

DIET/HEALTH RELATIONSHIPS



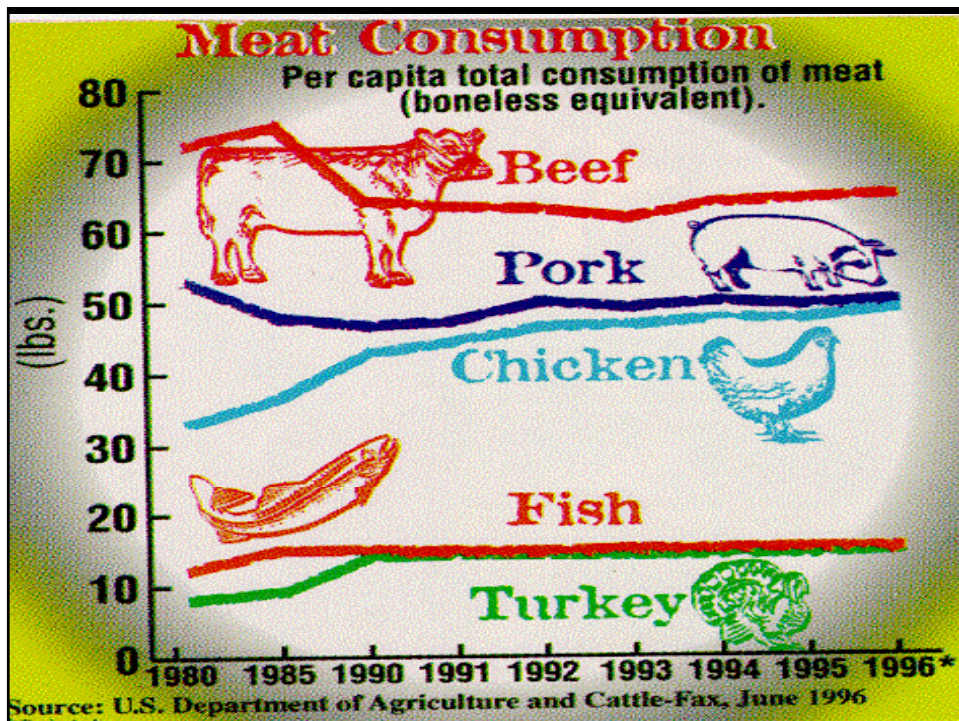
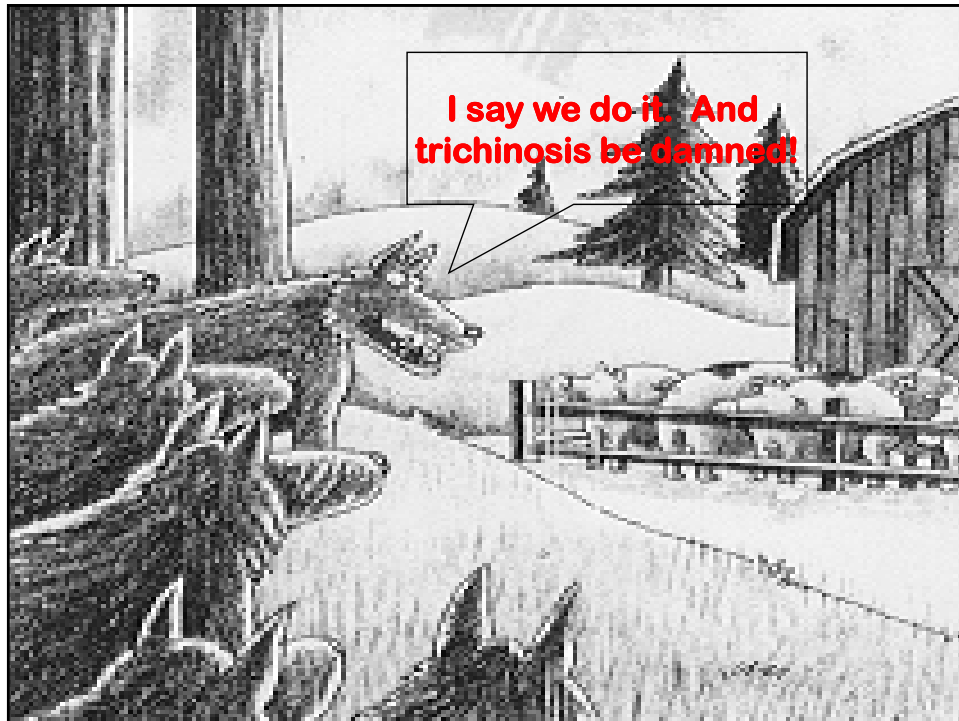
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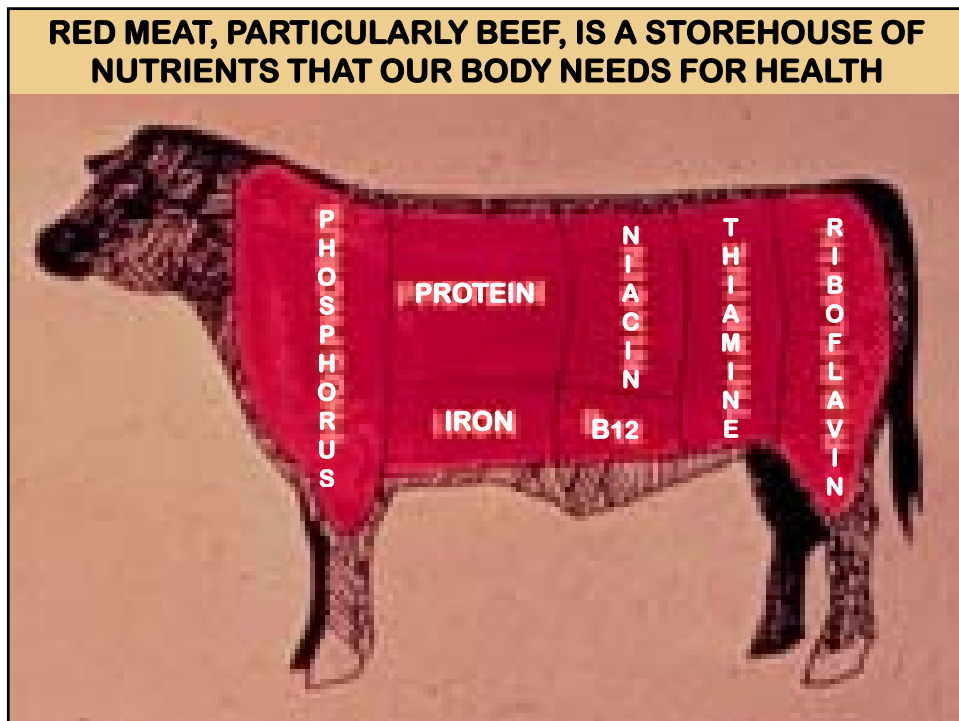
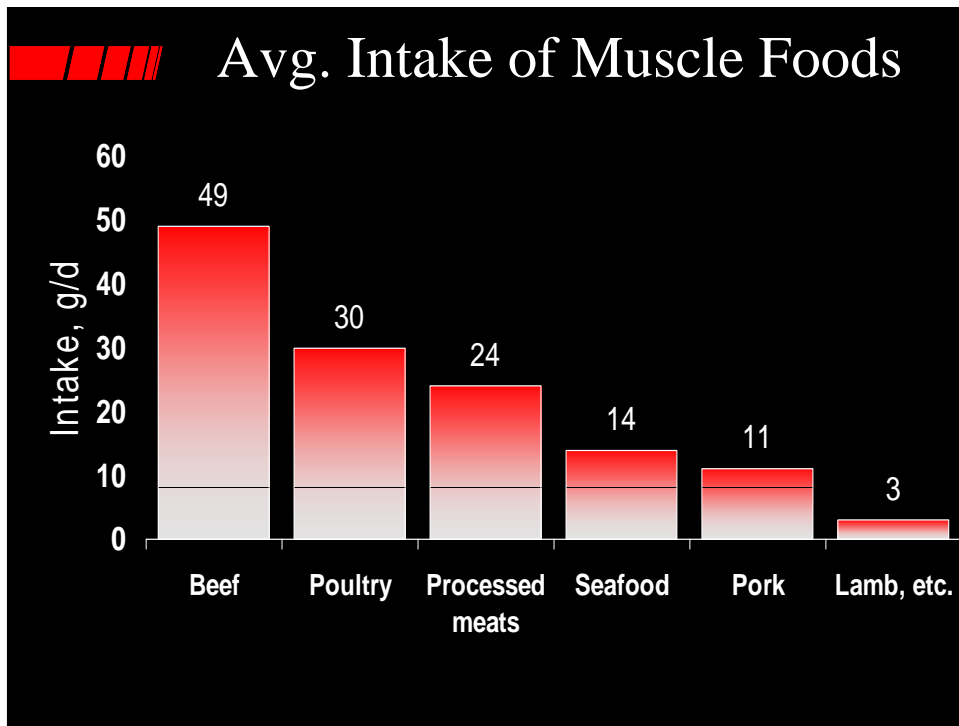
DR. C. BOYD RAMSEY

