

Battling Heart Disease in Women

The Heart of Women's Health

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Topics

- Epidemiology
- Mechanism of disease
- Screening for disease: classic and newer risk factors and tests
- Guidelines for prevention of heart disease: **the importance of lifestyle**
- Diagnostic tests



The Numbers

- Heart disease is the most common cause of death in women in the US
 - **6 times breast cancer deaths**
- About 398,000 cardiovascular deaths in women annually
 - **One death per minute**
 - **1 out of every 3 women will die of cardiovascular disease**



The Numbers

- **44 MILLION** women have diagnosis of heart disease
- Since 1984, more cardiovascular deaths in women than in men
- 64% of people with sudden cardiac death had no prior symptoms
- Younger women are affected too!



The Numbers

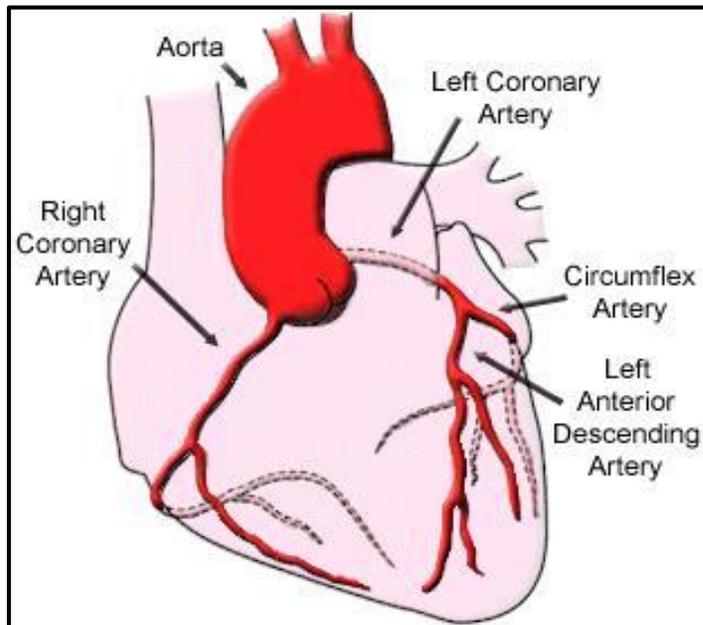
Ethnic differences:

Hispanic women develop CV disease on average 10 years earlier than Caucasian women

African American women have higher risk of HTN and therefore stroke

Heart Disease

- Problems with the arteries
- Problems with the valves
- Problems with the rhythm
- Problems with the heart muscle function (usually caused by one of the above)



Symptoms

- Chest pain: pressure, tightness, burning
- Shortness of breath
- Jaw, neck, arm, back pain
- Nausea/vomiting
- Sweating
- Fatigue, weakness, lightheadedness
- Trouble sleeping, uneasiness

Symptoms

Why do women tend to delay care?

- Misinterpret symptoms
- Minimize symptoms
- Minimize perception of risk
- Competing obligations
- Don't want to impose
- Embarrassment about symptoms

Women ARE Different

- More women than men die of sudden cardiac death
- After a heart attack, female mortality is higher
- Pathophysiology seems to be different
- Suboptimal treatment of women despite guidelines

What is a Heart Attack?

<http://vimeo.com/10063636>

What is a Heart Attack?

- Key role of inflammation
- Unstable plaque
- Triggering event
 - Spike in blood pressure
 - Fatty meal
 - Mental stress
 - Physical stress → **STRESS HORMONES**

Other Types of Heart Attacks

- Coronary artery spasm
- Spontaneous coronary artery dissection (SCAD)
- Stress induced cardiomyopathy

Are You at Risk?

- Screening = detection of disease before it causes an event
- Diagnosis = confirmation of disease

Goal: prevent events

Are You at Risk?

