

Nutrition – does it Really Matter?

Primary Prevention of Chronic Diseases through Diet and Lifestyle

VHLFA Family Meeting

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1: Use Nonfat Products

To reduce your fat intake:

Eat more fruits, vegetables, and their juices. Most are naturally low in fat...and high in vitamins and minerals.

Here are some other ways to reduce fat in your food.

TRY

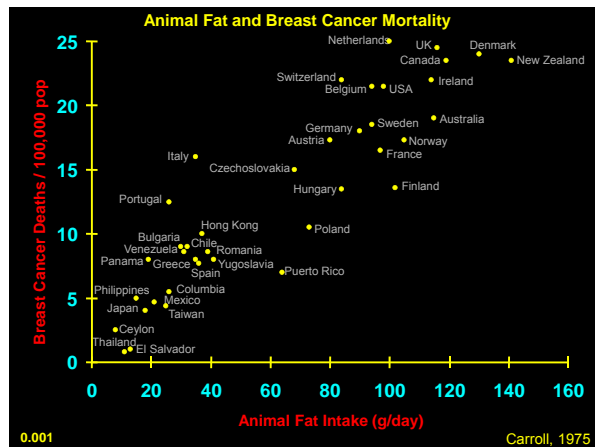
Butter-flavored granules
Nonfat yogurt
Nonfat salad dressings
Angel food cake
Fat-free cookies and crackers



INSTEAD OF

Butter or margarine
Regular yogurt
Regular salad dressings
Devil's food cake
High-fat cookies and crackers

9.071



Effect of Trans and Saturated Fat (10% E) on Blood Lipids (vs Monounsaturated fat)
(Mensink & Katan, 1990)

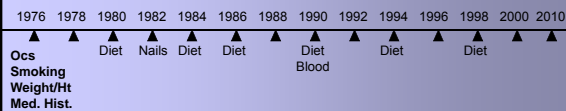
	<i>Trans fat</i>	<i>Saturated fat</i>
Total cholesterol	+6%	+12%
LDL cholesterol	+14%	+18%
HDL cholesterol	-12%	0%
LDL/HDL ratio	+29%	+18%

9.110

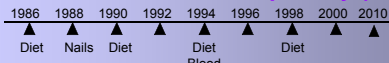


8.118

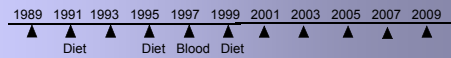
Nurses' Health Study (n=121,700)



Health Professionals Follow-up Study (n=52,000)



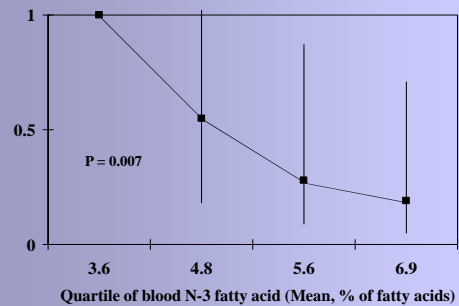
Nurses' Health Study II (n=116,000)



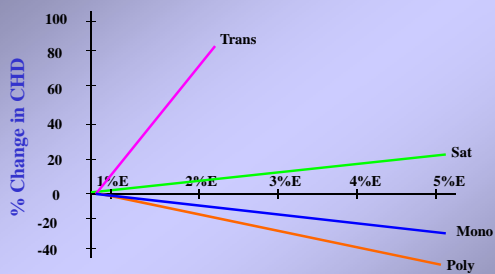
Investigators: Frank Hu, Frank Speizer, Bernie Rosner, Meir Stampfer, Graham Colditz, David Hunter, JoAnn Manson, Sue Hankinson, Eric Rimm, Edward Giovannucci, Alberto Ascherio, Gary Curhan, Charlie Fuchs, Fran Grodstein, Michelle Holmes, Frank Hu, Donna Spiegelman, Walter Willett

0.198a

Multivariate Relative Risk of Sudden Death
(Albert et al., 2002)



