

Heart Disease in Women: Epidemiology and Prevention

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**Building Interdisciplinary Research Careers In
Women's Health Fellow**

The Red Dress Campaign

THE *red dress* PIN
A symbol for women and heart disease awareness



 THE heart TRUTH

Heart disease doesn't care what you wear. It's the #1 killer of American women.



Stanford Prevention Research Center

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Women's Health@Stanford

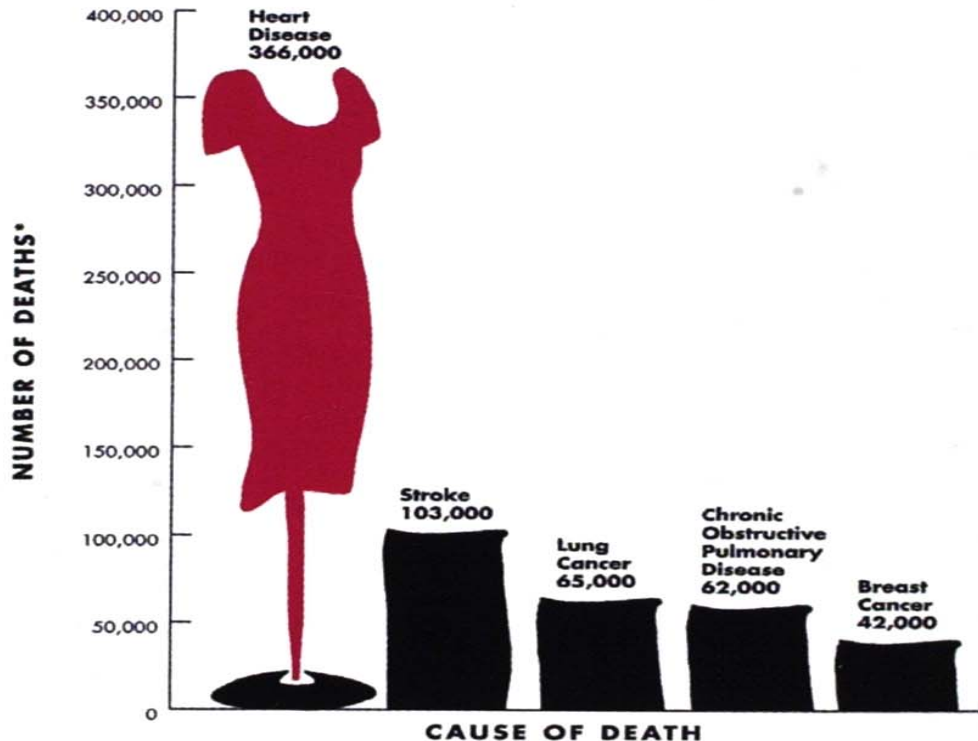
What Is Heart Disease?

- Coronary heart disease—affects arteries of the heart
- Heart doesn't get enough nutrient-rich blood
- Chronic—develops over years
- Atherosclerosis—arteries harden as cholesterol, fat, and other substances build up in artery walls
- Blockage can result in heart attack
- Atherosclerosis can also affect carotid arteries (stroke), aorta (aneurysms), and leg vessels(PVD)

Heart Disease: The Leading Cause of Death for American Women

LEADING CAUSES OF DEATH FOR AMERICAN WOMEN (2000)

One in three women dies from heart disease. It's the #1 killer of women, regardless of race or ethnicity. It also strikes at younger ages than most people think, and the risk rises in middle age. And, two-thirds of women who have heart attacks never fully recover.