Classic cardiac risk factors:

- High blood pressure (even if treated)
- High cholesterol
- Diabetes
- Smoking
- Family history of early heart disease
- Age > 55
- Overweight
- Lack of exercise and poor exercise tolerance
- Chronic kidney disease

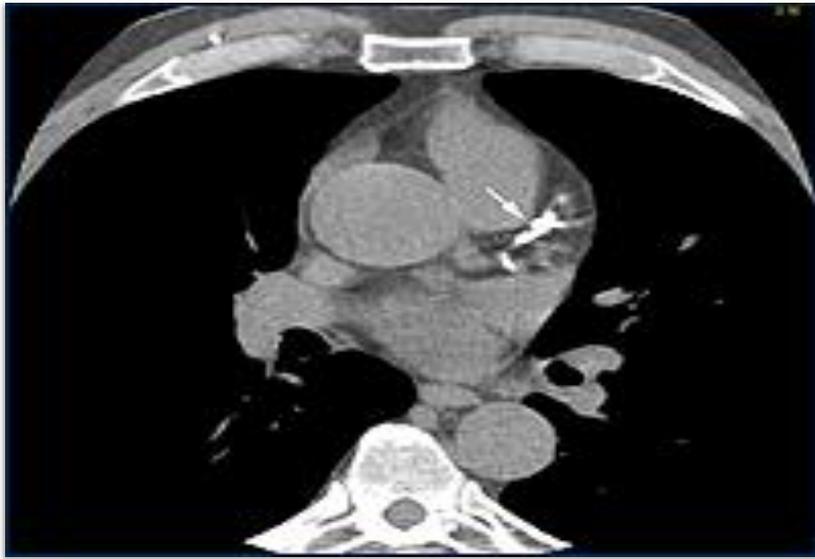
Are You at Risk?

Newer cardiac risk factors:

- Add to classic risk factors
- Can further refine risk

Newer Screening Tools

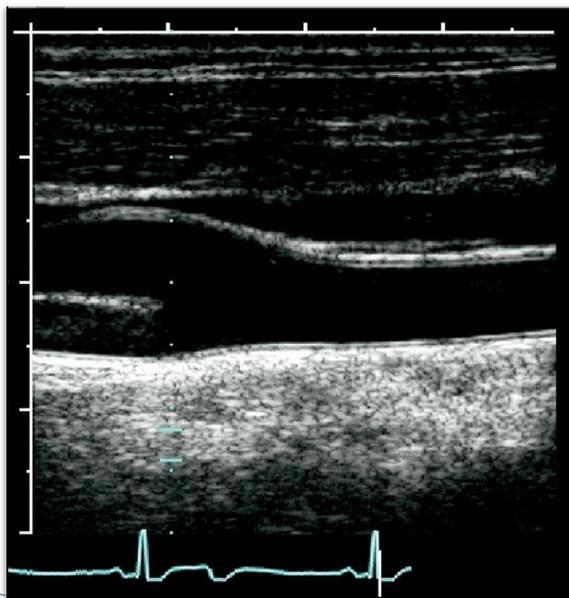
- Coronary artery calcium scoring
- Advanced cholesterol testing
 - Lp(a), particle size/particle number
- Measures of inflammation (hs-CRP)
 - (hs-CRP naturally higher in women)
- Carotid artery thickness by ultrasound



Ultrasound of the Carotid Artery



Image of Carotid Artery



Patient Characteristics and Conditions Associated with Increased or Decreased Levels of hsCRP

Increased Levels	Decreased Levels
Elevated blood pressure	
Elevated body mass index	Moderate alcohol consumption
Cigarette smoking	Increased activity/endurance exercise
Metabolic syndrome/diabetes	Weight loss
Low HDL/high triglycerides	Medications
Estrogen/progestogen hormone use	Statins
Chronic infections (gingivitis, bronchitis)	Fibrates
Chronic inflammation (rheumatoid arthritis)	Niacin

hsCRP = high-sensitivity C-reactive protein; HDL = high-density lipoprotein cholesterol

Other Links to Heart Disease

- Obstructive Sleep Apnea
- Polycystic Ovarian Disease
- Autoimmune
- Other vascular disorders: Raynaud's, migraine
- Gout

Other Links to Heart Disease

- History of pregnancy complications
High BP, pre-eclampsia, gestational diabetes
- Chemotherapy
- Radiation therapy

Who Should be Screened?