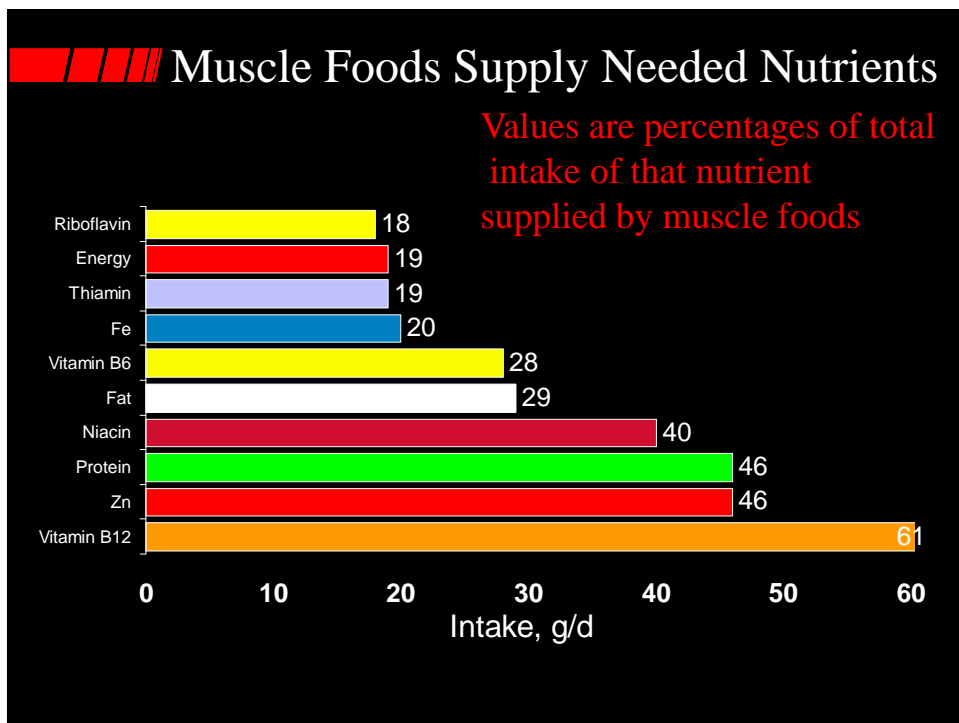
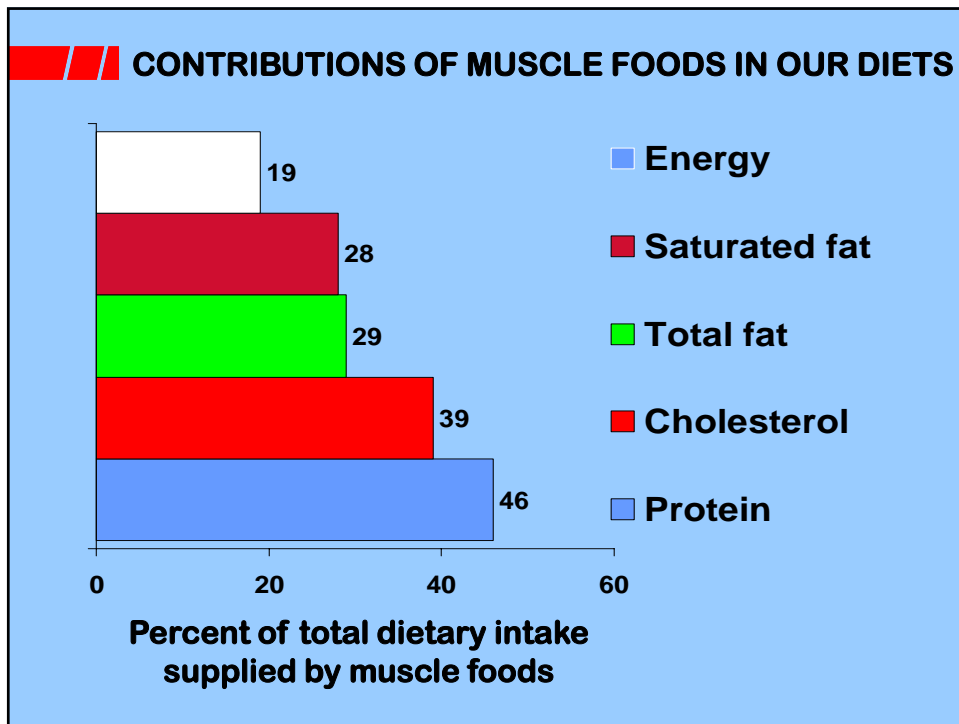
PROFESSOR EMERITUS

OBJECTIVE

To show from research data how lifestyle and the composition of human diets do or do not affect the incidence of the two largest killers of people - heart diseases and cancers.







Fatty Acid Intakes

Kind of meat	Saturated	Monounsatur.	PUFA
Beef	3.2	3.5	.3
Processed	2.2	2.8	.6
Pork	1.0	1.3	.3
Poultry	.9	1.2	.7
Lamb, etc.	.1	.1	0
Seafood	.1	.1	.1

Recommended and Actual Intakes of Four Components

Dietary component	Recommended	Actual	Actual from muscle foods
Fat, % energy	30	34	11
LESS THAN A THIRD FROM MUSCLE FOODS			
Sat. fat, % energy	10	13	4
LESS THAN A THIRD FROM MUSCLE FOODS			
Cholesterol, mg/d	300	279	110
LESS THAN 40% FROM MUSCLE FOODS			
Sodium, mg/d	2,400	2,899	438
ONLY 15% FROM MUSCLE FOODS			

Why then does meat get “labeled” by the general public as a “bad food?”

Perceptions of Beef/Chicken/Pork



DO CONSUMERS' PERCEPTIONS MATCH THE FACTS?

	Beef	Chicken	Pork	Beef vs. Chicken
Wholesome				
No harmful bacteria	65	53	45	+ 12
No additives/chemicals	56	65	47	-9
Health				
Highly nutritious	64	80	48	-16
Not too much fat	56	76	40	-20
Not too high in cholesterol	46	77	36	-31
Price/value				
Not a lot of waste	69	68	50	+ 1
Worth the price	60	80	50	-20
Reasonably priced	52	78	47	-26

COMPOSITION OF COOKED BEEF AND CHICKEN SOURCE: NATIONAL ACADEMY OF SCIENCES

TRAIT	TRIMMED CHOICE GRADE BEEF	LEAN, SKINNED CHICKEN
CALORIES/100 G	225	239
PROTEIN, G	30.4	27.3
MONOUNSATURATED FATTY ACIDS, G	4.6	3.0
SATURATED FATTY ACIDS, G	4.1	3.8
DO THESE DATA SHOW THAT CHICKEN IS A HEALTHIER MEAT THAN BEEF?		
IRON, MG	3.2	1.3
ZINC, MG	7.1	1.9
CHOLESTEROL, MG	90	88

Deaths/100,000 in Blue-Collar Jobs

Rank	Job	No.
1	Timber cutters/loggers	129
2	Asbestos & insulation work	79
3	Structural metal work	72
4	Electric power line work	51
5	Firefighters	49
34	Butchers	14

**WHAT IS THE COMMON THREAD THROUGH
ALL OF THESE OCCUPATIONS?**

Deaths/100,000 in White-Collar Jobs

Rank	Job	No.
1	Airline pilots	97
2	Office helpers, messengers	14
3	Retail sales mgrs. & heads	12
4	Geologists	10
5	Agricultural scientists	9
32	Inspectors	4

Leading Causes of Death Overall

Cause	Deaths
Heart diseases	762,820
Cancers	477,190
Cerebrovascular diseases	149,220
Accidents	94,840

**LEADING CAUSE OF DEATH IN COLLEGE STUDENTS IS
AUTO ACCIDENTS - "SLOW DOWN AND LIVE!"**

1 of 3

Leading Causes of Death

Lung diseases	78,270
Pneumonia/flu	70,120
Diabetes	37,900
Suicide	30,980
Liver	26,050

2 of 3

Leading Causes of Death

Atherosclerosis	23,200
Kidney diseases	23,040
Homicide	20,580
Blood poisoning	19,810
Infant deaths	18,460

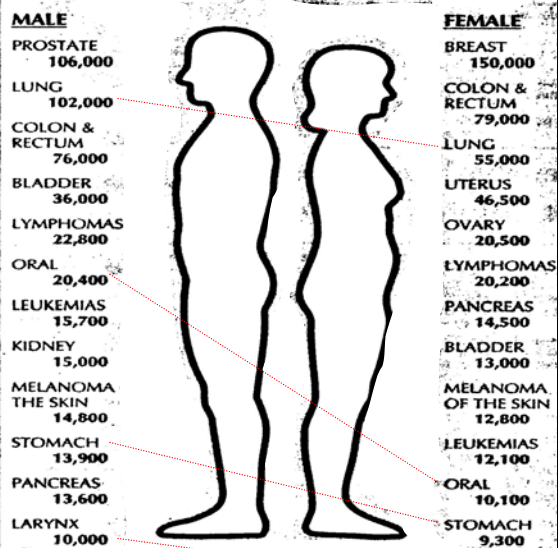
3 of 3

More Men Than
Women Have
Smoked

More Men Than
Women Have
"Dipped"

Can You See The
Effect In The Lung,
Oral, Stomach &
Larynx Data?

CANCER INCIDENCE BY SITE AND SEX*



*Excluding nonmelanoma skin cancer and carcinoma in situ.

From American Cancer Society's "Cancer Facts & Figures-1990"

Little Change in Survival Rate for Cancer Patients

Percentage Of Cancer
Patients Surviving 5 Yr.
Or More In 1970's And 1980's
By Year Of Diagnosis:

1 of 5

By increasing rate of percentage survival

Site	1974-6	1981-6
Pancreas	2.7	3.1
Liver	3.8	4.5
Esophagus	4.7	8.0
Lung	12.2	13.1
Stomach	14.9	17.0
Brain	22.1	24.8

2 of 5

Why so deadly?

1 of 4 or more chances to survive

Other lymphoma	24.3	50.8	
Leukemia	33.4	34.9	NS
Ovary	36.5	38.9	
Colon/rectum	49.3	55.5	
Kidney	51.4	52.6	NS
Oral cavity	52.9	50.9	NS
Larynx	65.3	67.0	NS

3 of 5

2 of 3 or more chances to survive

Prostate	66.5	73.3	
Cervix	68.3	65.8	
Hodgkin's	70.9	75.9	
Bladder	72.2	78.2	
Breast	74.0	76.6	
Testis	78.4	92.1	
Skin	79.2	81.1	

4 of 5



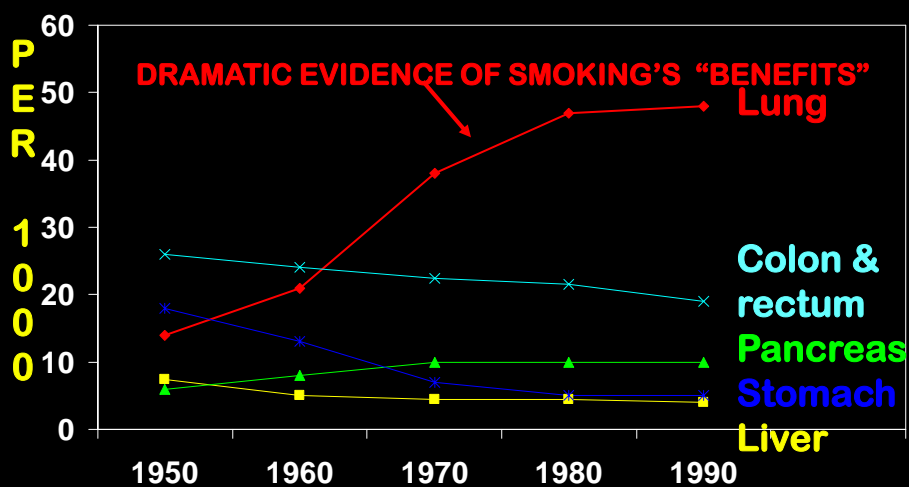
4 of 5 or more chances to survive

Uterus	88.2	82.6
Thyroid	91.8	94.2
All sites	49.0	50.7

Only Since 1996 Has The Death Rate From Cancer
Gone Down Enough To Talk About

5 of 5

Deaths from five cancers from 1950 to 1990; most cancers have about a 30-yr. lag period



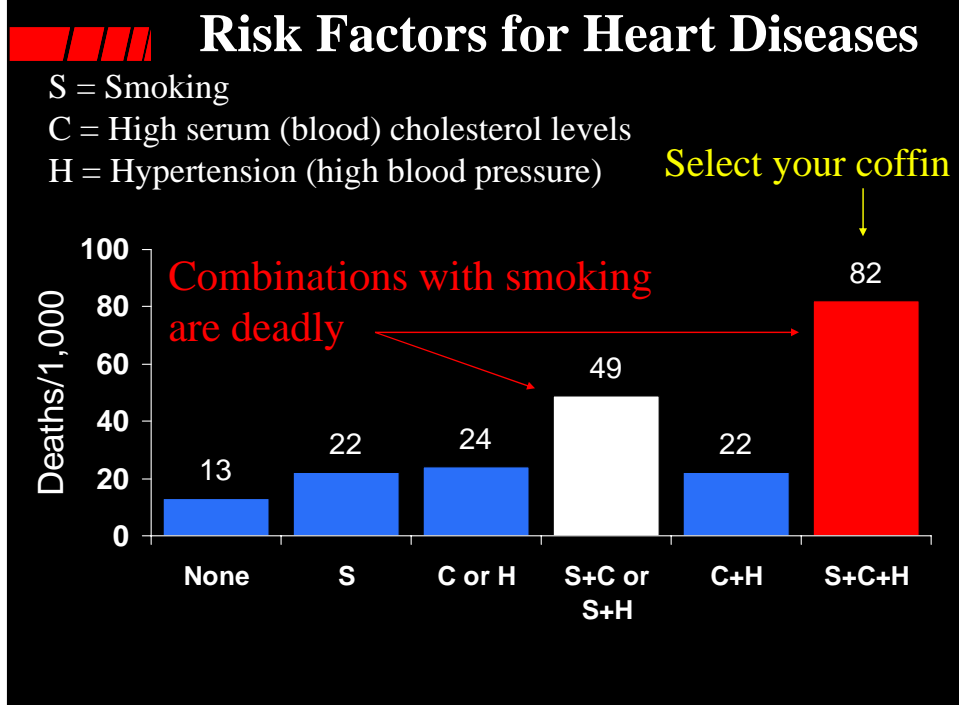


The average life span in the U.S. has risen from 47 in 1900 to about 75 today (From *Circulation*).