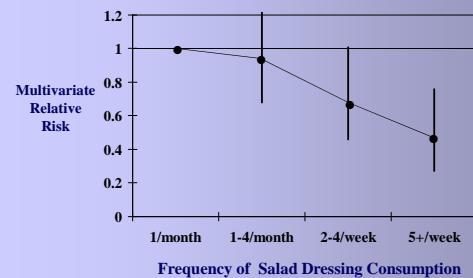
9.129



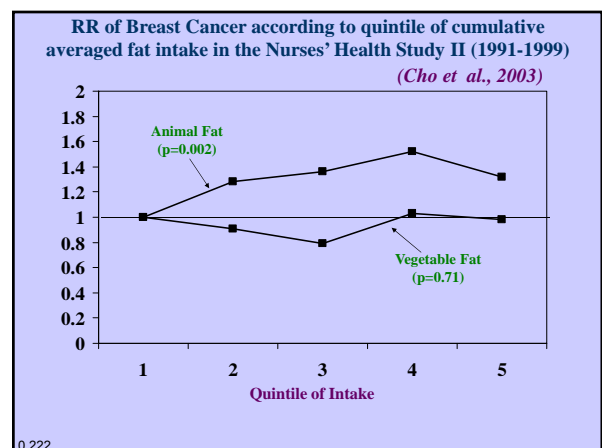
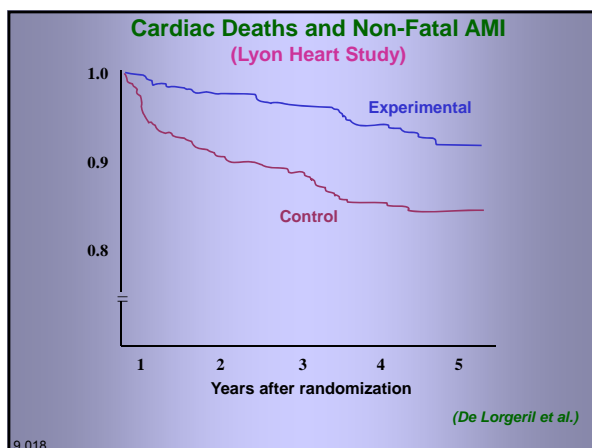
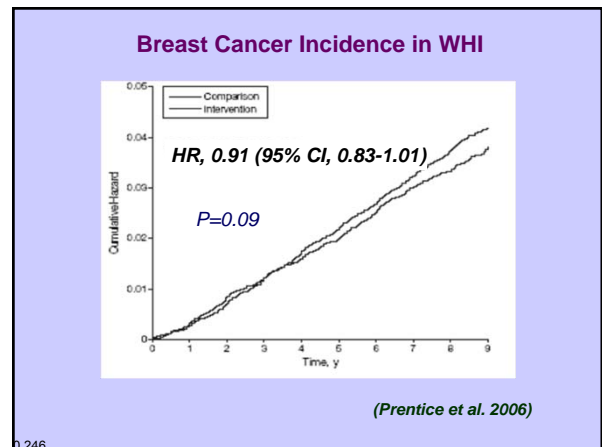
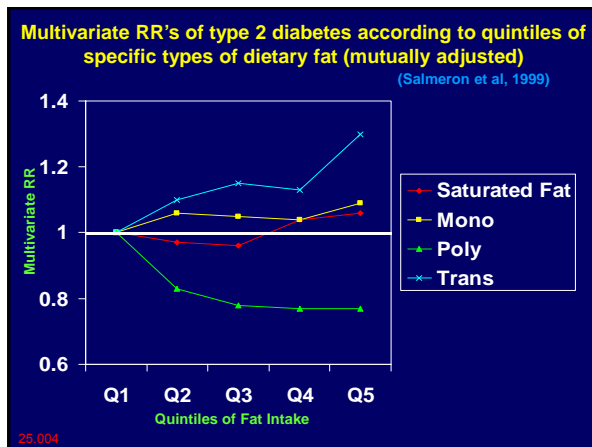
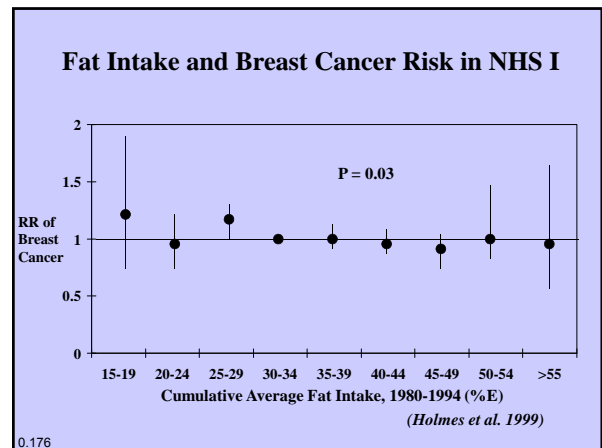
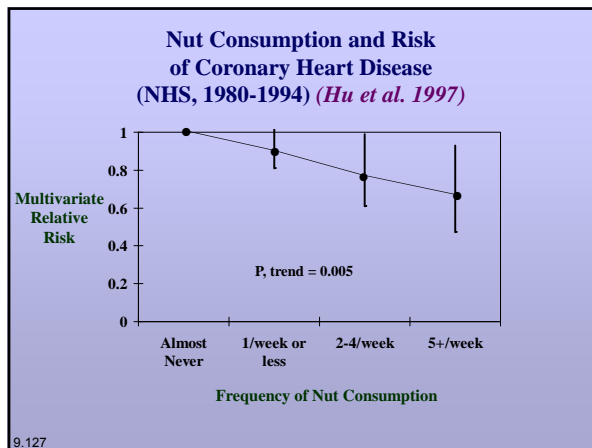
(Hu et al. 1997)