To learn more, visit www.nhlbi.nih.gov/health/hearttruth

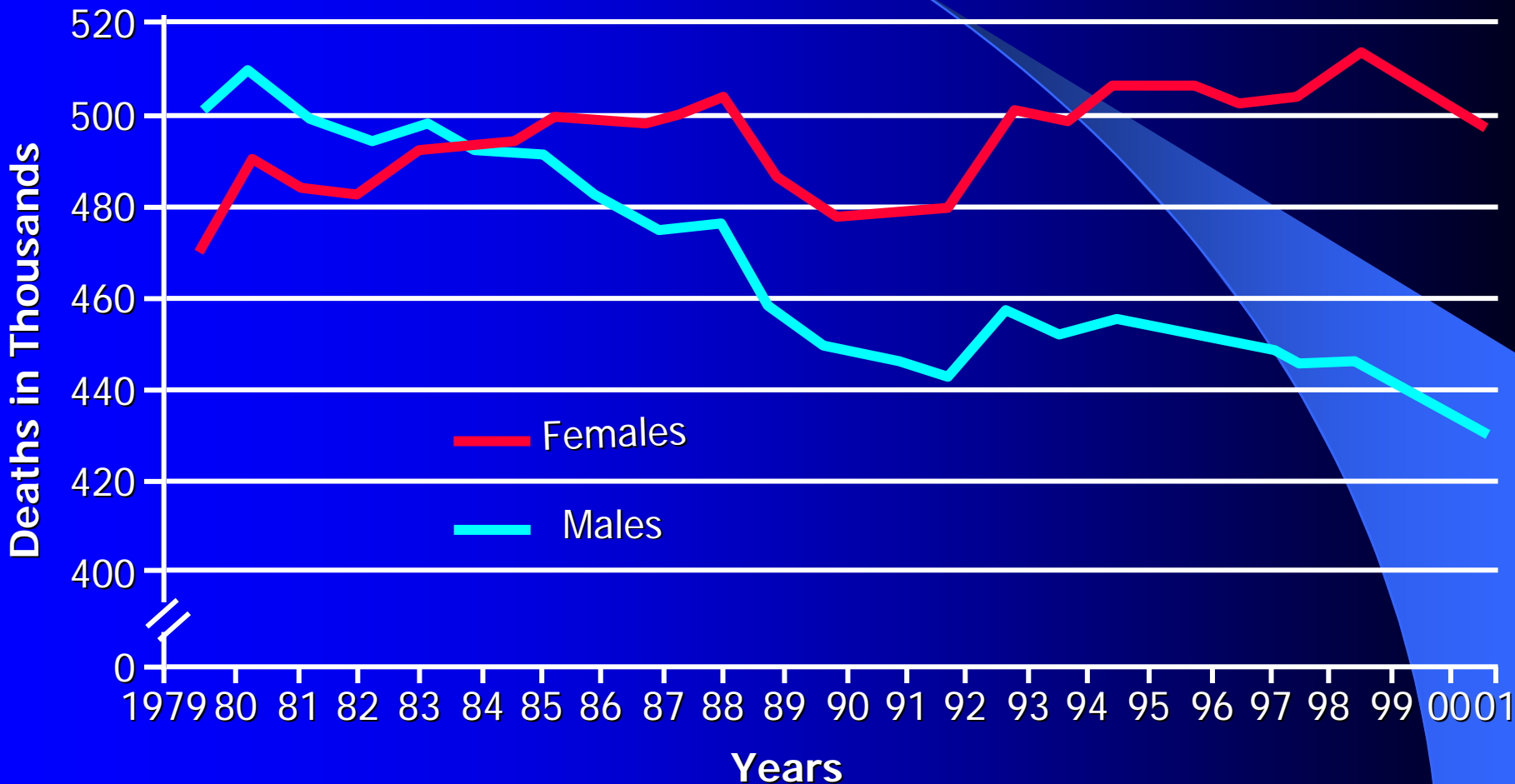
Source: The Healthy Heart Handbook for Women, National Heart, Lung, and Blood Institute (2003).

*Numbers of deaths are rounded to the nearest thousand.