If our diet is so bad, how has this increase occurred?

Disease Elimination Adds Little to Lifespan

- BOSTON (AP) - Completely eliminating heart disease, the nation's leading killer, would increase the average 35-year-old American's life span by just three years, a new study concludes.
- Similar studies with cancer have concluded that life expectancy would increase about two years if that disease were conquered.



Coronary Heart Disease Risk Factors

YOU HAVE **NO** CONTROL OVER THESE FACTORS:

- Male Sex (But Post Menopausal Women Have The Same Rate Of Death From Heart Disease As Older Men)
- Family History Of CHD (Heart Attack Before Age 55 In Parent/Sibling)
- A History Of Cerebrovascular Or Occlusive Vascular Disease

1 OF 3

Coronary Heart Disease Risk Factors

You **Can** Control These Risk Factors Without Medical Help If You Have Enough Will Power:

- Smoking & Other Tobacco Use
- Exercise
- Severe Obesity: > 30% Overweight

Suppose You Weigh 195 But Should Weigh 150:

$$(195 - 150) / 150 = 30\%$$

On The Average, Weight Increases About 10 Lb. Per Decade Over Age 30

2 OF 3

Coronary Heart Disease Risk Factors

The Influence Of These Factors Can Be Lessened In Most People With **Medical Help**:

- Hypertension
- High LDL (“Bad”) Cholesterol
- Low HDL (“Good”) Cholesterol (Below 35 Mg/dl)
- Diabetes Mellitus

3 OF 3

TO LIVE A LONG LIFE, WE NEED TO BE ABLE TO PICK OUR PARENTS

**“Elevated Serum Cholesterol
Levels, As Well As Cancer Risks,
Are Determined In Large Part By
Nondietary Factors.” -**

**From Dr. Warren S. Browner, Univ. Of California
School of Medicine in JAMA, 1991**

HOW CAN YOU DECREASE YOUR CANCER RISK?

YOU HAVE CONTROL OF ALL OF THESE FACTORS:

- **Don't become overweight - excess weight increases the incidence of most cancers**
- **Don't use tobacco in any form**
- **Limit alcohol consumption - will reduce your risk of liver and G.I tract cancers, in particular**
- **Eat a higher proportion of foods with antioxidants that protect against cancers**

1 OF 2

HOW CAN YOU DECREASE YOUR CANCER RISK?

YOU HAVE CONTROL OF ALL OF THESE FACTORS:

- Eat diets higher in fiber - helps reduce colon cancer
- Exercise regularly
- **ALWAYS** use a sunscreen and **COVER UP** when you are in the sun to reduce your chances of skin cancer. Each sunburn increases your chances of getting skin cancer by a third!
- Have suspicious symptoms or growths checked immediately - early detection lets you live longer

2 OF 2

Study finds teen-agers ignore dangers of sun

CHICAGO (AP) — Teen-agers who most need sunscreens often neglect to use them, especially if their parents failed to insist they do so as children, a study suggests.

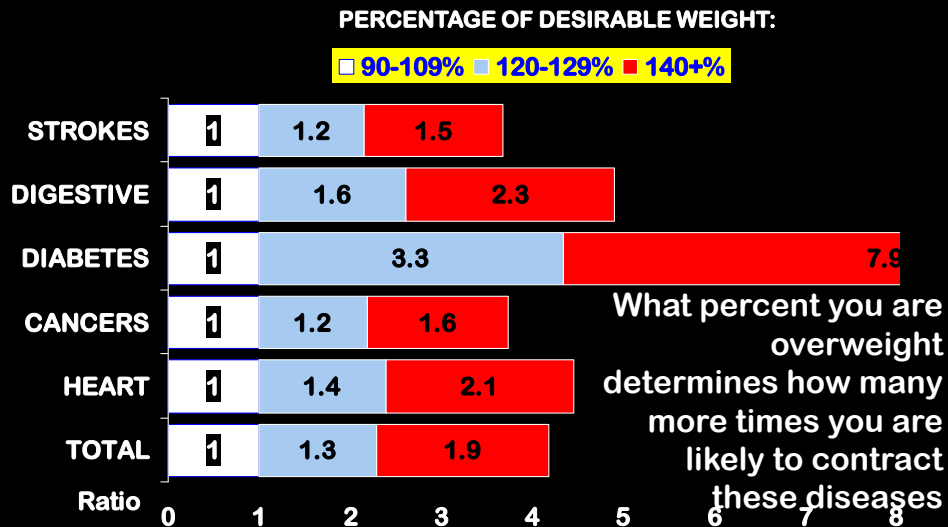
Eighty-one percent of 220 teen-agers surveyed said they spend most weekends in the sun, but only 9 percent always used sunscreen, and 33 percent never did, the researchers reported in the January issue of the

ing the findings are “a little bit depressing.”

Previous research has indicated a person under age 20 is harmed more by the sun than an older person, in terms of melanoma and other types of cancer, he said Monday.

Thirty-three percent of the teens in the study said they had experienced a blistering burn during the previous two summers.

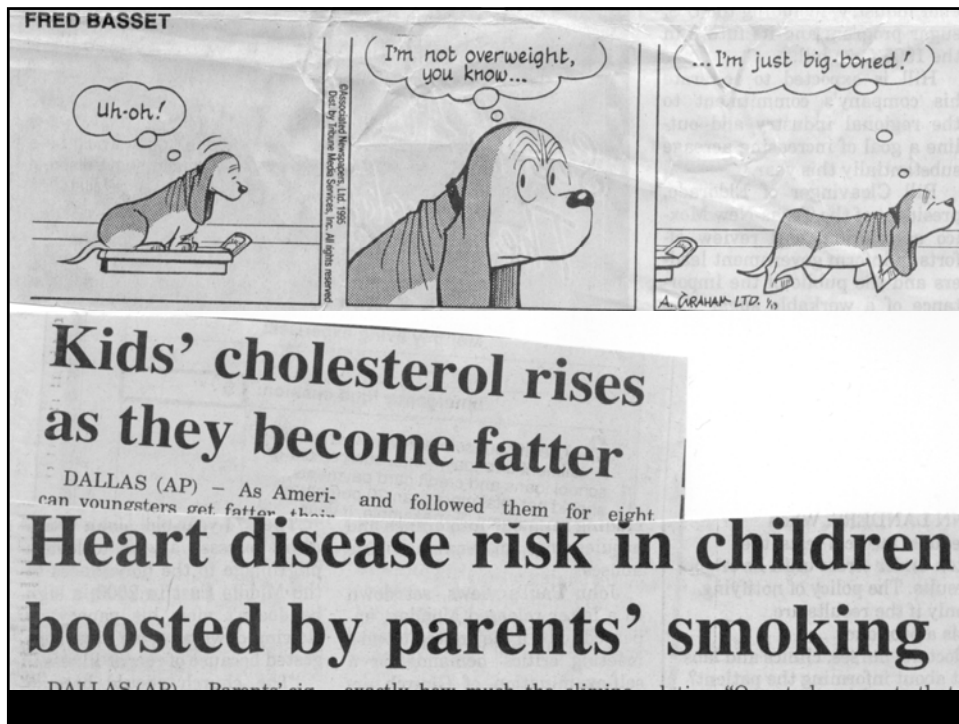
Effects of Body Weight on Disease Incidence Ratio



Metropolitan Life Ins. Co. Desirable Weight Range Chart (based on millions of deaths)

Height	Men	Women
5' 1"	107-136	99-128
5' 2"	110-139	102-131
5' 3"	113-143	105-135
5' 4"	116-147	108-139
5' 5"	119-151	111-143
5' 6"	123-156	115-147
5' 7"	127-161	119-151
5' 8"	131-165	123-155
5' 9"	135-169	127-160
5' 10"	139-174	131-165
5' 11"	143-179	135-170
6' 0"	147-184	139-175
6' 1"	151-189	
6' 2"	155-194	

THESE DATA ARE THE HEIGHT TO WEIGHT RANGES AT WHICH THE PEOPLE LIVED THE LONGEST



BMI (BODY MASS INDEX) -

Dr. J. S. Garrow

Index = Weight, lb. / (Height, in.)² * 704.5

Example: 185 lb., 5' 10" (or 70")

(185 / 70²) * 704.5 = 26.6 or 27 BMI

Example: 165 lb., 5' 10" (or 70")

(165 / 70²) * 704.5 = 23.7 or 24 BMI

If BMI IS 19 - 25, no effect on life span

If BMI >25, life expectancy ↓ as index ↑

If BMI ↓30, the person is considered obese

HEIGHT ▼	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205
5'0"	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
5'1"	19	20	21	22	23	24	25	26	26	27	28	29	30	31	32	33	34	35	36	37	38	39
5'2"	18	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	36	37	37
5'3"	18	19	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	35	36
5'4"	17	18	19	20	21	21	22	23	24	25	26	27	27	28	29	30	31	32	33	33	34	35
5'5"	17	17	18	19	20	21	22	22	23	24	25	26	27	27	28	29	30	31	32	32	33	34
5'6"	16	17	18	19	19	20	21	22	23	23	24	25	26	27	27	28	29	30	31	31	32	33
5'7"	16	16	17	18	19	20	20	21	22	23	23	24	25	26	27	27	28	29	30	31	31	32
5'8"	15	16	17	17	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31
5'9"	15	16	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30
5'10"	14	15	16	17	17	18	19	19	20	21	22	22	23	24	24	25	26	27	27	28	29	29
5'11"	14	15	15	16	17	17	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	29
6'0"	14	14	15	16	16	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28
6'1"	13	14	15	15	16	16	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27
6'2"	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26
6'3"	12	13	14	14	15	16	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26
6'4"	12	13	13	14	15	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	24	25

Example of Weight Control

4 oz. of meat with:

8% fat = 200 Calories

or with

20% fat = 300 Calories; $300 - 200 = 100$

Then, $(100 \text{ Calories} \times 365 \text{ days}) / 3,000$
calories/lb. = 12 lb. weight gain.

One hour of exercise that burns an extra 200
Calories/hr $\times 180 \text{ days} = 12 \text{ lb.}$

Balance eating and exercising!!!

