

Heart Fact or Fiction: Dispel the Myths

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The Facts

- CVD accounts for 34% of overall mortality in the US or an average of 1 death every 38 seconds.
- Majority of deaths are due to coronary heart disease (CHD), however, strokes account for a sizeable burden of CVD among postmenopausal women
- Before 75 years of age, a higher proportion of CVD events due to CHD occur in men than in women, as opposed to a higher proportion of events due to stroke occurring in women.

Is All Chest Pain a Sign of a Heart Attack?

- Approximately 70% of people that present to the emergency room with chest pain have a non-cardiac etiology for their chest pain
- Risk assessment of those presenting to the ER is an important first step along with ECG and blood work
- Costochondritis, esophageal spasm, anxiety, heart burn, gas are all very common causes of non-cardiac chest pain

Do Women Actually Present With Different Symptoms than Men When They are Having a Heart Attack?

- Chest pain is the most common symptom for both men and women who are experiencing a heart attack
- One study of women showed that 43% of women presenting with a heart attack had no chest pain at all
- Women do tend to have other more “atypical” symptoms when presenting with a heart attack: back pain, nausea, and fatigue
- Women’s chest pain tends to be less severe than men during a heart attack
- Shortness of breath is a more common presentation for women versus men who experience more sweating (diaphoresis) during a MI

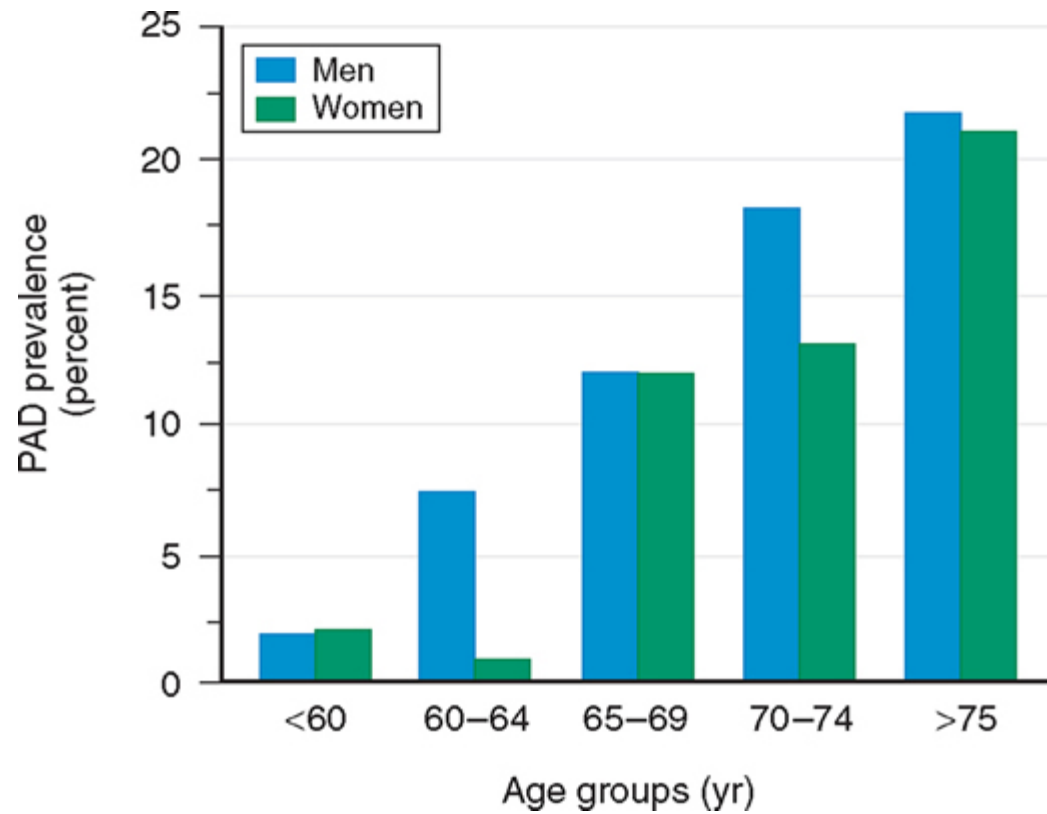
Does a Normal Result on a Stress Test
Indicate that an Individual Does Not
Have Coronary Artery Disease (CAD)?