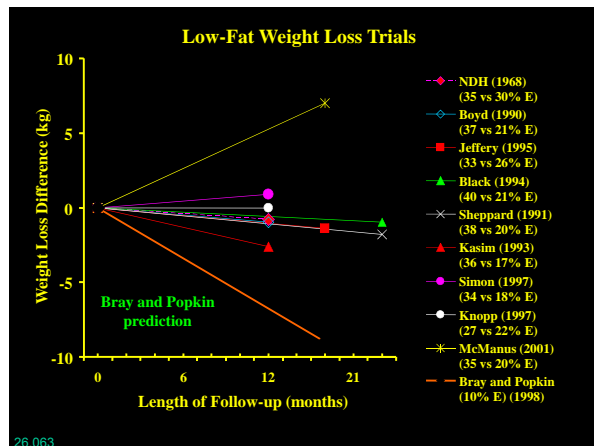
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Oil and Vinegar Salad Dressing and Risk of Coronary Heart Disease
(NHS, 1980-1994) (Hu et al. 1992)



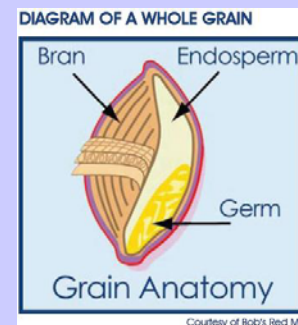
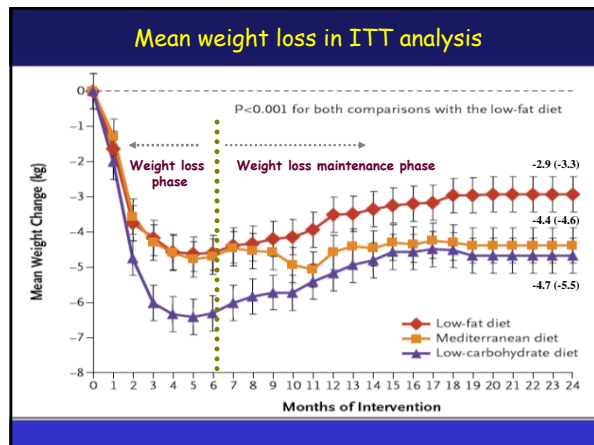
9.126





Carbohydrate Types

- Traditional classification focuses on chemical structure
 - mono-, di-, and polysaccharides or simple/complex
- New classification emphasis on biological effect of whole food
 - Glycemic index
 - Whole vs refined grains

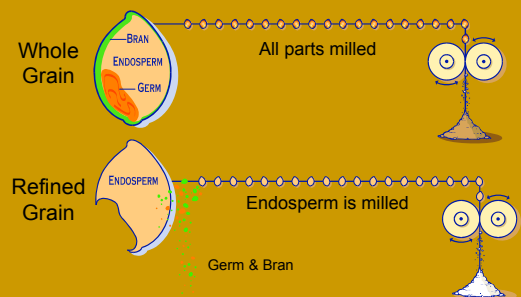


Conclusions

- CHD rates can be dramatically reduced by nutritional means, but this will not be achieved by replacing saturated fat with carbohydrate.
- We should abandon recommendations regarding % of energy from fat and avoid pejorative references to fat or "fatty foods".
- Advice about dietary fat should focus on replacement of saturated and trans fat with vegetable oil, including sources of N-3 fatty acids.