➤ Heart disease is the #1 killer of American women—no matter what their race or ethnicity

➤ Heart disease kills 1 of every 3 American women

Cardiovascular Disease Deaths in Women and Men Absolute Number of Deaths



American Heart Association. *Heart Disease and Stroke Statistics—2004 Update*.
Dallas, Tex.: American Heart Association; 2003.

Are Women Aware ?

Percentage of women who know that heart disease is the leading cause of death in women:

- 1997: 30 %
- 2000: 34 %
- 2003: 46 %

Why Women Don't Take Action Against Heart Disease

- They don't put their health as a top priority
- They think they're not old enough to be at risk
- They feel too busy to make changes in their lives
- They're already feeling stressed
- They're tired

Differences in Heart Attack Symptoms

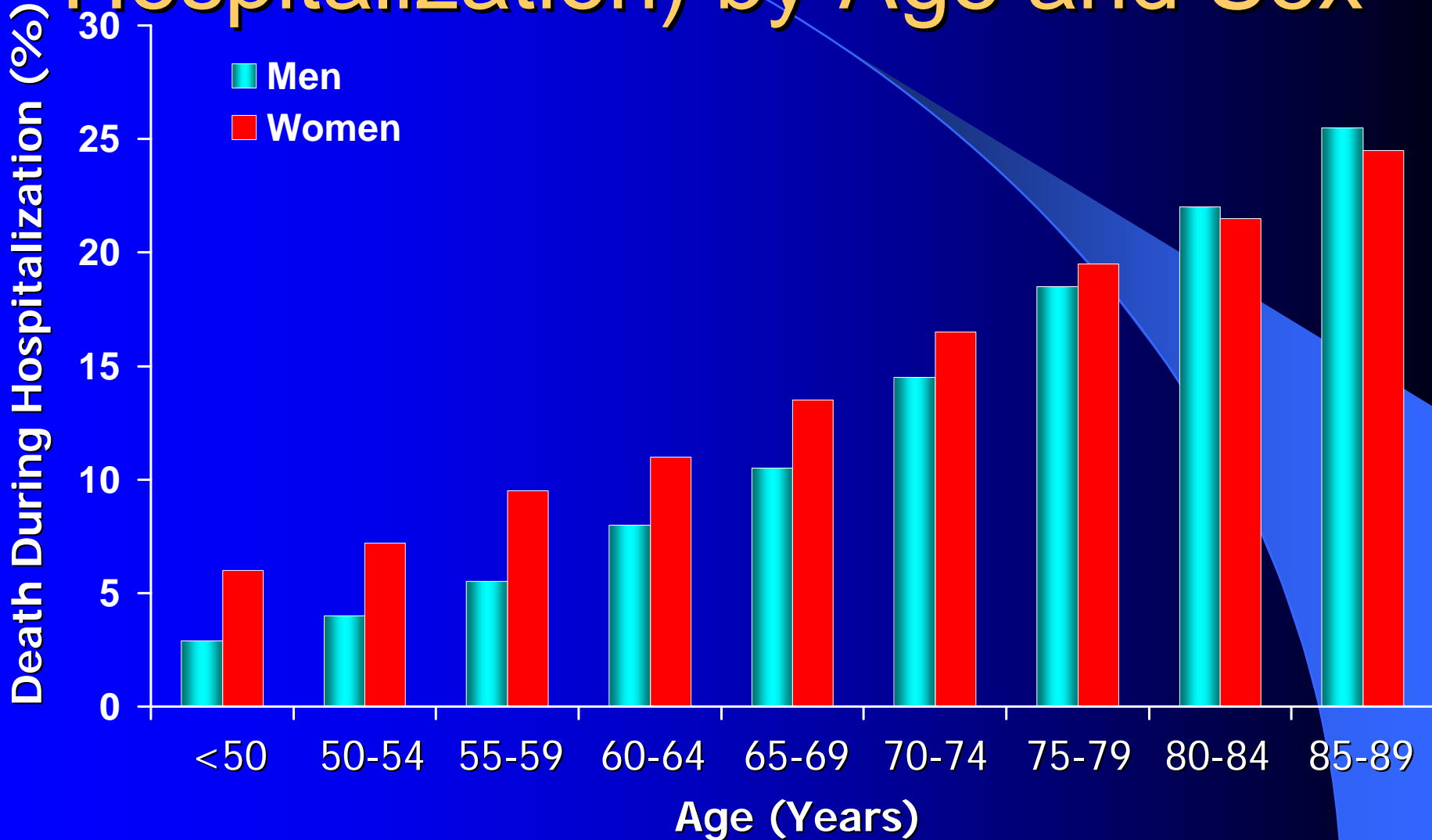
Men

- Sub-sternal chest pain or pressure
- Rest pain
- Pain down left arm and shoulder
- Weakness

Women

- Pain in chest, upper back, jaw or neck
- Shortness of breath
- Flu-like symptoms: nausea or vomiting, cold sweats
- Fatigue or weakness
- Feelings of anxiety, loss of appetite, malaise

Acute MI Mortality (Death During Hospitalization) by Age and Sex



Why The Gender Gap?

- Women present to emergency rooms or chest pain centers 1- 2 hours later than men.
- Do the multiple roles a woman takes on delay care because of her responsibilities to others?
- Do women delay care because they perceive that heart disease is something that happens to one's father, brother, or spouse?

Risk Factors for Heart Disease

Non-modifiable

- Age
- Family history
- Gender

Modifiable

- Physical Inactivity
- Obesity
- High fat diet
- High Blood Pressure
- Diabetes
- High Cholesterol
- Cigarette Smoking

Key Tests for Heart Disease Risk

- Do you smoke?
- Blood pressure
- Blood cholesterol
- Fasting plasma glucose (diabetes)
- Body mass index (BMI) – ratio of height to weight (kg/m²)

TOBACCO #1 PREVENTABLE RISK