- Most exercise (and chemical) based stress tests are designed to identify patients with significant (> 50-70%) blockages of one or more coronary arteries.
- Most acute heart attacks occur at the most proximal portion of the artery and tend to come from arteries with mild disease (< 30% stenosis)
- New technologies and therapies are on the horizon to assist in this disparity

Strokes and Heart Attacks are the Only Diseases When Discussing the Cardiovascular System?

Peripheral Arterial Disease (PAD)

- Commonly refers to disease in the arteries of the legs
- PAD includes atherosclerotic disease in any artery outside of the head and heart: aorta, kidneys, arms, carotids, etc.
- 12-20% of Americans over the age of 65 have PAD
- Prevalence is similar in men and women
- Simple screening tools can help easily diagnose PAD



Most People That Receive CPR Survive?



- EMS treats approximately 300,000 out of hospital cardiac arrests per year
- Less than 8% of people that suffer cardiac arrest out of the hospital survive
- Less than one-third of out-of-hospital sudden cardiac arrest victims receive bystander CPR.
- Effective bystander CPR, provided immediately after sudden cardiac arrest, can double or triple a victim's chance of survival.

Does Taking Aspirin Provide a Cardiovascular Benefit to People with no Known Disease (Primary Prevention)?

Aspirin & Primary Prevention

- Annals of Internal Medicine 2009 did a literature search of several studies performed between 2001 and 2008 to determine the merit of aspirin use
- Men in these studies experienced fewer MIs and women experienced fewer ischemic strokes.
- Aspirin does not seem to affect CVD mortality or all-cause mortality in either men or women.
- The use of aspirin increases the risk for major bleeding events, primarily gastrointestinal bleeding events, in both men and women.

Hypertension (high blood pressure) can be Prevented?

- Obesity is associated with increased activity of the renin-angiotensin-aldosterone and sympathetic nervous systems, insulin resistance, salt sensitive hypertension
- High salt intake predisposes to high blood pressure
- Increased alcohol consumption may acutely elevated BP
- High intake of potassium, polyunsaturated fatty acids, and protein, along with exercise and possibly vitamin D, may reduce blood pressure
- Less conclusive studies suggest that tea, green coffee bean extract, dark chocolate may reduce BP

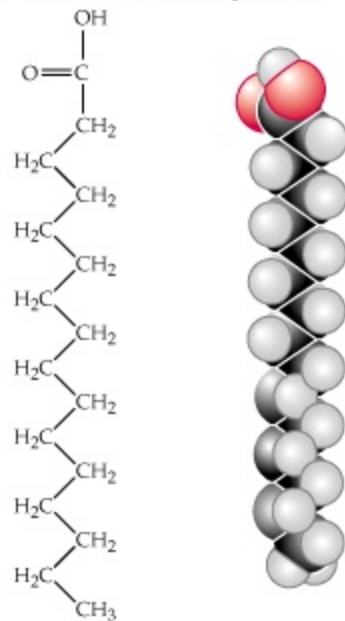
Are Fats and Cholesterol the Same Thing?



Fats

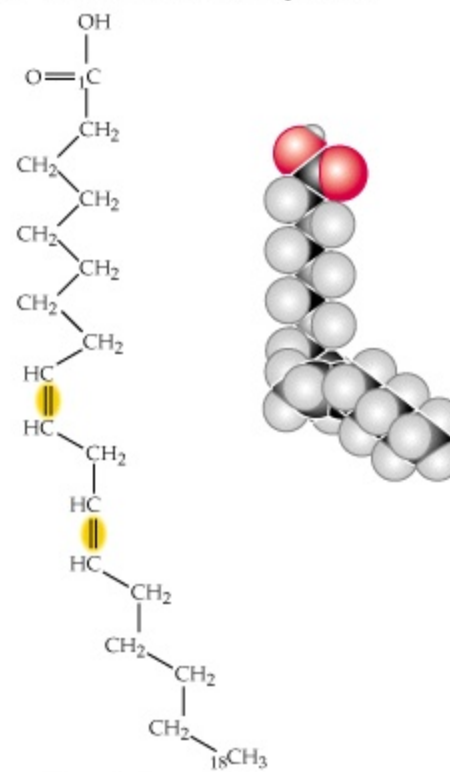
- 4 basic types of fats: cholesterol, saturated fat, monounsaturated fat, and polyunsaturated fats
- Eating too many foods rich in saturated fats has been associated with development of degenerative diseases, including heart disease and cancer
- Most foods high in cholesterol are also high in fat

(a) Saturated fatty acid



Palmitic acid

(b) Unsaturated fatty acid



Linoleic acid

Is There Really Such a Thing as Healthy Fat?