////// AGING EFFECTS ON METABOLISM

- The metabolic rate of humans decreases about 2% (and energy needs about 5%) per decade of life after age 30
- This 2% translates to about 100 fewer calories “burned” per day by age 50
- If a person doesn’t eat less and/or exercise more, they will gain 10 lb. per year just because of this metabolic effect
- This also is the main reason older people are colder than younger ones at the same room temperature

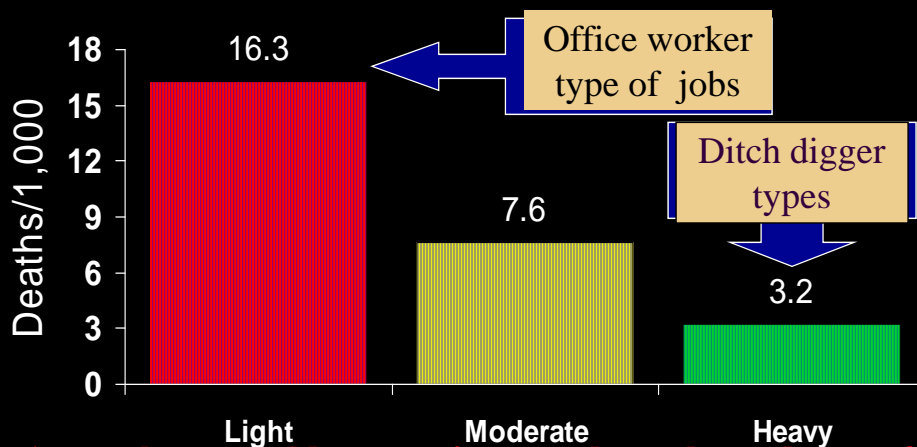
////// ALONG THE SAME LINES:

- Human females on the average have a skin temperature about 3°F lower than comparable males
- You studs remember this fact when your mate says she feels cold and you don’t! she is **COLD!**
- Also, people with more body mass have more difficulty dissipating heat and are “warmer-natured” than slimmer people



Exercise vs. Heart Disease/1,000

Seven-Country Study - J. Mt. Sinai Hospital



As you become older, exercise must be a planned part of your day if it is done - it's more like work than play



FINNISH EXERCISE STUDY OF TWINS (FROM INFOBEAT.COM)

Finnish researchers studied 16,000 people, many of whom were identical or fraternal twins:

Those who exercised at least six times per month, with an intensity of a vigorous 30-minute walk each time, had a 56% lower risk of death compared to the sedentary brother or sister.



How much exercise do we need for health?

- **Research show that we need a minimum of 20 minutes of activity that makes us short of breath at least three times each week.**
- **If age or other factors prevent strenuous activity, walking for at least a half hour each day is very beneficial.**




CALORIES/HR. BURNED BY SPORTS

- **CANOEING - 155**
- **TABLE TENNIS - 245**
- **TENNIS - 300**
- **GOLF (WALKING) - 300**
- **BASKETBALL - 350**
- **CYCLING AT 10 MPH - 352**
- **SOFTBALL - 500**
- **RACQUETBALL - 600**














CALORIES BURNED BY OTHER ACTIVITIES

- Slow Walking - 210 - 230
- Fast Walking - 315 - 345
- Light Work - Dancing, Shopping, Office, Cleaning House - 125 - 310
- Moderate Work - Scrubbing Floors, Weeding Garden - 315 - 480
- Hard Work - Chopping Wood, Running, Shoveling Snow Or Dirt - 480 - 625

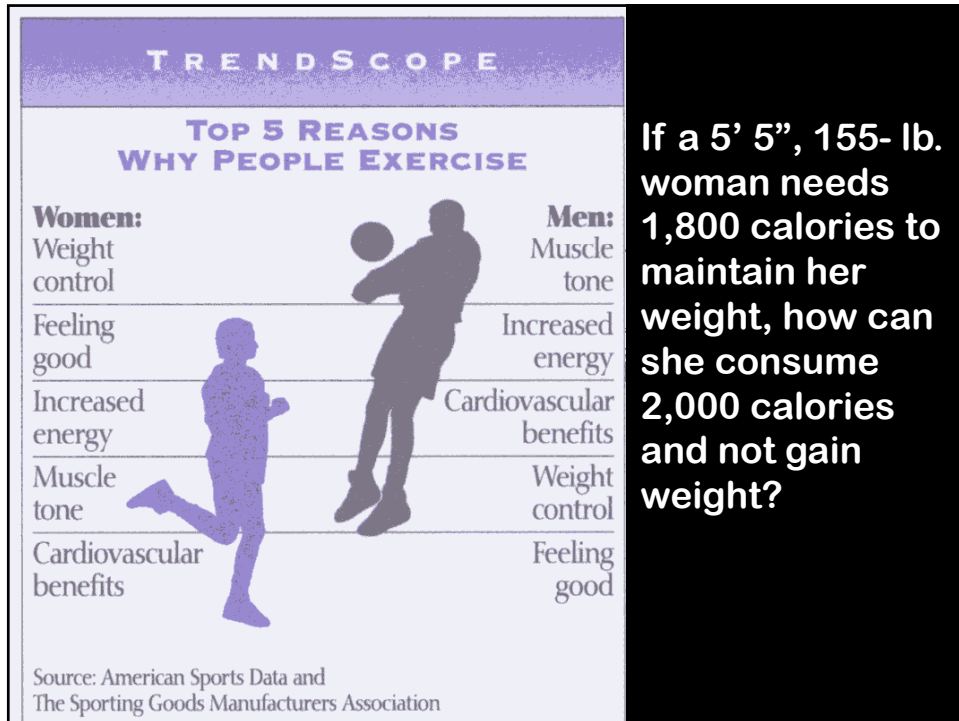
FROM: ROBERT E. JOHNSON, UNIV. OF IL

 “Every Person Should Accumulate 30 Or More Minutes Of Moderately Intense Physical Activity Most Days Of The Week”

At The Right Are Recommended Examples:
More Strenuous, Less Time Needed For Same Results

	Washing and waxing a car (45-60 minutes)	LESS VIGOROUS MORE TIME
	Washing windows or floors (45-60 minutes)	
	Playing volleyball (45 minutes)	
	Gardening (30-45 minutes)	
	Walking 1 3/4 miles (35 minutes)	
	Bicycling 5 miles (30 minutes)	MORE VIGOROUS LESS TIME
	Pushing a stroller 1 1/2 miles (30 minutes)	
	Raking leaves (30 minutes)	
	Water aerobics (30 minutes)	
	Basketball game (15-20 minutes)	
	Jumping rope (15 minutes)	
	Running 1 1/2 miles (15 minutes)	
	Shoveling snow (15 minutes)	

Source: Physical Activity and Health:
A Report of the Surgeon General, July 1996



Dying for a Smoke

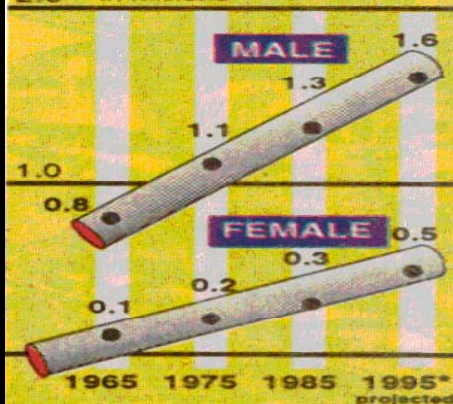
On the average, nonsmokers live 23 years longer than smokers

(FROM: RICHARD PETO - *THE LANCET*)



Death and smoking

Annual smoking-attributed deaths (all ages, all causes)
2.0 in millions



Investigators predict that smoking will kill 21 million people this decade in the United States and Canada, all countries in Europe, Japan, Australia and New Zealand.



GOTTA DIP?

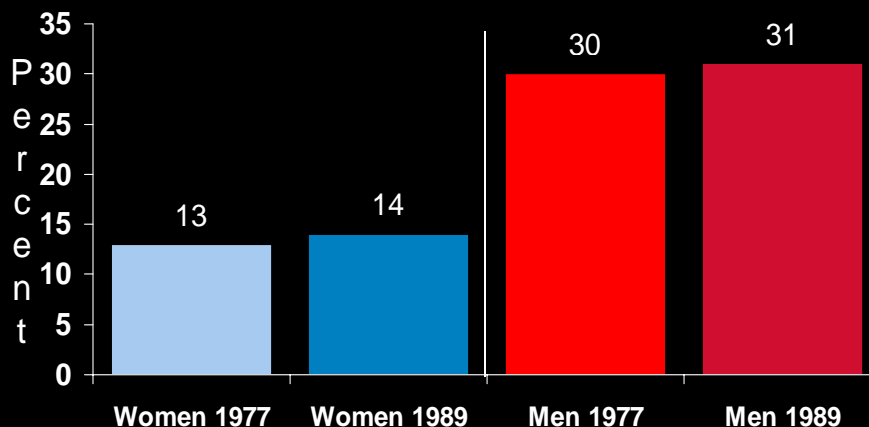
- Federal officials link smokeless tobacco use with about 22,500 of the 30,000 new cases of oral cancer diagnosed each year
- According to the American Cancer Society, smokeless tobacco contains 28 cancer-causing substances
- The first sign of mouth damage is a roughening of the skin where the dip is held

SOURCE: GALLOP - KNIGHT-RIDDER TRIBUNE AND KRT NEWS WIRE



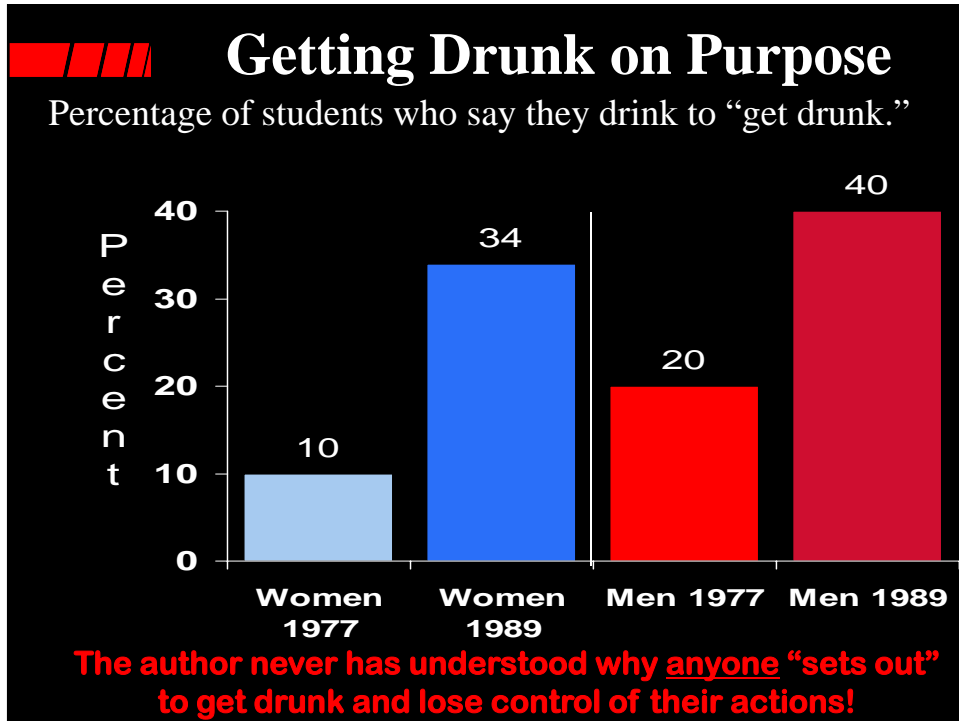
Increase in Drinking - 1977-89

Frequent heavy drinkers (%) - five or more drinks in a row during the past two weeks.



