

Lowering your risk for heart disease and stroke

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Heart Disease

- Incidence
 - Heart disease responsible for 1/3 of all deaths in persons of 35 years or older in United States
 - One half of middle-aged men and 1/3 of middle-aged women will develop heart disease
 - 20-40% of heart attacks go unrecognized

Heart Disease

- Survival of cardiac arrest outside the hospital is only 12-17%, differs by regions in U.S.
- Only 2/3 of cardiac arrests outside of the hospital are witnessed
- 580,000 Americans have a first heart attack every year
- 15% of Americans with heart attacks die from them



Heart Attack

- Dial 911 right away.
- Do not have someone else drive you or try to drive yourself to the hospital. Medical personnel can give you life-saving treatment in the ambulance on the way to the hospital.
- After calling for help, take 1 uncoated adult aspirin (325mg) or 4 uncoated baby aspirins (81mg each). Don't take this if you're allergic to aspirin.
- If you are alone and are able, unlock your door to let emergency help enter your home.
- Sit in a comfortable chair and wait for help.
- Keep a phone near you.

Stroke

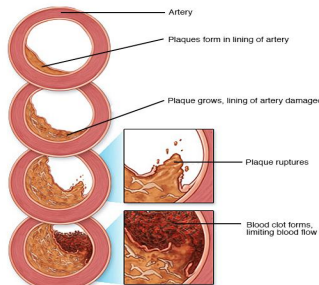
- 610,000 Americans have a first stroke every year
- Higher incidence and mortality in the southeastern U.S. - “stroke belt”
- 2.5% incidence in all 18 and older

Stroke

- FAST
 - Facial droop
 - Arm weakness
 - Speech difficulty
 - Time is important

Cardiovascular Disease

- Heart disease and stroke result from blocked arteries
 - By plaque and eventual blood clot



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Arterial Disease

- Heart attack
- Stroke
- Peripheral arterial disease
- End organ
 - Eyes
 - Kidneys

Prevention

- Because mortality is high and it is difficult to regularly recognize a heart attack, it is important to treat heart disease before a heart attack occurs
- Recognize and treat modifiable risk factors
- Stress testing if 2 or more risk factors

Risk Factors

- Modifiable
 - High Blood Pressure
 - Tobacco Use
 - Diabetes
 - Overweight/obesity/inactivity
 - Elevated cholesterol – lipids
 - Kidney disease
- Not modifiable
 - Male gender
 - Family History of heart disease
 - Male relative <55yrs old
 - Female relative <65 yrs old

High Blood Pressure

- Normal blood pressure is <120/80 and requires medication if average is 140/90 (Stage 2 hypertension if no other risk factor)
- Elevated or Stage I hypertension >120-139/80-89 (Medication if previous heart attack, diabetes, kidney disease)
- Goal of treatment is <130/80 with lifestyle and medication if needed
- These are newest AHA guidelines, not in alignment with JNC8 2014 guidelines

High Blood Pressure

- Reasons for elevated average blood pressure :
 - Advanced age (>80 yrs old, goal <150/90)
 - Tobacco use
 - Overweight/obesity/inactivity (low body muscle)
 - Elevated blood sugar
 - Genetic factors

Control High Blood Pressure Other Than Medication

- Stop tobacco use
- Lose even 5-10 lb.
- Exercise
- Control blood sugar
- DASH diet
 - High protein, high fiber, decrease sodium, exercise

Diabetes

- Diabetes is an arterial disease and most diabetics die of heart attack or stroke
- Goal of near normal blood sugar lowers risk
- Diabetic diet is a healthy diet
 - High in protein and fiber
 - ADA recommends exercise 45 minutes/day

Metabolic Syndrome “Pre-diabetes”

- Defined by having 3 of 5 warning signs of eventual diabetes
 - Fasting blood sugar >100
 - Triglycerides > 150
 - HDL < 40
 - Waist circumference
 - > 40 inches for men
 - > 35 inches for women
 - Blood pressure > 135/85

Diet and Exercise

- UCLA Nutrition Education Website
 - Protein 0.5g-1g protein/kg of weight, usually **40-100 grams** protein/day
 - Lean fish, poultry, beans (legumes), eggs, nuts
 - Divided in 3 meals
 - Fiber, mostly vegetables. 4 vegetables plus 4 fruits/day (1/2 cup servings); Fresh and high in antioxidants is best
 - Green leafy, greener the better (spinach, salad, broccoli)
 - Cooked tomatoes (high in antioxidants)
 - Onion/garlic
 - Best fruits: berries (high in antioxidants), purple grapes, lower sugar

Diet and Exercise

- Keep sugars <30g/day (2 tbsp/day), read labels (remember lactose in milk is sugar)
- Never eat carbohydrates by themselves, always with protein, about same serving size visually
- Choose high fiber carbohydrates, daily goal
 - 25grams fiber