- Every woman should know her numbers!
- All women should be asked about classic risk factors
- “In the middle” women could consider additional screening
- We ALL need to focus on primary prevention

Primary prevention

- Modifying risk before something happens

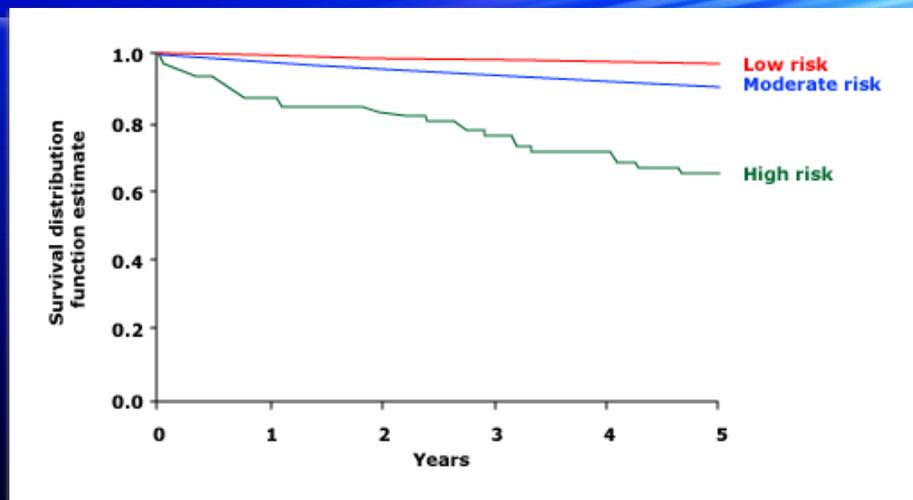
Know those numbers

- Blood pressure 120/80
- LDL cholesterol <100
- HDL cholesterol > 50
- Triglycerides < 150
- Non HDL cholesterol <130
- BMI 18.5-24.9 (kg/m²)
- Waist < 35 inches
- Diabetes: hemoglobin A1C <7%

Our bodies are meant to exercise

- Check with your doctor . . .
- Then go for it! At least 30 minutes of moderate activity MOST days of the week
- Some is better than none
- More is better than less
- Chemical changes in the body with exercise are very positive

Duke Treadmill Score Predicts Survival



What Motivates You?

- Health/longevity
- Keeping up with family and friends
- Social connection
- There is no “right way”



What about Hormones?

- Naturally occurring hormones are protective
- Menopause: metabolic changes including decreased HDL
- Women’s Health Initiative (2002)

What about Hormones?

- Concerns: increased risk heart attack, stroke, blood clots, breast cancer
- For symptoms only (ages 50-59)
- Lowest dose possible
- Shortest time possible (<5 years)
- Do not use if cardiac event
- Patch preparations and plant-derived compounds may carry less risk

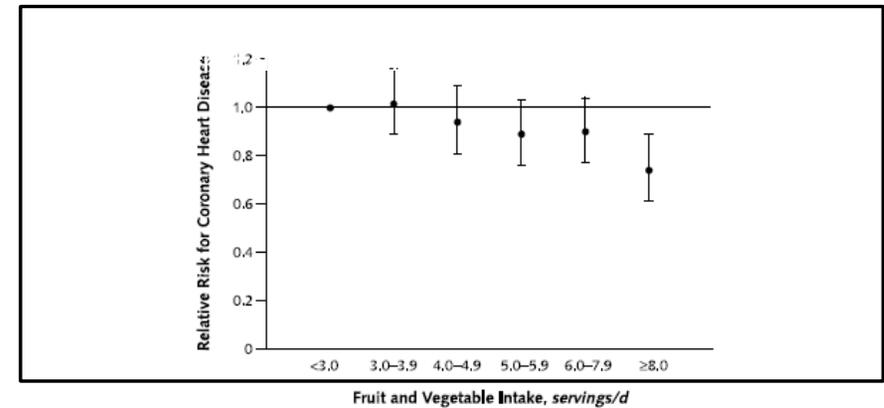
What Should I Eat?