How would today's data compare with '89's?

SOURCE: WECHSLER AND ISAAC - HARVARD SCHOOL OF PUBLIC HEALTH

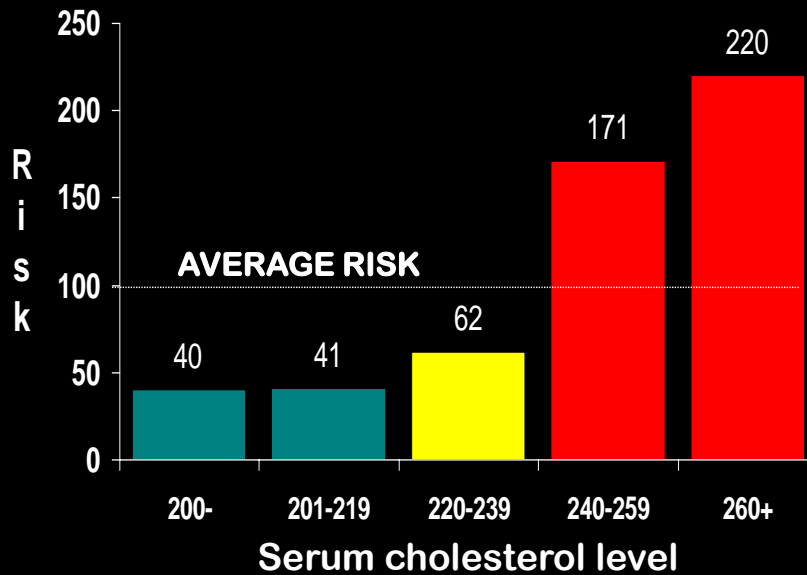


DATA SHOW THAT:

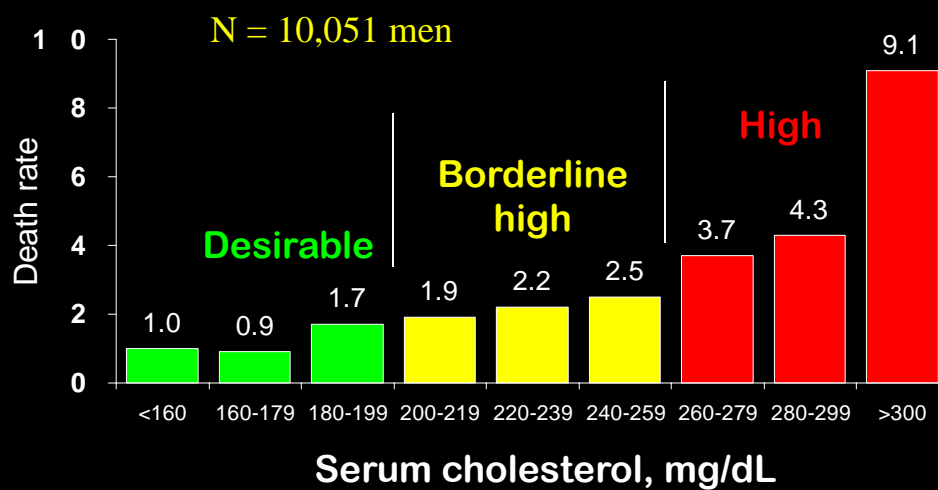
About 50% Of Deaths In Automotive Accidents Are Caused By Drunken Drivers

Along A Similar Line - Use Of A Cell Phone While Driving Quadruples Your Chances Of Having An Accident

Heart Disease Death Risk by Serum Cholesterol Level in Men In 8 yr. vs. 100 (Average Risk)

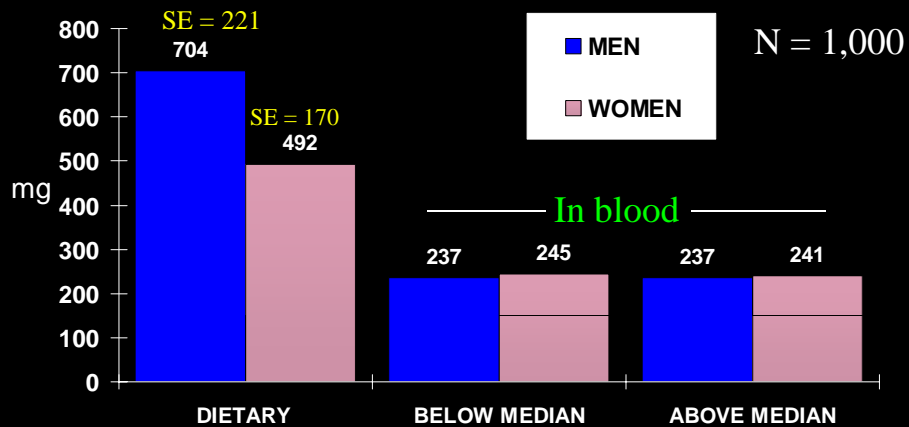


Serum Cholesterol vs. CHD Deaths - 7-Country Study



Source: Keys. 1980. Harvard Univ. Press.

Cholesterol Intake vs. Serum Cholesterol in 20-Year Framingham, Mass. Study



Research has shown for decades that dietary cholesterol level has little influence on serum cholesterol level

Diet vs. Serum Lipids; N = 2,000

Trait	Serum cholesterol tertile		
	Lower	Middle	Upper
No. of people	320	319	318
Caloric intake	2,822	2,911	2,869
Total fat	128	134	133

1 of

//////Diet vs. Serum Lipids N = 2,000

Trait	Serum cholesterol tertile		
	Lower	Middle	Upper
Saturated fat	52	54	54
PUFA	.51	.51	.51
Cholesterol	554	566	533
Alcohol *	12	14	20

2 of 2 *Only statistically significant relationship:
more alcohol - higher cholesterol level

SIDE EFFECTS OF LOWERING DIETARY CHOLESTEROL INTAKE IN HUMANS - SIX STUDIES

- Reducing Cholesterol Intake To Fight Heart Disease Showed No Beneficial Effects On Total Mortality Of Men
- Treated Men Had A Suicide, Accident, And Homicide Rate Of **107**/100,000
- Untreated Men Had A Rate Of **64**/100,000 (Compared To A National Average Of **62**)
- Cholesterol Lowering Did Not Affect Cancer Incidence

SOURCE: DR. MATTHEW MULDOON - UNIV. OF PITTSBURGH SCHOOL OF MEDICINE

Dietary Fatty Acids vs. Serum Lipids and Lipoproteins

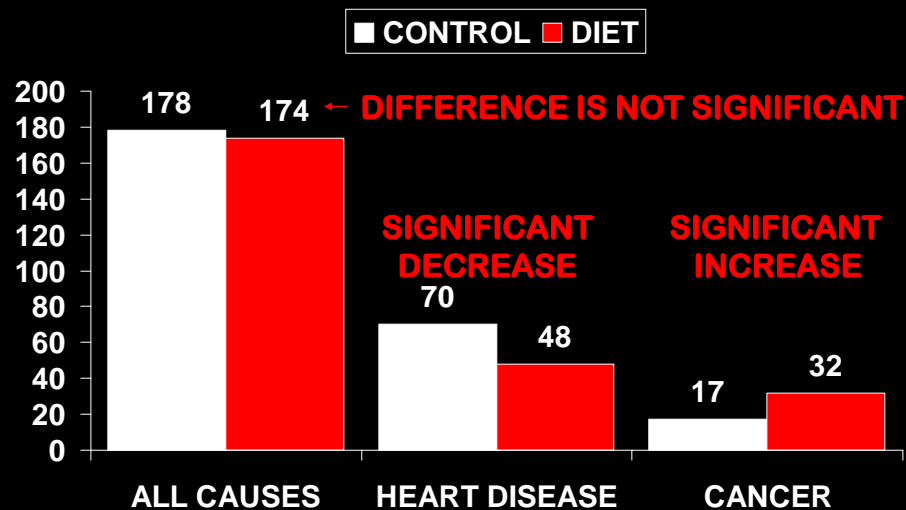
STEARIC AND OLEIC PRESENT FEWER PROBLEMS THAN PALMITIC

Diet hi in	Total cholesterol	Total triglycerides	LDL cholesterol	HDL cholesterol
Palmitic acid	202	128	140	42
Stearic acid*	173	129	110	40
Oleic acid*	181	122	119	44

***THE TWO FATTY ACIDS MOST PREVALENT IN RED MEATS**

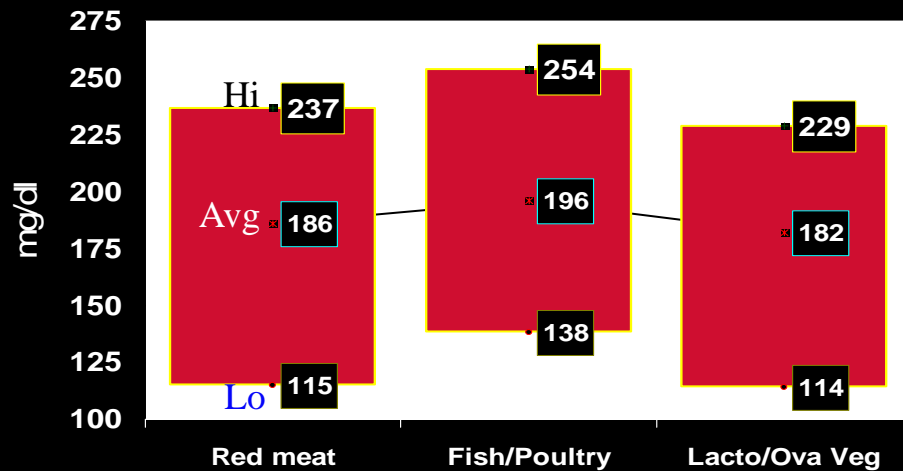
New Eng. J. Med. 318:1244 ('88).