- Female smokers have *2-6 times* the risk of sudden cardiac death than non smokers. The risk is higher for heavy smokers.
- Second-hand smoke increases cardiac risk.
- The health benefits of quitting smoking begin immediately.
- Many people who quit smoking successfully have tried and failed many times.
- Ask about low cost or free programs to help you or someone you care about stop smoking.

Blood Pressure

- Reduces the chance of:
 - Stroke: 35-40 %
 - Heart Attack: 20-25 %
 - Heart Failure: 50 %
- High blood pressure is more common in older women than older men.
- A person who has a normal blood pressure at age 55 has a 90% lifetime chance of developing hypertension.
- OPTIMAL: <120 systolic and <80 diastolic

American Heart Association website:

www.americanheart.org

Lifestyle Change: What Difference Does it Make ?

- Weight loss. (decreases SBP*1.6 mm Hg for each kg lost)
- Dietary Approaches to Stop Hypertension: DASH diet:
 - (decreases systolic BP 8-14 mmHg)
- Reducing salt in the diet.(decreases SBP 2-8 mmHg)
- 30-45 minutes daily aerobic exercise
 - (decreases systolic BP 4-9 mmHg)
- Limit alcohol. (decreases SBP 2-4 mm Hg)
- Avoidance of tobacco products.

The Lipid Profile: Know Your Numbers!

- **Total Cholesterol Goal: < 200 mg/dL**
- **Low Density Lipoprotein Cholesterol or LDL Goal: < 100 mg/dL**
- **Triglycerides Goal: < 150 mg/dL**
- **High Density Lipoprotein Cholesterol (HDL) > 40 mg/dL for men, > 50 mg/dL for women**
- **Lifestyle is the key: dietary changes, exercise, weight loss**

American Diabetes Association (ADA) Guidelines

- Optimal fasting blood sugar < 100 mg/dL
- Criteria for diabetes
 - Fasting glucose 126 mg/dL or higher
 - Random glucose 200 mg/dL or higher
- Impaired fasting glucose 100 - 125 mg/dL
- People at risk for diabetes who follow a diet and exercise plan (with only a modest weight loss) can decrease their risk of developing diabetes by almost 50%.