Mediterranean diet



Diet Evidence: Benefits of Fruits and Vegetables

Nurses' Health Study and Health Professional's Follow-up Study



Increased fruit and vegetable intake reduces CV risk

Focus on ENHANCEMENT (not deprivation)

Create good patterns

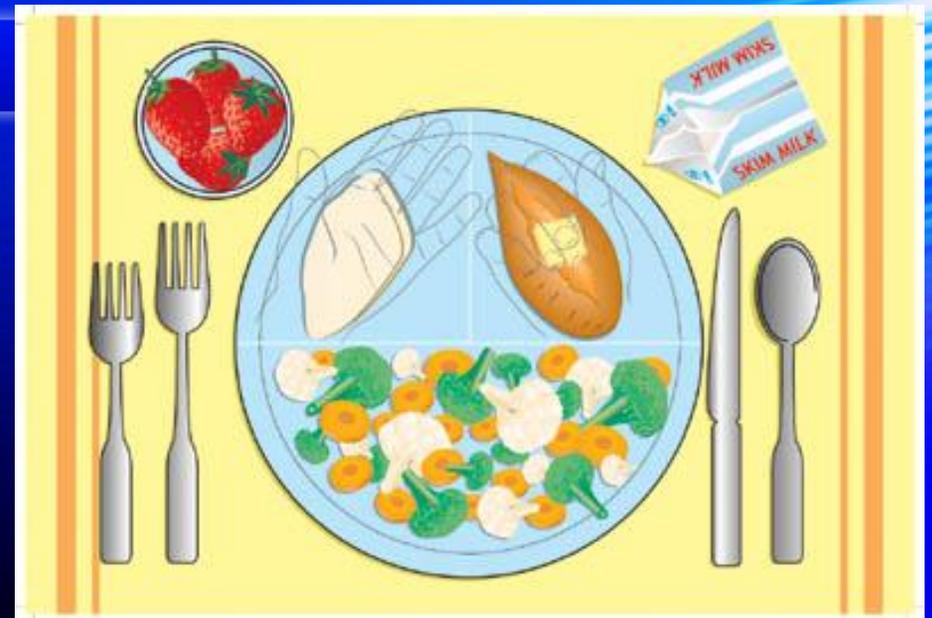
800 gram challenge!

Read food labels

- Avoid TRANS-fats
 - “partially hydrogenated” is bad
- Avoid/limit SATURATED fats
 - Animal fats: butter, red meat/processed meat, (whole fat dairy)
- Look for:
 - NO ADDED SUGAR
 - High fiber
 - Low sodium (<2 grams/day)

Omega 3 Fatty Acids—an important fish tale

- Eat “fatty” fish (5-6 oz per week)
 - Salmon, mackerel, herring, tuna, sardines
- Consider fish oil supplements (mercury free)
 - 500-4000 mg EPA and DHA
- ALA acids for vegetarians
 - Almonds, walnuts, canola oil, flaxseed, soybean oil
- Monounsaturated fats:
 - olive oil, nuts, avocados



Supplemental Information

- A varied diet rich in lean protein, good fats, and vegetables is the best defense
- Consider a multivitamin
- Vitamin D3
- Calcium: 700-1000 mg daily
- Vitamin E, high dose Vitamin C, beta carotene, and folate no clear benefit
 - Folate is important for women who are pregnant or may become pregnant