**NUMBER OF DEATHS IN A HUMAN STUDY OF CONTROL SUBJECTS AND THOSE THAT WERE ON A DIET HIGH IN Pufa's
(SOURCE: DAYTON & PIERCE, AM. J. Med.)**



Total Cholesterol by Diet Kind

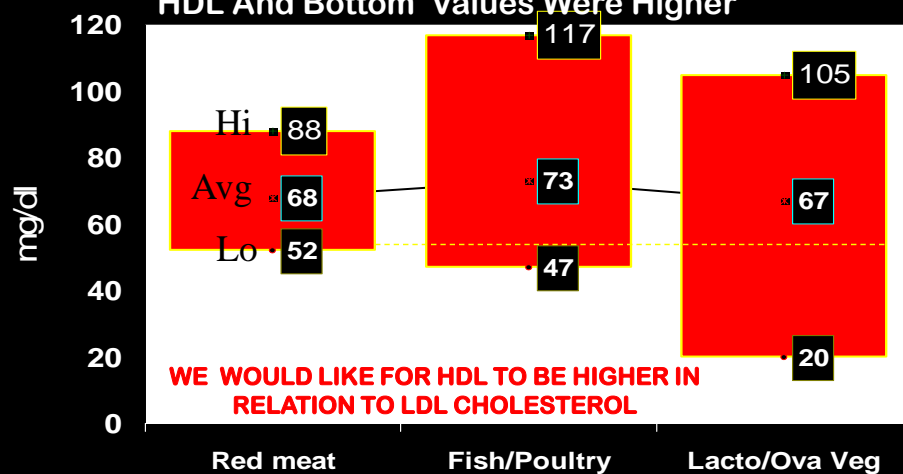
This Study Showed No Advantage Of Not Eating Red Meat Or Being A Vegetarian On Serum Cholesterol Level



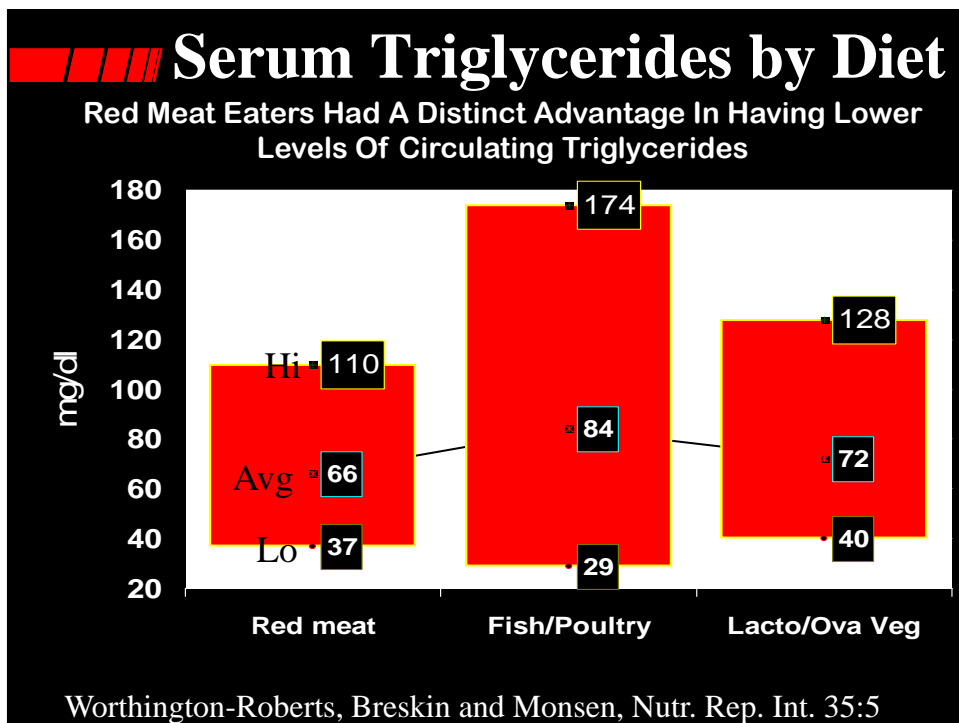
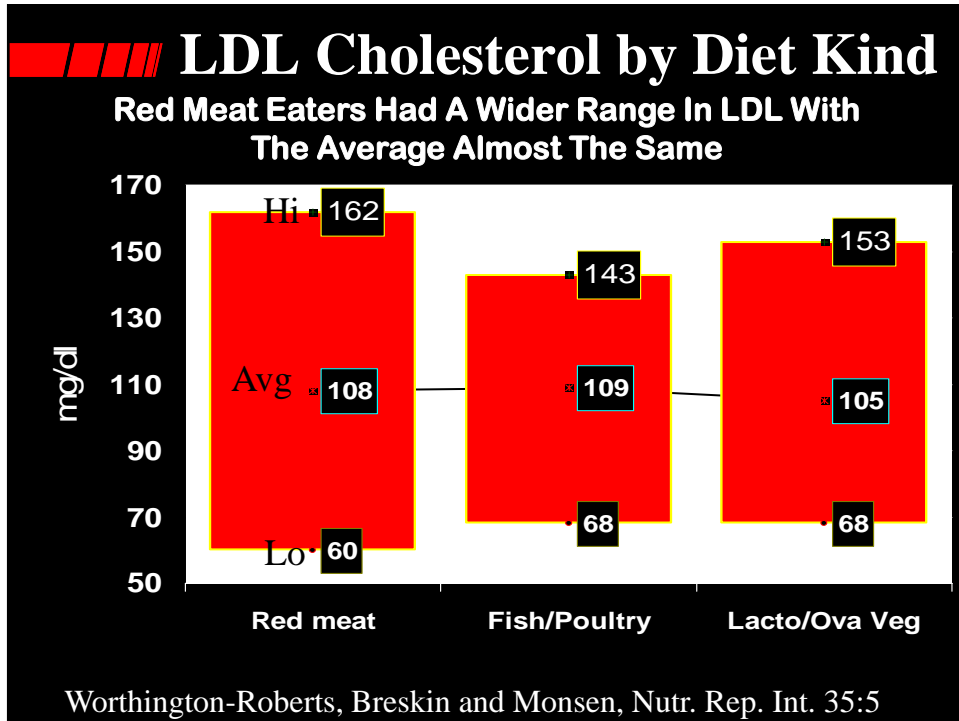
Worthington-Roberts, Breskin and Monsen, Nutr. Rep. Int. 35:5

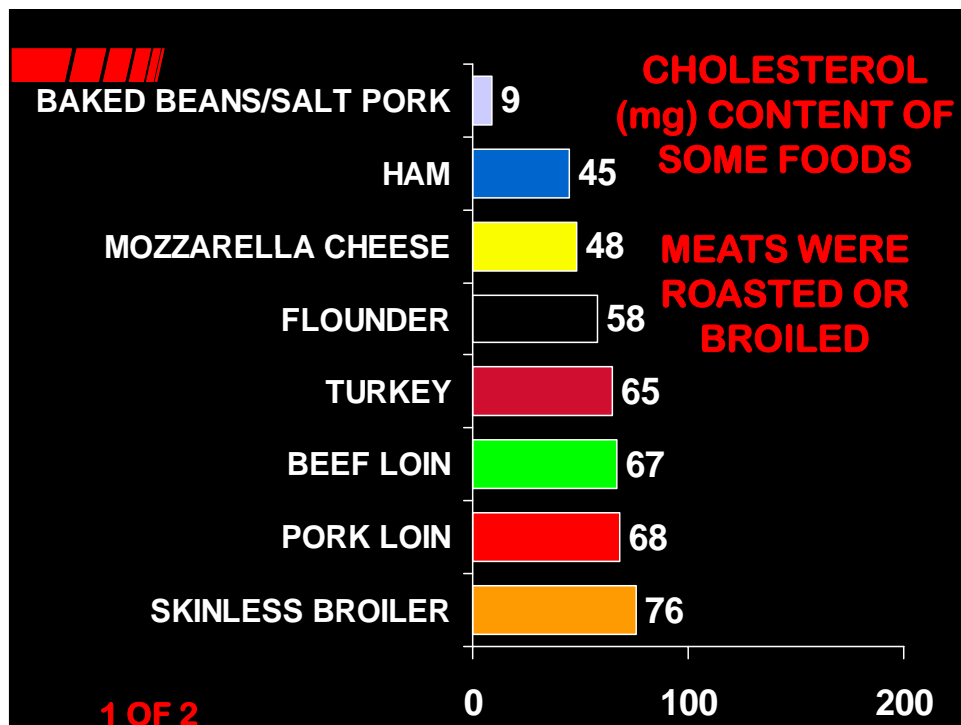
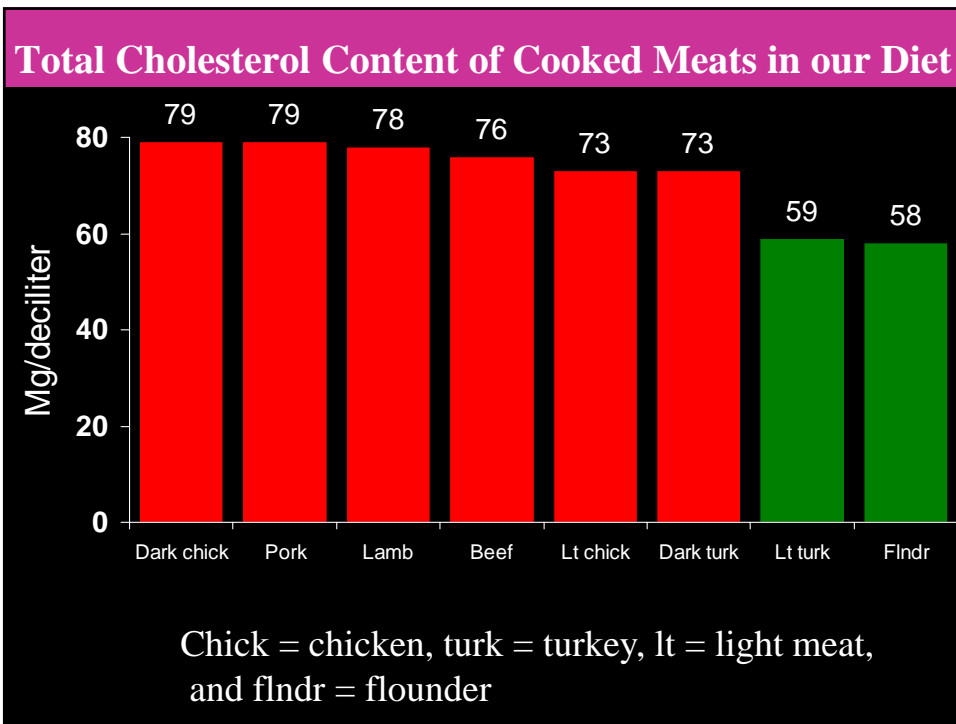
HDL Cholesterol by Diet Kind

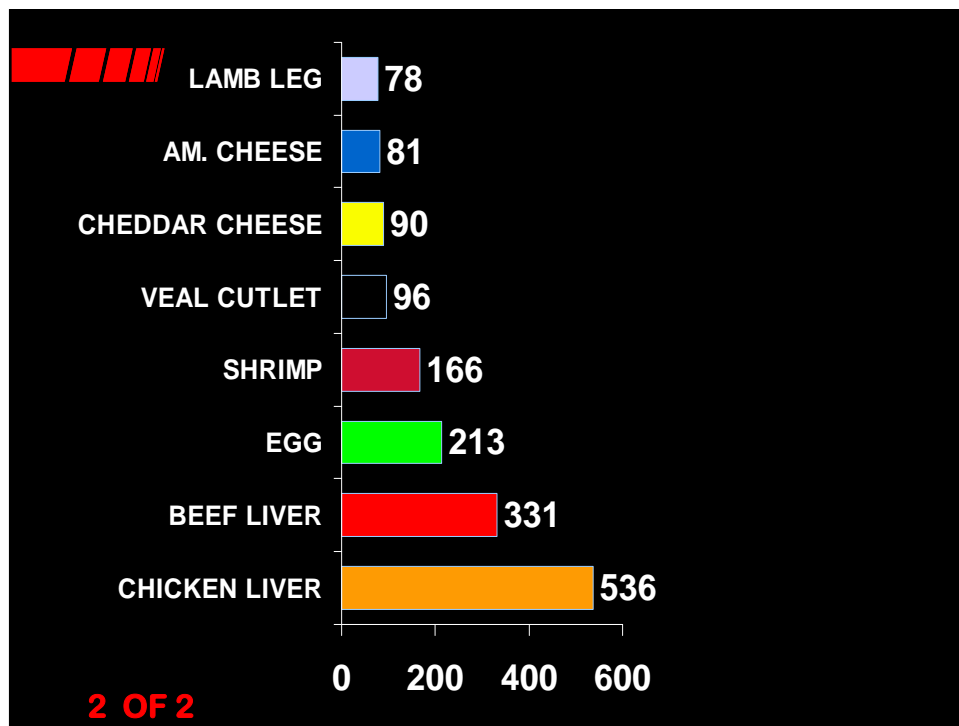
Women Who Ate Red Meat Had A Much Narrower Range In HDL And Bottom Values Were Higher