Exercise

- American Diabetic Association recommends at least 45 minutes/day of mostly aerobic exercise, or at least 4 hours/week
- Aerobic exercise is at target heart rate
 - $(225 - \text{age}) * 60 - 75\%$
 - Can do 1-2 minutes of interval higher intensity
 - Walking so you can still talk but not sing
- Twice per week build muscle
 - Weights, sit-ups, yoga, Pilates, upper body

Weight Loss

- BMI is combined height and weight
 - Normal BMI <25
 - Overweight 25-30
 - Obese >30 (affects overall health)
 - Morbid obesity >40 (bariatric surgery recommended)
- Waist circumference:
Men < 40 inches, Women < 35 inches

www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmi_tbl.htm

Weight Loss

- Follow diet guidelines (above) **AND...**
- Burn 500 calories more than intake daily to lose about 1 lb/week
- Keep daily food journal with calorie, protein and exercise goals
- **myfitnesspal.com, calorieking.com, Weight Watchers, South Beach Diet, choosemyplate.gov (SuperTracker), loseit.com**

Lowering Cholesterol (lipids)

- Dietary guidelines above
- Fasting cholesterol (lipids) yearly
 - Total cholesterol goal <200
 - Triglycerides goal <150
 - HDL (“good cholesterol”) goal >60
 - LDL (“bad cholesterol”) goal <100

Lowering Cholesterol (lipids)

- Increased protein, fiber, vegetables will bring down triglycerides, total cholesterol and LDL
- Increased exercise will increase the HDL (“good cholesterol”)



Mediterranean Diet

- Alcohol guidelines are
 - Women no more than 1 drink/day and
 - Men no more than 2 drinks/day

Because more than 1 drink/day for women or 2 drinks/day for men raises risk of breast cancer, alcoholism and heart muscle damage, including congestive heart failure, arrhythmias such as atrial fibrillation

Mediterranean Diet

- Healthy fats
 - Extra virgin olive oil
 - Organic raises purity and avoids toxins such as nicotinoids in pesticides
 - Check Truth in Olive Oil buying guide (www.extravirginity.com)
 - Mix 1/3 c. organic extra virgin olive oil with 1 stick unsalted organic butter, softened, refrigerated for spread
 - Familydoctor.org/Mediterranean diet (full details)

Healthy fats

- Fresh and natural fats
 - Extra virgin olive oil
 - Walnuts, almonds (also good source protein)
 - Avocados
 - Organic unsalted butter
 - Organic dairy (avoids hormone/antibiotic additives)
 - Should be 20-30% of calories, oils/spreads about 8 tsp/day

America Heart Association Risk Calculator

- Calculates your risk of a heart attack in the next 10 years
- Includes
 - age, gender, ethnicity, blood pressure
 - total cholesterol, HDL (“good cholesterol”)
 - if treated for high blood pressure
 - diabetes, smoking
 - cvriskcalculator.com

Risk Calculator

- If 10 yr risk of heart attack is >7.5%, then using a statin (such as Lipitor (atorvastatin))
- If >10%, baby aspirin daily is recommended in addition

Medications

- Prescription
 - Statins are only cholesterol medications shown to decrease the risk of heart attacks (e.g., simvastatin, atorvastatin, rosuvastatin)
 - Two mechanisms of action
 - Lower cholesterol, much lower than diet and exercise
 - Act as anti-inflammatory within arteries
- Recommended to take at bedtime, as most heart attacks occur early in the morning

Medications

- Statin Risks
 - Processed in liver
 - Can interact with other cholesterol medications such as fenofibrate and gemfibrozil to cause kidney and muscle inflammation
 - Can cause muscle aches (some genetic tendency and can be decreased by taking CoQ10 supplement daily)
 - Small risk of raising blood sugar
 - Reports of reversible memory loss

Medications

- Aspirin daily at least 81 mg if 10yr MI risk >10%
- Omega 3 fatty acids
 - Thins blood
 - Can help with depression
 - Take about 1000mg daily
 - Equivalent to cold-water fish such as salmon twice/week

Medications

- CoQ10 supplement can lower cholesterol
- Red yeast rice is same mechanism of action as statins with same precautions
- Concerns that purity and consistency of amount may not be same as prescription statins

Some of my favorite websites

1. Familydoctor.org
heart Disease, heart attack, stroke, DASH diet, Mediterranean diet, fiber, blood pressure monitoring at home
2. MayoClinic.org
Mediterranean diet, heart disease, statin side effects, lowering cholesterol
3. Nutrition Education Website (David Geffen School of Medicine, UCLA)
<https://apps.medsch.ucla.edu/nutrition/dietrecom.htm>
4. cdc.gov/dhdsp, then check data&statistics then Fact Sheets (Division for Heart Disease and Stroke Prevention)
5. <https://www.cdc.gov/alcohol/fact-sheets/moderate-drinking.htm>
6. Uptodate.com patient education
high cholesterol, coronary artery disease, stroke, heart attack
7. JNC8 v AHA hypertension guidelines:
<https://www.aafp.org/news/health-of-the-public/20171115ahaacchbpguideline.html>