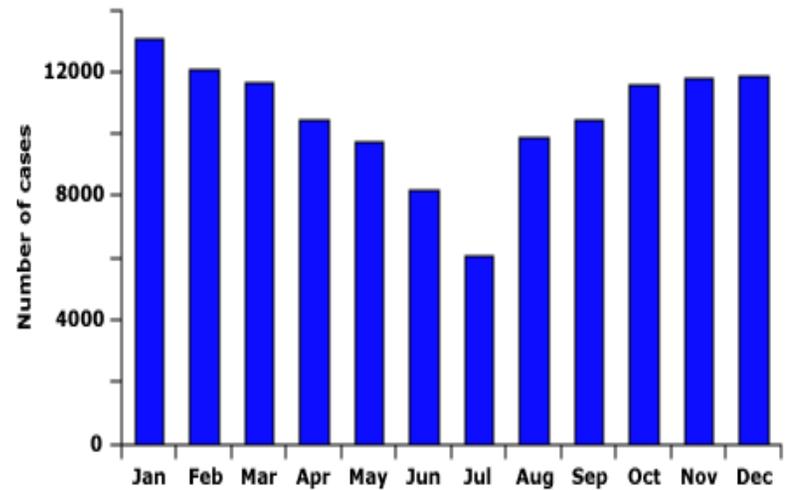
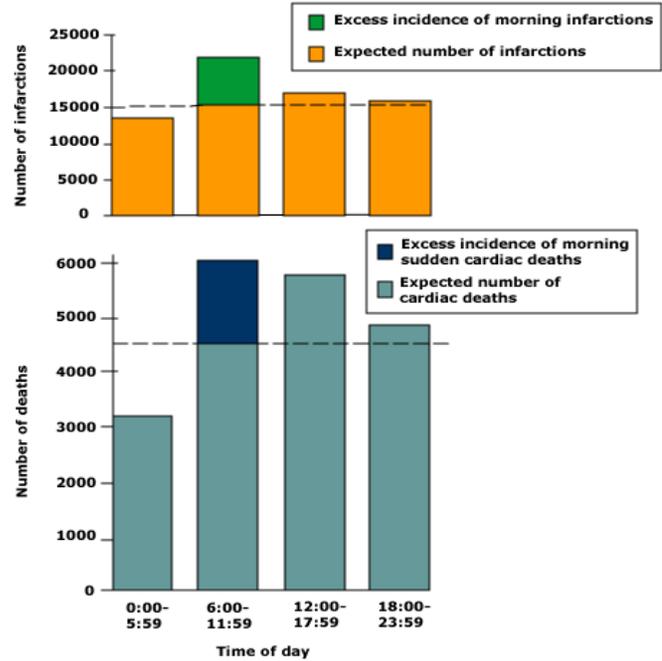
Visit your Dentist



And your heart will be happy



Less Stress = Big Plus



Heart attacks are less frequent in the summer

UptoDate



For some women . . .

- Statins and other cholesterol medications
- Blood pressure medicines
- Diabetes medicines
- Aspirin
 - High risk women: 75-325 mg daily
 - Low risk: weigh bleeding risk/ask your doctor

Tip the Scales in Your Favor

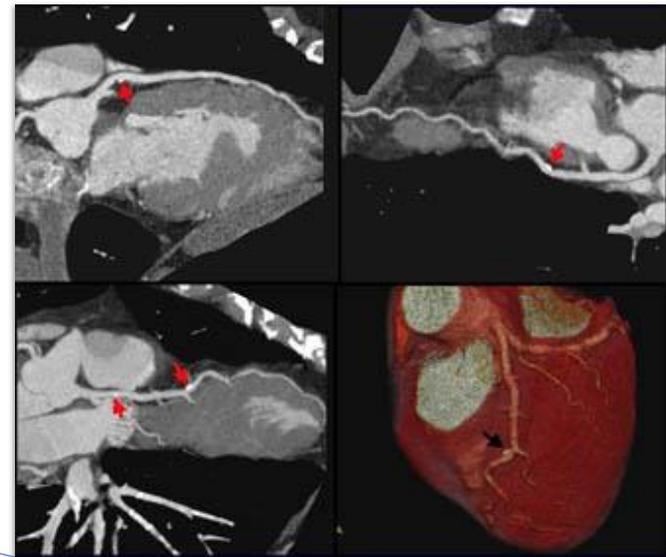


Diagnostic Tests

- Stress tests
- Cardiac catheterization (angiogram)
- Noninvasive angiogram



Noninvasive Coronary Angiogram



If you have heart disease

- Keep working on your risk factors!
 - Lifestyle change and medications
- Regular follow up with your doctor
- Cardiac rehabilitation programs -- great confidence builders

In Summary

- We can all be part of the solution, starting with taking care of ourselves
- Education and sharing knowledge
- Efforts to expand preventive care, access and research to include women, especially racial and ethnic minorities

Resources

- Your primary health care professional
- www.womensheart.org
- www.americanheart.org
- www.nhbli.nih.gov/health/hearttruth
- <http://scadalliance.org>
- #800gramchallenge
- **Younger Next Year** by Henry Lodge, MD and Chris Crowley
- **Eat to Live** by Joel Fuhman, MD

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