Worthington-Roberts, Breskin and Monsen, Nutr. Rep. Int. 35:5







FROM FLEISHWIRTSCHAFT INT. (4), 1997

Univ. Of Granada Researchers Have Shown
What Innumerable Metabolism Experiments
Have Already Indicated:
If Total Dietary Cholesterol Is Reduced (Such As
With A Vegetarian Diet),

- An Excessive Decrease Of HDL Cholesterol
- An Undesirable Ratio Of Total To HDL Cholesterol And
- An Undesirable Increase In Serum Triglycerides Occurs



RESEARCH DOES NOT BACK THE GENERAL RECOMMENDATIONS FOR DIETARY CONTROL OF SERUM CHOLESTEROL LEVELS

- Our bodies require a certain level of cholesterol each day because it is needed for making many necessary body components, hormones and enzymes.
- If we don't eat enough, the body will make it.
- Only about one-third of the human population responds to a lower dietary cholesterol level with lower serum cholesterol levels.
- For the other two-thirds, dietary cholesterol has little effect on serum cholesterol.



WHAT THEN SHOULD YOU DO?

- If you don't know your blood cholesterol level, have it determined.
- If it is high, indicating you are in the one-third of people whose dietary cholesterol affects blood cholesterol levels, get under a doctor's care.
- If it is not high, don't be concerned about it.
- Some doctors claim that more harm is done by people worrying about their cholesterol than is done by the cholesterol level itself.



WHY DO WE SEE SO MANY ADS TOUTING FOODS “LOW IN CHOLESTEROL?”

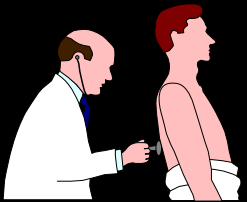
- Who is paying for the ads?
- Food companies are trying to sell more food.
- Luckily for the red meat industry, some of the former cholesterol scare has subsided as more research information has become available.

YOU CAN EAT RED MEAT AND BE HEALTHY

Baylor School of Medicine fed 46 men with serum cholesterol between 200 and 250 either 8 oz. of beef or 4 oz. of fish or chicken daily in a diet with <30% of calories from fat and <10% from saturated fat.

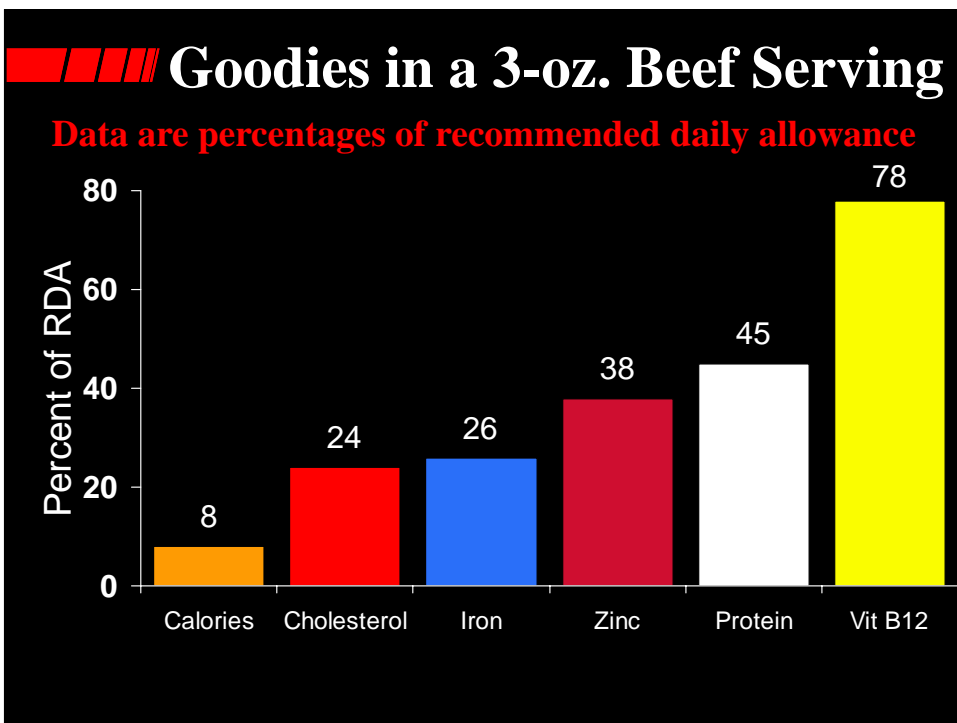
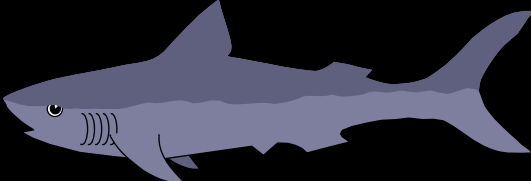
At the end of 4 weeks, cholesterol levels declined the same in all three treatments.

LUBBOCK AJ DEC. 2, 1990



In a study of 20,500 healthy male physicians, eating fish at least once each week reduced risk of sudden cardiac death 52% compared to those who ate fish less than once per month.

The n-3 polyunsaturated fatty acids are thought to be the benefiting agent in fish (SOURCE: JAMA 279:65, 1998).



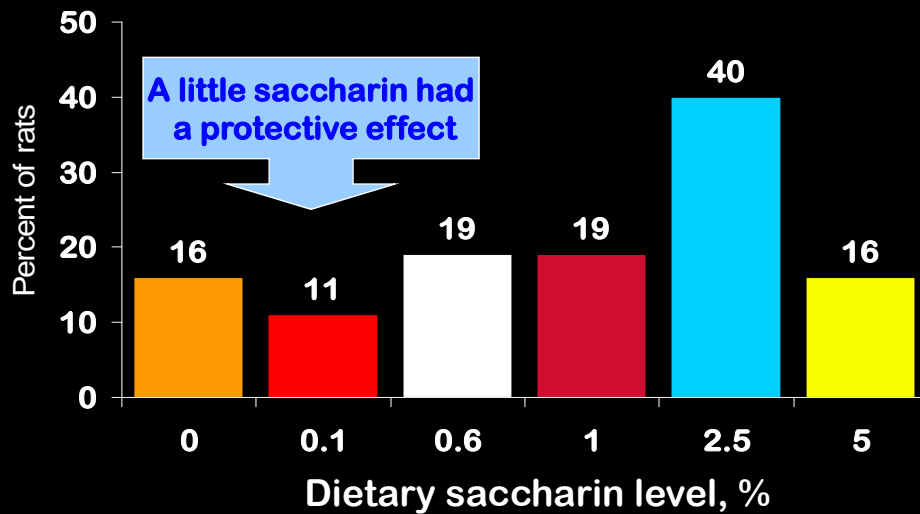
Summary

- No “good” or “bad” foods
- We should eat a variety of foods
- It’s a matter of watching portion sizes and frequency of eating
- Produce and maintain a desirable weight by exercise and amount of low fat foods and you will live longer and be healthier

Example of a Food Scare

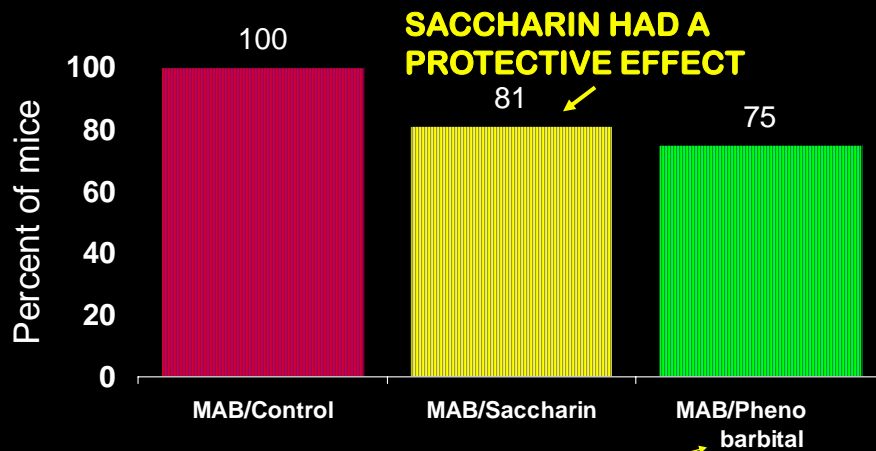
- Saccharin has been used as an artificial sweetener for decades.
- Many years ago researchers fed rats massive doses of saccharin and found that some of them developed liver tumors.
- The U.S. Congress got into the act and almost banned saccharin for human use based on this research.
- With these facts in mind, we’ll now show you what was found about saccharin by later researchers.

Feeding Rats Saccharin vs. Bladder Tumors - 735 d



Liver Tumors in Mice Fed MAB

MAB = N-methyl-4-aminobenzene, a potent carcinogen



In a more recent study, 20 monkeys that were fed saccharin daily for 24 years did not develop bladder cancers.