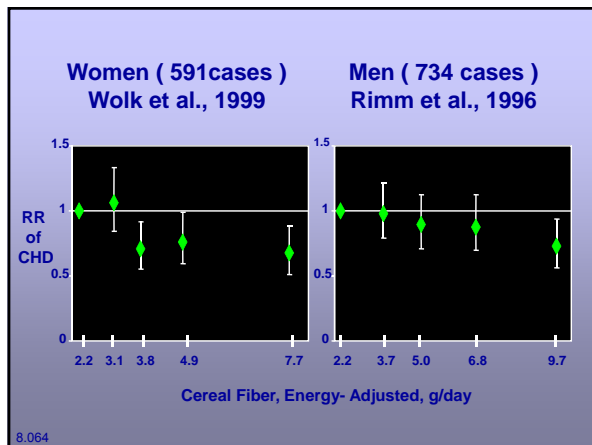
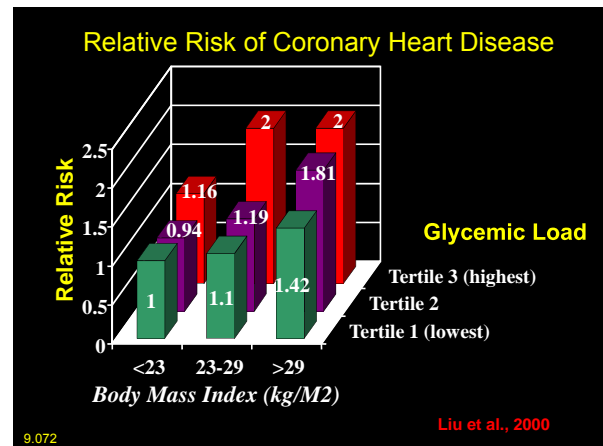
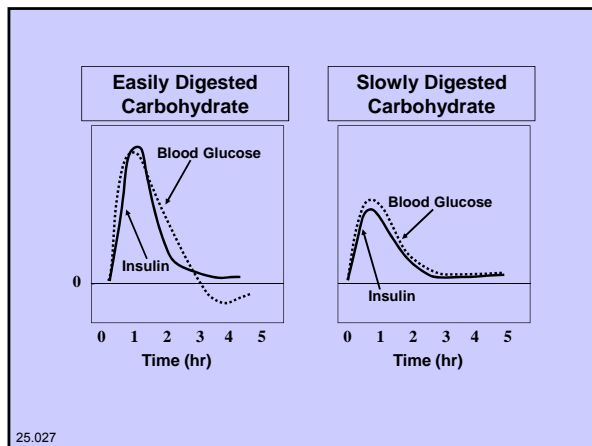
9.062

Milling of Grains



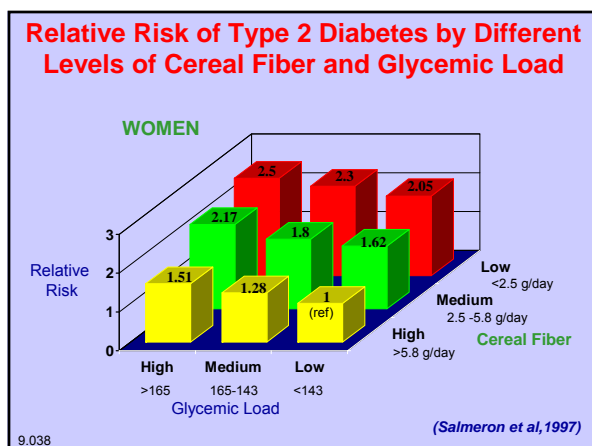
Source: General Mills

29.295



Alcohol and Morbidity

- Alcoholism
- Accidents
- Domestic Abuse
- Violence



What's Moderate Drinking?

Women: No more than 1 drink a day

Men: No more than 2 drinks a day

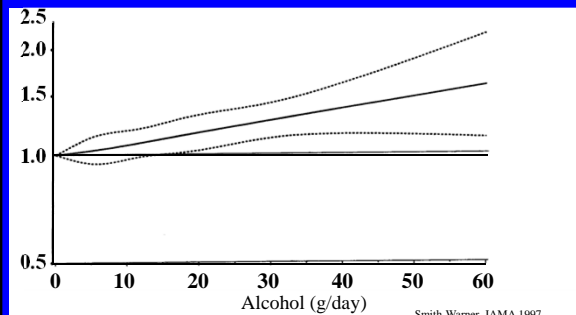
Count as a drink...