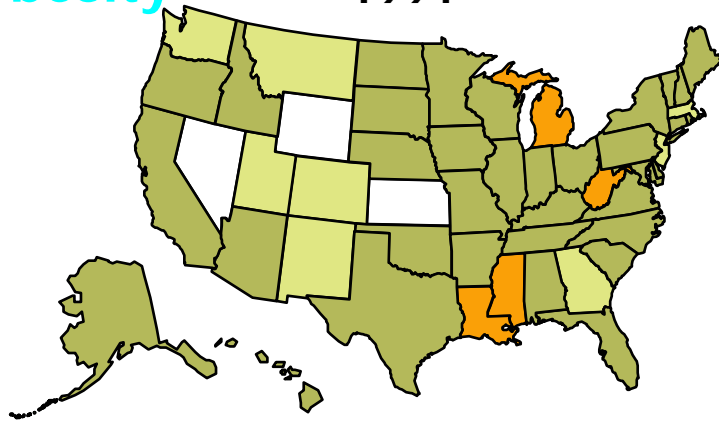
Women and Diabetes

- Type 2 diabetes has increased 50% in the last 10 years.
- 2 of 3 persons with diabetes die of cardiovascular disease.
- Diabetes increases a woman's risk of heart disease 3-7X (2-3X in men).
- People with diabetes should be treated as aggressively as those with known heart disease.
- Diabetes markedly reduces the success rate when a woman undergoes bypass surgery or balloon angioplasty procedures.