SOURCE: J. NATL. CANCER INST., 1998

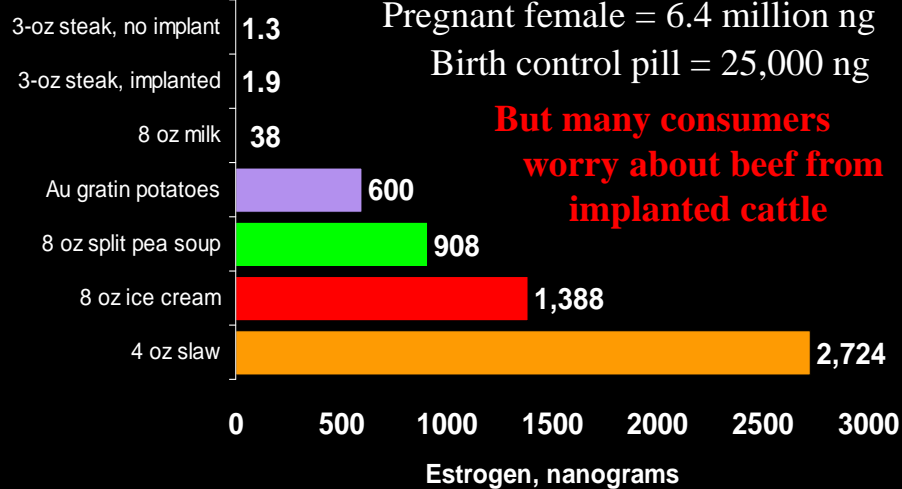


Estrogen Levels of Some Foods

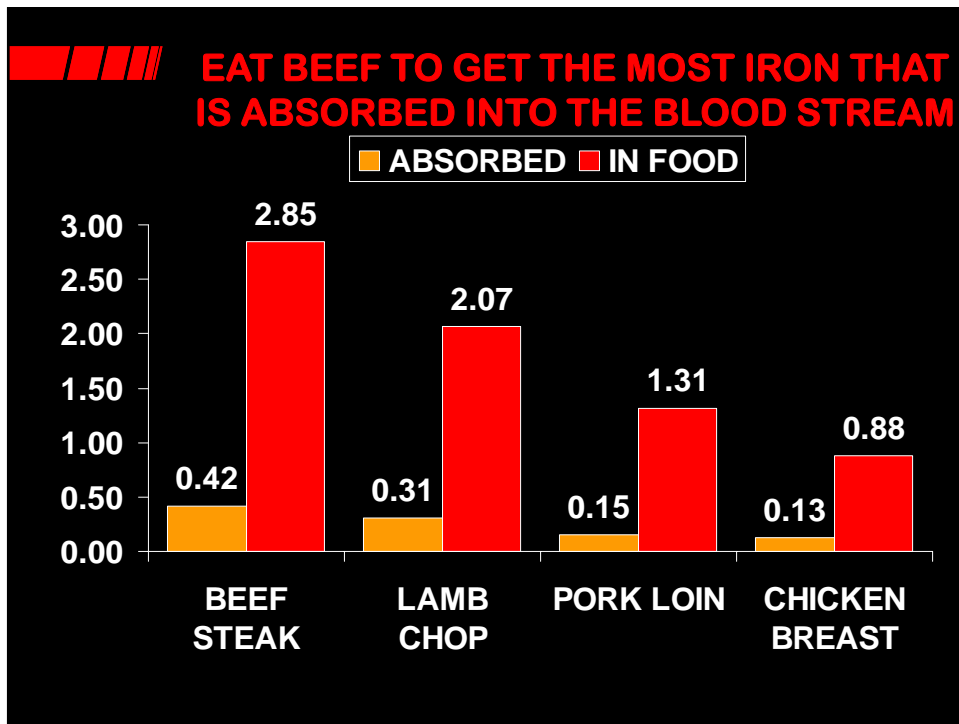
Body production: Prepuberal human male = 41,000 ng/24 h

Pregnant female = 6.4 million ng

Birth control pill = 25,000 ng







• “Women who think they can substitute spinach salads and meet their iron needs are really fooling themselves because the iron that is available in vegetables sources is not nearly as well utilized as meat’s”

• “Small amounts of lean meats are good foods for maintaining adequate amounts of iron, zinc and B vitamins”

From Mary Abbot Hess, M.S., R.D., American Dietetic Association

• **Why is iron deficiency more likely to be a problem in women than in men?**

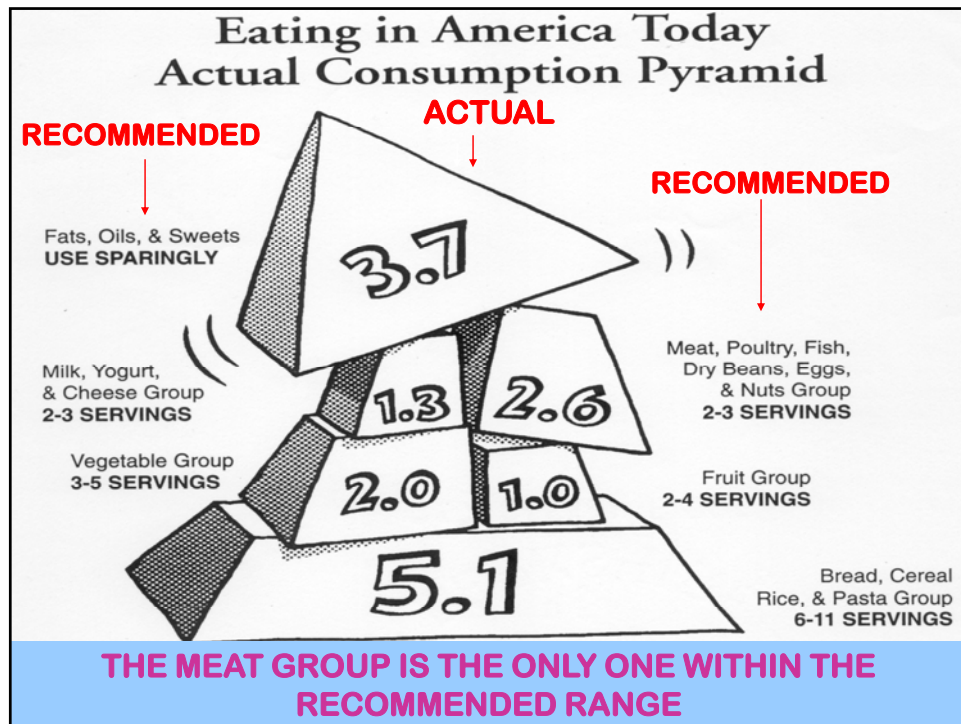


TABLE 2. Nutritional Profile of the Average Consumer
FOOD & NUTR. NEWS 67:2, 1995

Nutrient	Intake per Day (total diet)	PERCENT FROM MEAT	Nutrients from Meat
Calories (kcal)	1657	16	257
Fat (grams)	67.4	26	17.8
Saturated fat (grams)	24.1	28	6.7
Cholesterol (milligrams)	257	30	78
Protein (grams)	67.5	32	21.7
Iron (milligrams)	11.9	18	2.1
Zinc (milligrams)	9.9	39	3.9
Thiamin (milligrams)	1.29	19	0.24
Riboflavin (milligrams)	1.64	19	0.26
Vitamin B ₆ (milligrams)	1.47	19	0.28
Vitamin B ₁₂ (micrograms)	5.11	51	2.65

**TABLE 6—FAT CONTENT OF
SELECTED PROTEIN FOODS**

Per 3-ounce cooked serving, unless noted	Total Fat (grams)
Cheddar Cheese, 3 ounces	28.2
American Cheese, 3 ounces	26.3
Duck <i>w/skin, roasted</i>	24.1
Peanut Butter, 2 Tbsp.	16.0
Ground Beef 80% lean, <i>broiled</i>	15.2
Mozzarella Cheese, 3 ounces, <i>part skim</i>	13.8
Chicken Leg <i>w/skin, fried</i>	13.7
Ground Beef 85% lean, <i>broiled</i>	12.2
Roasting Chicken <i>w/skin, roasted</i>	11.4
Shrimp, <i>breaded & fried</i>	10.4

Pork Center Loin, <i>trimmed, broiled</i>	6.9
Tuna, White, <i>canned in oil</i>	6.9
Beef Sirloin, <i>trimmed, broiled</i>	6.1
Lamb Leg, <i>roasted</i>	5.7
Veal Sirloin, <i>braised</i>	5.5
Boneless Ham 5% fat, <i>roasted</i>	4.7
Beef Top Round, <i>trimmed, broiled</i>	4.2
Pork Tenderloin, <i>trimmed, roasted</i>	4.1
Trout, <i>broiled</i>	3.7
Chicken Breast, <i>skinless, broiled</i>	3.0
Tuna, White, <i>canned in water</i>	2.1
Chick Peas, $\frac{1}{2}$ cup, <i>canned</i>	2.1
Baked Beans, $\frac{1}{2}$ cup, <i>home prepared/salt pork</i>	2.0
Flounder/Sole, <i>broiled</i>	1.3
Shrimp, <i>boiled</i>	0.9
Pinto Beans, $\frac{1}{2}$ cup, <i>canned</i>	0.4

Source: **U.S.D.A. Composition of Foods**, Agricultural Handbooks and Buege, D.R., et. al., **A Nationwide Survey of the Composition and Marketing of Pork Products at Retail**, University of Wisconsin, Madison; 1990.



WHAT HEALTH CLAIMS WILL THE FSIS ALLOW ON FOOD LABELS

- Adequate calcium and reduced risk of osteoporosis: serving contains $\geq 20\%$ of RDI of 1,000 mg
- Sodium reduction and reduced risk of high blood pressure (will benefit only the 20% of the population that is sodium sensitive)
- Diets low in saturated fat and cholesterol and high in fruits, vegetables and grain products that contain dietary fiber and reduced risk of coronary heart disease
- Reduction in dietary saturated fat and cholesterol and reduced risk of coronary heart disease



MORE HEALTH CLAIMS THE FSIS WILL ALLOW ON FOOD LABELS

- Diets Low In Fat And Reduced Risk Of Cancer
- Diets Low In Fat And High In Fiber Containing Grain Products, Fruits And Vegetables And Reduced Risk Of Cancer
- Substances In Diets Low In Fat And High In Fruits And Vegetables (Foods Low In Fat And That May Contain Dietary Fiber, Vitamins A Or C) And Reduced Risk Of Cancer

SOURCE: AMI, 1994



Secret to old age: The right gene set

But even with that, healthy habits key to reaching 100

By Elizabeth Weise
USA TODAY

People who live to 100 and beyond have a unique set of genetic variations that seems to help them live 20 years longer than the rest of the population, researchers have found.

The gene clusters seem to trump disease-causing genes that would otherwise cause common problems of aging. Winning this genetic lottery, though, is no free pass: Exercise and healthy living still play a big role, scientists say.

The paper, in Thursday's online version of the journal *Science*, describes how scientists scanned the genomes of more than 1,000 centenarians, all Caucasians, from the New England Centenarian Study and found a cluster of 150 genetic markers that are highly predictive of extreme long life.

The older a subject got, the "stronger and stronger the correlation," says Thomas Perls, a professor of medicine at the Boston University School of Medicine and senior author on the paper.

Scientists have always known that long life runs

in families. But this is the first time they have had proof that it's a genetic trait. Looking at his or her genes, "we can predict with about 77% accuracy" the probability of a person living to 100, Perls says.

There isn't a publicly available genetic test for this cluster of genes, though Perls says someone probably will start selling one soon. But a good surrogate is to look at how long people in your family live.

Genes clearly don't tell the whole story: 23% of those who lived to be 100 or older didn't have the particular set of variants, the researcher found.

What they also don't yet know is what the genes actually are doing to make people live longer.

The study found that centenarians can be divided into 19 different groups of "genetic signatures" that correlate with different patterns of exceptional longevity. "Some signatures correlate with longer survival, others with the most delayed onset of age-related disease such as dementia ... or hypertension," says Paola Sebastiani, a biostatistician at Boston University and lead author on the paper.

The good news, Perls says, is that most humans have genetic variations "to allow us to get to 88, which is eight years longer than average." The catch: To achieve that age, he says, you still have to live a healthy life — exercise, avoid obesity, don't smoke, don't drink too much.

TOP TEN TIPS FOR HEALTH

- 1. Don't Smoke**
- 2. Exercise Regularly**
- 3. Lose Weight If Overweight**
- 4. Limit Dietary Fat To Less Than 30% Of Calories**
- 5. Limit Saturated Fatty Acid Intake To One - Third Of Fat Intake**

TIPS 6 THROUGH 10

- 6. Watch Cholesterol Intake (If You Are Cholesterol Sensitive)**
- 7. Up Intake Of Complex Carbohydrates**
- 8. Eat More Fiber**
- 9. Limit Salt Intake (If Sodium Sensitive)**
- 10. If You Must Drink, Drink No More Than One Beer Equivalent A Day For Women And Two For Men**



END OF UNIT



DIET/HEALTH RELATIONSHIPS