12 ounces of regular beer

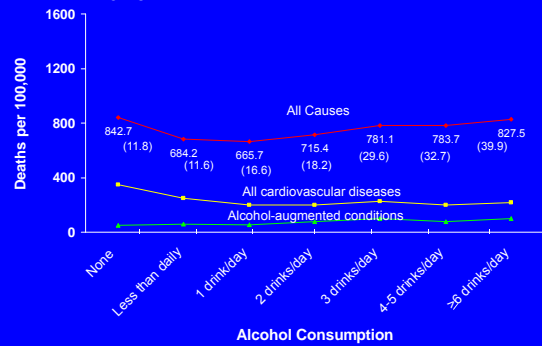
5 ounces of wine

1.5 ounces of 80-proof distilled spirits

Relationship Between Total Alcohol and Invasive Breast Cancer



Women



American Cancer Society Cancer Prevention Study II

490,000 Men and Women

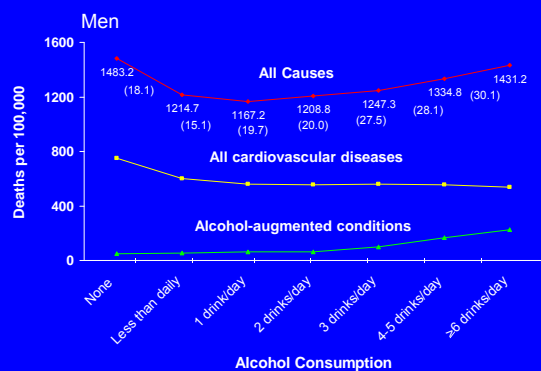
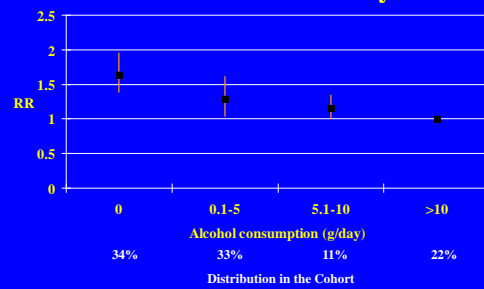
30-104 yrs

1982-1991

46,325 deaths

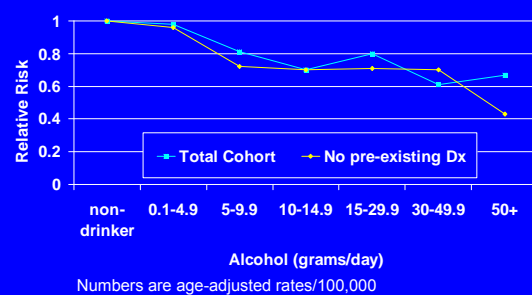
Thun et al., NEJM, 1997

Multivariate Relative Risk for Coronary Disease by level of Alcohol intake: Nurses' Health Study

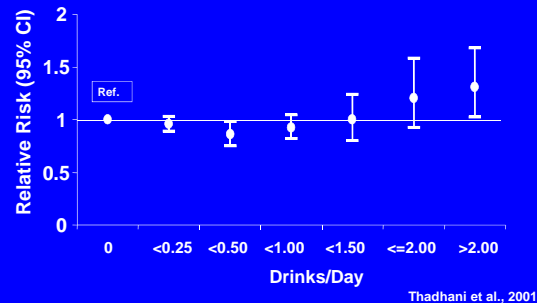


Alcohol and CHD

Health Professionals Follow-up Study
6-Year Follow-up 1986-1992



A Ten-year Prospective Study of Alcohol and Hypertension Among 70,891 Women, Ages 24-42, in the Nurses' Health Study II



Attributable Risk of Coronary Heart Disease Due to Modifiable Diet and Lifestyle Risk Factors in the NHS (1980 to 1994)

Low Risk:

1. Non smoker
2. BMI < 25 kg/m²
3. Exercise ≥ ½ hr of brisk walking/day
4. Good diet (upper 2 quartiles of score based on low *trans* fat, high p/s ratio, low glycemic load, high cereal fiber, high fish, high total folate)
5. Alcohol 5+g/day

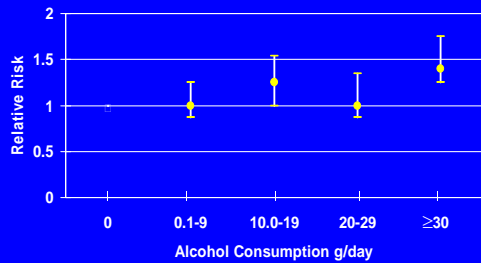
• Proportion at low risk = 3.1%

• Population Attributable Risk = 82% (95% CI = 58-93%)

