Disease risk at 65 years:

Heart disease: 1 in 3
Cancer: 1 in 5
Diabetes: 1 in 6
Alzheimer’s: 1 in 20

Overweight/obese: 2 in 3
Tip #1: Eat fish (2x/wk)

Death Rate Ratio
Heart Disease
Regular meat eaters
Occasional meat eaters
Fish eaters
Vegetarians

All Cause
Regular meat eaters
Occasional meat eaters
Fish eaters
Vegetarians

34% lower risk
18% lower risk

American Journal of Clinical Nutrition 1999;70:516S
Fish consumption and Risk of All Cause Dementia

20-31% lower risk

Never or <1/week
Once per week
2-3 times/week
≥4 times/week

Neurology. 2007;69:1921
The American Heart Association recommends eating fish (particularly fatty fish) at least two times (two servings) a week. Each serving is 3.5 ounce cooked, or about ¾ cup of flaked fish. Fatty fish like salmon, mackerel, herring, lake trout, sardines and albacore tuna are high in omega-3 fatty acids.

http://www.americanheart.org/

2006
Committee on Research on Psychiatric Treatments of the American Psychiatric Association:

The preponderance of epidemiologic and tissue compositional studies supports a protective effect of omega-3 EFA intake in mood disorders.
High intakes of fish associated with risk for type 2 diabetes

FIGURE 1. Long-chain omega-3 fatty acid intake and pooled multivariate relative risks (RR) of type 2 diabetes mellitus (DM)
Tip #2: Eat nuts (5x/wk)

**HEART DISEASE**

Frequency of nut consumption and coronary heart disease risk reduction

40% lower risk

American Journal of Clinical Nutrition 2009;89:1643S
Risk for Type 2 Diabetes in Women

Nut consumption

- Never
- <1/week
- 1-4 times/week
- ≥5 times/week

Nut butter consumption

- Never
- <1/week
- 1-4 times/week
- ≥5 times/week

29% lower risk
19% lower risk

JAMA. 2002;288:2554
Vinegar and Peanut Products Reduce Postprandial Glycemia
Almond ingestion at mealtime reduces postprandial glycemia and chronic ingestion reduces hemoglobin A$_{1c}$ in individuals with well-controlled type 2 diabetes mellitus.

*Metabolism* 2011;60:1312-1317
Risk for Obesity

- Total nuts
  - 0 x/mo
  - 1-3 x/mo
  - ≥2 x/mo

- Peanuts
  - 0 x/wk
  - 1-3 x/wk
  - ≥2 x/wk

- Tree nuts
  - 0 x/mo
  - 1-3 x/mo
  - ≥2 x/mo

American Journal of Clinical Nutrition
2009;89:1913

- 20% lower risk
- -15%
- -33%
Weight loss with daily almond consumption in individuals with type 2 diabetes

Metabolism 2011;60:1312-1317
Tip #3: Eat ample amounts of colorful F&V

**HEART DISEASE**

20% lower risk

vegetable, legumes, fruit (servings/day)

cause of death

vegetable, legumes, fruit (1 serving/d)

Journal of Nutrition 2008;138:775-81
Tip #4: Consider supplementing Vitamin C

plasma vitamin C levels reduced as body mass increases
**Vitamin C supplementation and fat oxidation during exercise**

Plasma vitamin C

Baseline         Week 4

Fat oxidation during exercise

Baseline         Week 4

*Vitamin C*  *Placebo*

Nutrition & Metabolism 2006;3:35
Cold incidence over 4 years in individuals ingesting vitamin C (500 mg/d) or placebo (50 mg vitamin C/d)

Figure 2  Common cold incidence, by supplementation group, during vitamin C supplementation.

European Journal of Clinical Nutrition  2006;60:9
Tip #5: Use vinegar as a condiment daily

Brief report

Preliminary evidence that regular vinegar ingestion favorably influences hemoglobin A1c values in individuals with type 2 diabetes mellitus

Carol S. Johnston*, Andrea M. White, Shannon M. Kent

Department of Nutrition, Arizona State University, 6950 E. Williams Field Road, Mesa, AZ 85212, United States

Controls (n=8)

Insulin resistant (n=11)

Type 2 diabetes (n=10)

Incremental glucose (mmol/L)

p=0.117

p=0.014

p=0.149
α-Glucosidase inhibitor Acarbose therapy versus placebo in diabetics

-10% -15%

Acarbose 25 mg t.i.d. (n=86)
Acarbose 50 mg t.i.d. (n=88)

Vinegar or sodium acetate therapy versus placebo in diabetics

-17%

Acta Diabetologia 1998;35:34-40
Annals of Nutrition Metabolism 2010;56:74-79
Medicinal Foods
to Beat the Odds

Fish
Nuts
Vegetables/Fruit/Legumes
Vitamin C
Vinegar

Thank you!