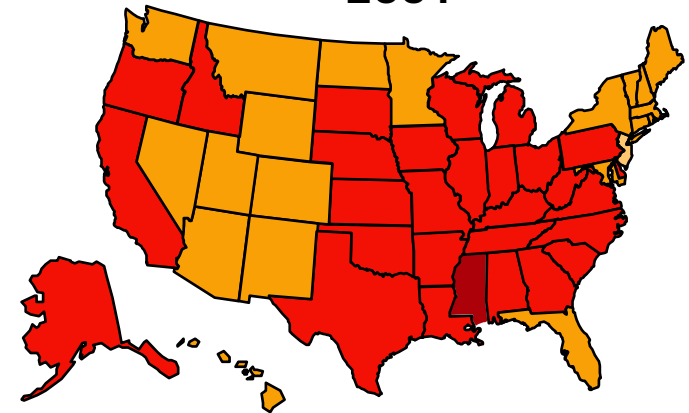
Obesity and Diabetes Trends

Obesity

1991



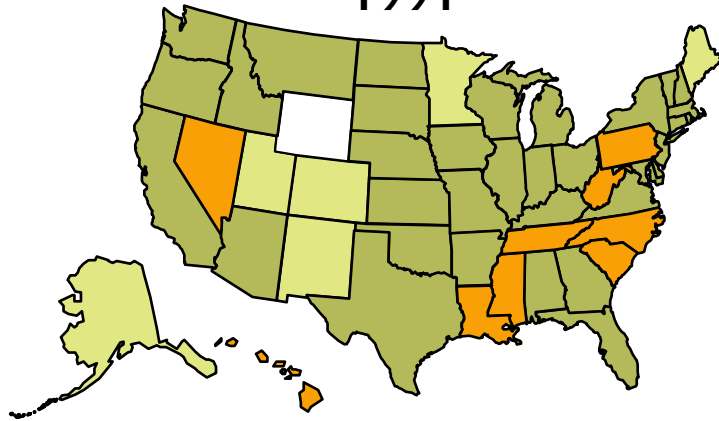
2001



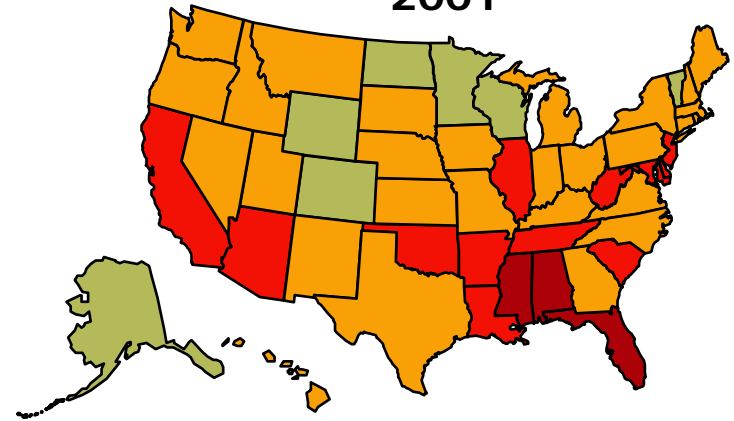
□ No Data ◻ <10% ◻ 10-14% ◻ 15-19% ◻ 20-24% ◻ ≥25%

Diabetes

1991



2001



□ No Data ◻ <4% ◻ 4-6% ◻ 7-8% ◻ 9-10% ◻ >10%

Health Consequences of Obesity

- High blood pressure
- High blood cholesterol
- Type 2 diabetes
- Insulin resistance
- Coronary heart disease
- Angina pectoris
- Congestive heart failure
- Stroke
- Gall bladder disease
- Gout, Osteoarthritis
- Obstructive sleep apnea and respiratory problems
- Some types of cancer
- Poor female reproductive health
- Bladder problems
- Kidney stones
- Psychological disorders

Postmenopausal Hormone Therapy (HT)

- Postmenopausal HT is no longer recommended as a strategy to prevent heart disease.
- Hormone therapy, generally short term, may still be used to treat symptoms of menopause - this is a decision between a woman and her healthcare provider.

Where Does Exercise Come In?

- **EVERYWHERE!**
- Exercise helps lower blood pressure.
- Exercise helps prevent diabetes.
- Exercise helps raise HDL (good cholesterol).
- Exercise helps weight management.
- Exercise helps manage stress.
- Exercise helps bone health.

Portion Size

SPAGHETTI AND MEATBALLS

20 Years Ago



500 calories
1 cup spaghetti with sauce
and 3 small meatballs

Today



1,025 calories
2 cups of pasta with sauce
and 3 large meatballs

Calorie Difference: 525 calories

To Survive a Heart Attack

- Call 9-1-1 within minutes—5 minutes at most
- Emergency medical personnel will begin treatment at once
- Don't drive yourself to the hospital
- Uncertainty is normal—don't be embarrassed by a false alarm
- Plan ahead
- Learn the warning signs

How To Lower Heart Disease Risk

- Begin today
- Be physically active—30 minutes of moderate-intensity activity on most days of the week
- Follow a healthy eating plan
 - Limit Portion Sizes
 - Count Calories (1500 for women, 1800 for men)
 - Low in saturated fat and cholesterol and moderate in total fat
 - Limit salt and sodium
 - If you drink alcoholic beverages, have no more than one a day

Internet Resources

National Heart Lung and Blood Institute

(<http://www.nhlbi.nih.gov>)

American Heart Association

(<http://www.americanheart.org>, www.goredforwomen.org)

Womenheart

(<http://www.womenheart.org>)

Small Step

(<http://www.smallstep.gov>)

Preventive Cardiovascular Nurses Association

(<http://www.pcna.net>)

In Summary

- Know the symptoms of heart disease.
- Know your risk factors for heart disease.
- Visit your healthcare provider:
 - Discuss your risk factors
 - Ask questions about your heart tests
- Maintain a healthy lifestyle.
- Heart disease is largely preventable.

Thank you!