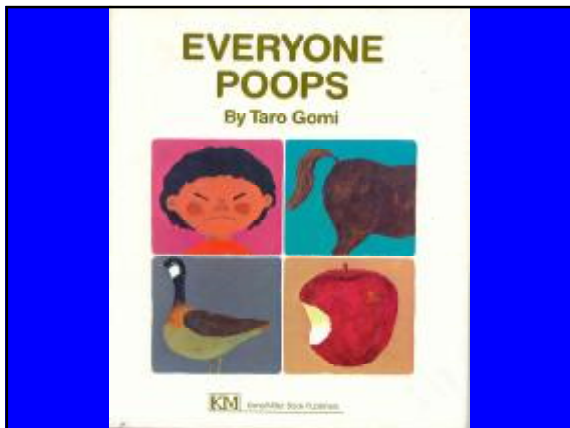


Fiber research update

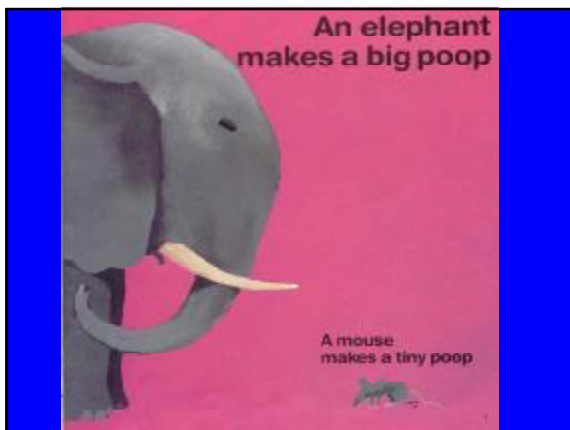
Joanne Slavin, Ph.D, R.D.
Department of Food Science and
Nutrition
University of Minnesota

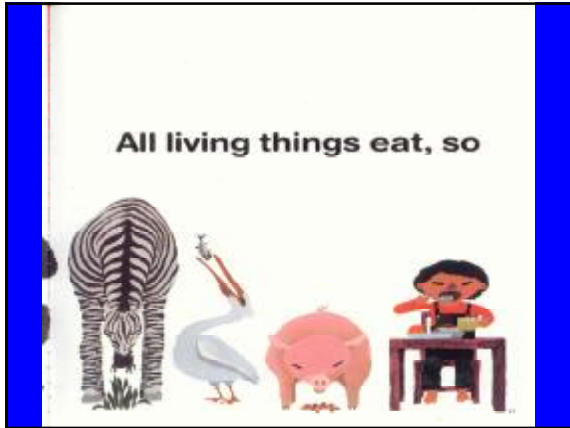




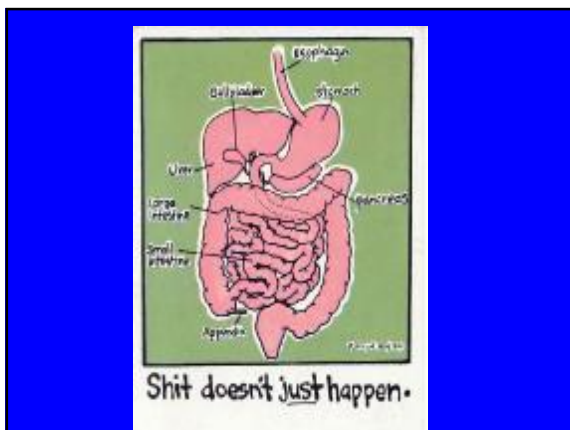












Defining normal laxation

- Less than 3 stools per week or more than 3 stools per day
- Stool weight greater than 200 g/day is clinically defined as diarrhea, but many vegetarians have stool weights of 300 g/day or more
- Gastroenterology 1999;116:1464

Non-dietary factors that affect laxation

- Stress
- Exercise (Oettle. *Gut* 1991;32:941)
- Smoking
- Coffee drinking
- Drugs (laxatives) (Lembo A, Camilleri M. *New Eng J Med* 2003;349:1360)
- Personality (Tucker et al. *Gastroenterology* 1981;81:879)

Not all fiber is created equal

- Wheat 5.4 g/g fiber fed
- Oats 3.4 g/g fiber fed
- Pectin 1.2 g/g fiber fed
- Cummings JH. 1993. CRC Handbook of Dietary fiber in Human Nutrition

Limitations to fecal samples

- Not practical in epidemiological studies
- No accepted standard
 - Stool weight
 - Stool chemistry
 - Microflora – methods, what is best
 - Stool frequency (easy to collect)
 - Quality of life (used in IBS trials)

Research progress: Dietary fiber and C-reactive protein

- NHANES 1999-2000 – dietary fiber intake was inversely associated with serum CRP – odds ratio for increased CRP was 0.49 for highest quintile of fiber intake compared with lowest (Ajani et al. *J Nutr* 2004;134:1181)
- Dietary fiber intake is protective against high CRP in longitudinal study of 529 subjects (Ma et al. *Am J Clin Nutr* 2006;83:760)

Summary

- 12 research recommendations are major knowledge gaps and highest priority
- Little progress has been made on these recommendations
- Accomplishing these studies will take dedicated research funding since the research needs would not be funded in the competitive research arena