Omega 3 Fatty Acids

- OM3 FA is a polyunsaturated fatty acid
- Primarily found in cold-water fish: tuna, salmon and mackerel.
- Besides fresh seaweed, plant foods rarely contain OM3
- OM3 are “essential” FAs because they are critical for good health and the body cannot make them on its own.
- Key OM3 include eicosapentaeoic acid (EPA) and docosahexanoic acid (DHA)
- Greatest benefit of OM3 is after someone sustained a heart attack

Cholesterol

- Reportedly, a 10% reduction of total cholesterol level may reduce the 5 year risk of ischemic heart disease by approximately 25%
- A 2003 study demonstrated that a 4-week diet high in plant sterols (1 g/1000 kcal), viscous fiber, soy protein and almonds lead to a 28.6% reduction in LDL levels which was comparable to the effect of lovastatin 20 mg/dl (30.9% reduction).

Are There Some non Medicine Therapies for High Cholesterol?

Plant Sterols and Stanols

- Plant (phyto) sterols are naturally occurring cholesterol derivatives from vegetable oils, nuts, soy, corn, woods, and beans.
- Mechanism of action is up to 50% inhibition of intestinal cholesterol absorption and increase in fecal elimination of both dietary and biliary cholesterol
- Combination therapy of statins with phytosterols provided an additive effect on reducing LDL levels
- The United States National Cholesterol Education Program (NCEP) Adult Treatment Panel (ATP) III endorses plant sterol and stanol esters 2 g/day as an essential feature of therapeutic lifestyle changes along with diet modifications
- Reduction of LDL by approximately 11% for plant sterol and stanol esters at 3.4 g/day dosing

The Only Benefit of Cholesterol Lowering Medicines such as Statins (Zocor, Lipitor or Crestor) is that They Lower Your Cholesterol?

- Statin medications reduce systemic inflammation which has been shown to reduce cardiovascular events
- Some statins have been shown to actually stop progression of plaque formation and even reduce the amount of blockage within an artery
- an overall reduction of 15% in first major vascular event
- a 13% reduction in coronary death or non-fatal heart attack
- a 16% reduction in ischemic stroke

Alcohol is Good or Bad For Your Heart?





- In randomized trials, a dose of 30 grams of alcohol per day (~ 2 drinks) administered over several weeks raises levels of HDL cholesterol by approximately 4 mg/dl
- Other attributes of alcohol include anti-platelet function, improved insulin sensitivity
- There is an approximate 25% lower risk of coronary heart disease amongst drinkers versus non-drinkers
- However, recent data showed a 6% lifetime risk of any cancer in moderate drinkers, and for breast cancer, the increased risk was 13%.
- Current recommendations for “safe drinking” in the US is up to two drinks in a given day for men and up to one drink in non-pregnant women

- Individuals who drink on 3 to 4 days or more per week seem to be at lowest risk for heart disease; therefore, frequency is more beneficial than amount.
- Type of alcohol does not matter, contrary to belief that red wine is most beneficial.

Resveratrol

- A naturally occurring phytochemical that to date has been found in over 72 kinds of plants
- It is widely distributed in plant seeds and in high concentrations in fresh grape skin, and it is in high doses in red wine, which has led to the theory of the “French Paradox”.
- Although there is no consensus as to how resveratrol is cardioprotective, there is substantial evidence that it has strong antioxidant, anti-inflammatory, and antiproliferative effects
- Research has shown that resveratrol curtails the oxidation of LDL

Coffee is Good or Bad for Your Heart?





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- Coffee is a relatively large source of antioxidants
- Coffee consumption does not increase or decrease the risk of heart disease
- The interesting relationship is there is a lower incidence of diabetes in coffee drinkers
- Too much caffeine can lead to increased palpitations and abnormal heart rhythms, which tend to be more common in women than men

All Physicians Want their Children to Grow Up and Become Physicians?



THANK YOU