Stampfer et al, 2000

9.092

Relative risk of hypertension by alcohol consumption, HPFS 1986-90



RISK OF CHD IN LOW-RISK GROUPS AMONG NONSMOKERS IN THE NURSES' HEALTH STUDY, 1980-1994

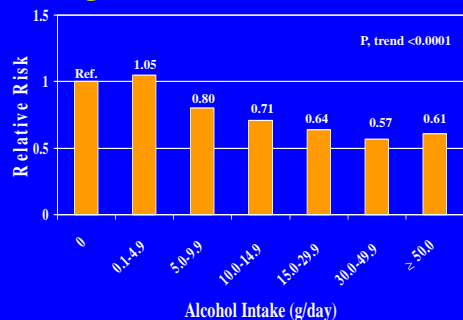
FOUR LOW RISK FACTORS

1. Diet score in upper 2 quintiles
2. Moderate to vigorous exercise ≥30 min/day
3. Body-mass index < 25
4. Alcohol ≥ 5 g/day

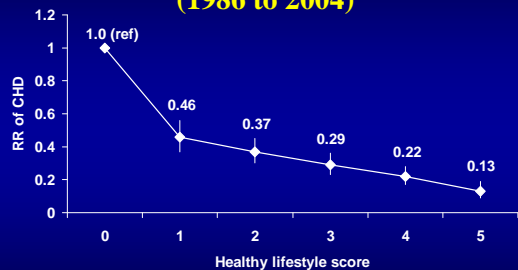
Percentage of Women in Group	No. of CHD Events	Relative Risk (95% CI)	Population Attributable Risk (95% CI)
4.0	5	0.25 (0.10-0.60)	74 (39-90)

Stampfer, NEJM 2001

Alcohol and Type 2 Diabetes Among Male Health Professionals

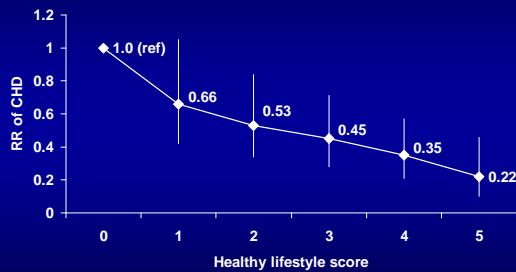


Modifiable Risk of Coronary Heart Disease Health Professionals Follow-up Study (1986 to 2004)

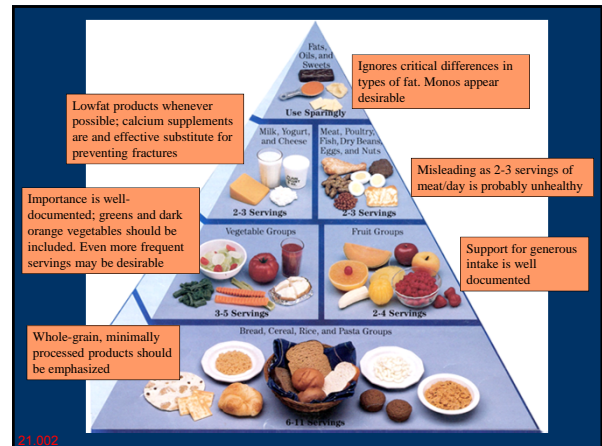


Chiuve S ... Rimm E Circulation 2006

Modifiable Risk of Coronary Heart Disease Only Among men on BP or Cholesterol Medication (1986 to 2004)



Chiuve S ... Rimm E Circulation 2006



21.002

Percentage of Type 2 Diabetes Potentially Preventable by Simultaneous Reduction of Five Modifiable Risk Factors (NHS) (Hu et al.)

Low Risk

1. Nonsmoking
2. BMI < 25
3. Moderate to vigorous exercise
4. Diet score in upper 40% (low trans fat, high cereal fiber, low glycemic load, high P:S ratio)
5. Alcohol 5+ grams/day

Percent in low risk group: 4.1%

Population attributable risk (PAR): 92% (82-96)

25.026R



21.090

Proportion of Colon Cancers that are Potentially Preventable by Simultaneous Reduction of 6 Modifiable Risk Factors (HPFS) (Platz et al. 2000)

Low Risk

1. BMI ≤ 25 kg/m²
2. Physical activity ≤ 30 min/day of vigorous – moderate activity
3. Alcohol < 15 g/day or 15-30 g/day with supplemental folic acid
4. Folic acid supplement of ≥ 100 µg/day
5. ≤ 3 pack – years of smoking
6. Red meat ≤ 2 servings/week

Joint low risk group = 3.1% of population

Population attributable risk (PAR): 71% (33-92)

2.116R



